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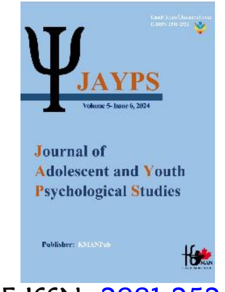

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Comparison of Cognitive Behavioral Therapy and Mindfulness-Based Therapy on Relational Obsessive-Compulsive Disorder and Fear of Intimacy in Female Students

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A B S T R A C T

Objective: The objective of this study was to compare Cognitive Behavioral Therapy (CBT) and Mindfulness-Based Therapy on relational obsessive-compulsive disorder and fear of intimacy in female students.

Methods and Materials: This research was an applied study and utilized a quasi-experimental design with pre-test and post-test assessments, including two experimental groups and one control group, with a follow-up period of two months. The statistical population comprised all female students who visited a private counseling center in Tehran in 2023. Using convenience sampling, 30 participants were selected and randomly assigned to two experimental groups and one control group. Data collection tools included the Fear of Intimacy Scale (Descutner & Thelen, 1991) and the Relationship Obsessive-Compulsive Disorder Questionnaire (Doron et al., 2012). For statistical analysis, SPSS-26 software was employed, utilizing repeated measures ANOVA and Bonferroni post-hoc test.

Findings: The findings indicated a significant difference between pre-test and post-test scores for both approaches in reducing fear of intimacy and relational obsessive-compulsive disorder ($p < .01$), demonstrating the significant effectiveness of these two therapeutic methods. Furthermore, no significant difference was observed between post-test and follow-up scores ($p > .05$). Analysis using the Bonferroni test revealed that there was no significant difference in the effectiveness between the two therapies on problem-solving components ($p > .05$).

Conclusion: Based on the current findings, it can be concluded that both Cognitive Behavioral Therapy and Mindfulness-Based Therapy can be utilized to reduce fear of intimacy and relational obsessive-compulsive disorder in female students, with no significant difference in their effectiveness.

Keywords: *Cognitive Behavioral Therapy, Mindfulness-Based Therapy, Relational Obsessive-Compulsive Disorder, Fear of Intimacy, Female Students.*

1. Introduction

The university period is a significant and challenging time for students. During this period, all students, due to facing more stressors (such as the heavy coursework, the long duration of the study period, etc.) and the necessity of proper adaptation, must have greater mental health and self-reliance to achieve increasing success in their studies and ultimately in their profession (Zhang et al., 2021). Indeed, students of any country are considered its intellectual and spiritual assets. Examining specific issues of students, ensuring their academic success, and providing their physical and mental health are among the most important goals of government educational planners (Tafesse, 2020). One of the issues many students, especially female students, grapple with is the fear of intimacy (Manbeck et al., 2020).

In this context, it can be said that the ability to establish intimate relationships with others is one of the key factors in individuals' health and well-being (Lyvers et al., 2021). When an individual's capacity and ability to express intimacy diminishes, fear of intimacy arises. Fear of intimacy is the exact opposite of a very close relationship, hidden behind emotional walls and barriers. Those who fear intimacy or avoid it likely find it difficult to approach others and establish warm and satisfying relationships (Scigala et al., 2021). Fear of intimacy is a quiet individual problem and has become so widespread that it can be called a social disease; because fear of intimacy causes social anxiety, social phobia, lack of self-confidence, lack of social skills, and difficulty in adapting to groups (Maitland, 2020). To achieve intimacy, individuals must necessarily accept the risk of showing their vulnerability to the other party. Those who fear vulnerability are likely to fear intimacy as well, and these individuals may experience more problems in their significant relationships (Hamidikian et al., 2023). Indeed, fear of intimacy is observed when individuals fear sharing their deepest thoughts and feelings with others, fear being deeply seen, and are afraid of sharing love, feelings, smiles, and joy, and even creativity with others (Manbeck et al., 2020). Fear of intimacy, which affects various emotional, cognitive, and behavioral dimensions of intimacy, severely disrupts interpersonal relationships and overall health. With an increase in fear of intimacy, establishing and maintaining relationships, feeling positive about relationships, and expressing emotions and feelings become problematic, resulting in decreased life satisfaction (Obeid et al., 2020). In fact, individuals who fear intimacy desire interpersonal relationships but fear rejection, resulting in experiencing anxiety during verbal and non-verbal communication with others. Another aspect that involves the need for intimacy is the fear of becoming dependent on others (Rohner et al., 2019).

Another significant issue for students is the subject of relationships, and among these, relational obsessive-compulsive disorder focuses on this disorder within the context of relationships. Indeed, relational obsessive-compulsive disorder is the same obsessive-compulsive disorder where the content and nature of the obsessions are focused on "relationships," and it has recently attracted much attention from researchers. Although most clients and therapists are unaware of relational obsessive-compulsive disorder and related phenomena, the symptoms of relational obsessive-compulsive disorder are often mistaken for life problems or interpersonal issues (Gorelik et al., 2023; Karadayı Kaynak & Mısırlı, 2023). Concerns and doubts, especially conflicts, are common throughout relationships, and behaviors similar to relational obsessive-compulsive disorder may occur during the normal course of relationship development, mainly during flirting, dating, or before committing to a relationship. Given these issues, diagnosing relational obsessive-compulsive disorder can be a complex endeavor (Doron et al., 2016; Doron et al., 2014). The symptoms of relational obsessive-compulsive disorder begin in the early stages of a relationship and intensify with the progression of the relationship or reaching decision points like marriage. These relationship obsessions persist regardless of relationship conflicts. Doubt and uncertainty in relational obsessive-compulsive disorder often decrease relationship satisfaction, and indeed, the symptoms of relational obsessive-compulsive disorder are associated with less relationship satisfaction (Doron et al., 2012; Gorelik et al., 2023). Common manifestations of relational obsessive-compulsive disorder include doubts and mental preoccupations focused on the appropriateness of oneself for the partner (e.g., the intensity of one's feelings towards the partner), the "rightness" of the relationship, and the perceived nature of the partner's feelings towards oneself. These manifestations are referred to as relationship-centered obsessive-compulsive symptoms (Gorelik et al., 2023). In general, relational obsessive-compulsive disorder is an emerging aspect of obsessive-compulsive disorder that poses specific challenges for psychological interventions, especially cognitive-behavioral interventions, including sudden discontinuation of therapy and symptom relapse (Doron et al., 2016; Doron et al., 2014; Doron et al., 2012).

One of the approaches proven effective for communication problems and obsessive disorders is cognitive-behavioral therapy (CBT). Cognitive-behavioral therapy focuses on modifying maladaptive thoughts and cognitive distortions and changing behavioral patterns that cause distress. The goal of cognitive-behavioral therapy is to increase an individual's awareness of their thoughts, feelings, and experiences (Surmai & Duff, 2022). This therapeutic method helps patients through behavioral tasks to recognize their dysfunctional beliefs, incorrect interpretations, cognitive errors, and maladaptive thoughts and behaviors, gaining the insight that personal interpretations of life events lead to behaviors and feelings, and generally, what one thinks will be felt. Using cognitive-behavioral methods empowers individuals to increase control and mastery, appropriately confront various life issues or events, and learn to love themselves without criticism, just as they are (Boschloo et al., 2019; Brotto et al., 2019). On the other hand, cognitive-behavioral therapy focuses on cognitive distortions and attempts to change emotions and behaviors, emphasizing behavior. The therapist helps the client identify their cognitive distortions and replace them with more positive and realistic thinking patterns. Cognitive-behavioral therapy assumes that the cause of most psychological distress is negative cognitive patterns, where negative thoughts are accepted without scrutiny and often without conscious awareness (Beck, 2020). Additionally, among the approaches that have been confirmed for effectiveness is mindfulness-based therapy. Mindfulness-based therapy is an approach that focuses on increasing awareness and acceptance of present experiences without judgment. This therapeutic method, rooted in Eastern meditation traditions, helps individuals better connect with their thoughts, feelings, and bodily experiences through mindfulness exercises (Gautam et al., 2020; Ghahremani et al., 2022; Goldberg et al., 2019). Mindfulness impacts the cognitive system and information processing by increasing individuals' awareness of the present through techniques like focusing on breathing and the body, and directing awareness to the here and now, leading to reduced perceived stress. Additionally, the skill of mindfulness makes clients with a history of anxiety aware of their superfluous thoughts and redirects their thoughts to other aspects of the present, such as mindful breathing, walking, or environmental sounds, thereby reducing perceived stress (Apolinário-Hagen et al., 2020; Brotto et al., 2019; Kabat-Zinn et al., 1985). The use of mindfulness and research in this area has increased in recent years. Mindfulness-based therapies have been reported to be highly effective for treating some clinical disorders and physical diseases as they address both physical and mental dimensions (Mohamadi et al., 2019; Nesset et al., 2021; Teasdale, 2004; Tickell et al., 2020; Yüksel & Bahadır Yılmaz, 2020). Accordingly, the present study aimed to compare the effects of cognitive-behavioral therapy and mindfulness-based therapy on relational obsessive-compulsive disorder and fear of intimacy in female students.

2. Methods and Materials

2.1. *Study Design and Participants*

This study was applied research in terms of its objective and was carried out using a quasi-experimental design with pre-test and post-test assessments, including two experimental groups and one control group, with a follow-up period of two months. The statistical population consisted of all female students who visited a private counseling center in Tehran in 2023. A total of 30 participants were selected using convenience sampling and were randomly assigned equally to two experimental groups and one control group. Inclusion criteria included being female, being a student, not being diagnosed with severe psychological disorders, and not being addicted to drugs. Exclusion criteria included non-cooperation for more than two sessions and participating in psychotherapy sessions other than those in this study. Data collection tools included the Fear of Intimacy Scale and the Relationship Obsessive-Compulsive Inventory.

After sampling and assigning the study sample members to three groups (two experimental and one control), a pre-test was conducted before the interventions. The relevant interventions were then administered to the two experimental groups, while no intervention was given to the control group. After the intervention sessions, a post-test was conducted for all groups, and a follow-up test was administered two months later.

2.2. *Measures*

2.2.1. *Fear of Intimacy*

Fear of Intimacy Scale (FIS) by Descutner and Thelen (1991): This 35-item self-report scale was developed by Descutner and Thelen in 1991 to assess anxieties associated with close relationships. The items focus on fears related to forming connections with others or engaging in intimate, close, and romantic relationships, particularly fears associated with self-disclosure. Each item is rated on a five-

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point scale from 1 (not at all characteristic of me) to 5 (extremely characteristic of me). Items 3, 6, 7, 8, 10, 14, 17, 18, 19, 21, 22, 25, 27, 29, and 30 are reverse-scored. The total score ranges from 35 to 175, with higher scores indicating greater fear of intimacy. Descutner and Thelen (1991) used discriminant validity and construct validity to determine the scale's validity, with a Cronbach's alpha of 0.93 and a test-retest reliability of 0.89. Falahzadeh et al. (2011) identified two factors in the Iranian context: fear of intimacy with a spouse and fear of intimacy with others. The overall internal consistency of the scale was 0.83, with the first factor at 0.81 and the second at 0.79, and test-retest reliability was 0.92 overall, with subscales at 0.87 and 0.85, respectively (Bagheri & Khodai, 2021; Behbodi et al., 2021).

2.2.2. Relationship Obsessive-Compulsive Inventory

Relationship Obsessive-Compulsive Inventory (ROCI): This inventory, developed by Doron et al. in 2012, consists of 12 items across three subscales: partner's love (items 1, 7, 10, 14), relationship correctness (items 3, 5, 9, 12), and partner's love expression (items 4, 6, 11, 13). It is rated on a Likert scale from 0 (not at all) to 4 (very much) (items 2 and 8 are validation items). Doron et al. (2012) found good internal consistency for the ROCI, with correlation coefficients ranging from 0.66 to 0.92 at the 0.001 level. Additionally, ROCI subscales correlated well with OCI-R subscales, with convergent validity indices at 0.001 level. In Iran, Ghamiyan et al. (2019) validated the ROCI on 459 married students from Tehran universities, finding internal consistency ranging from 0.66 to 0.89 at the 0.01 level, test-retest reliability between 0.65 and 0.84, and Cronbach's alpha for the entire scale at 0.88. The convergent and discriminant validity results showed negative correlations with DAS ranging from -0.27 to -0.56 at the 0.01 level and positive correlations with DAS, RBI, PI-WSUR, and OCI-R from 0.26 to 0.61 at the 0.01 level. Factor analysis indicated good fit indices, confirming the scale's validity and reliability (Doron et al., 2016; Doron et al., 2014; Gorelik et al., 2023; Vicheva et al., 2020).

2.3. Interventions

2.3.1. Cognitive Behavioral Therapy

The content of the CBT sessions was implemented according to the manual provided by Beck (2020) in a group format (Beck, 2020).

Session 1: The session begins with introductions and a discussion of the participants' goals and expectations from the therapy. Group rules and the nature of anxiety are explained. Assignment: Read the self-help book "Feel the Fear and Do It Anyway" (Guide to Overcoming Anxiety).

Session 2: Review of the previous session, discussion of assignments, introduction to the cognitive model of thought and behavior, identification and understanding of cognitive distortions along with their belief ratings. Assignment: Complete the thought record worksheet and review cognitive distortions as homework.

Session 3: Review of the previous session, discussion of assignments and obstacles, exploration of strategies to combat cognitive distortions, and practice in session. Assignment: Practice evidence review using the thought record worksheet as homework.

Session 4: Review of the previous session, discussion of assignments, psychoeducation on strategies to combat cognitive distortions (cost-benefit analysis) and practice in session, summary of the session. Assignment: Practice cost-benefit analysis using the thought record worksheet as homework.

Session 5: Review of the previous session, discussion of assignments, identification of triggering situations, introduction to the subjective units of distress scale (SUDS), training in social skills and role-playing, session summary. Assignment: Create a hierarchy of anxiety-provoking situations along with the percentage of distress as homework.

Session 6: Review of the previous session, discussion of assignments; training in mental imagery, imagined and real exposure, assertiveness, role-playing, session summary, and practice of mental rehearsal of social skills. Assignment: Practice mental rehearsal of social skills and complete thought record worksheets.

Session 7: Review of the previous session, discussion of assignments; role-playing and real-life exposure in session (public speaking), session summary. Assignment: Practice real-life exposure and complete thought record worksheets.

Session 8: Review of all sessions, discussion of assignments; real-life exposure, discussion of factors triggering relapse and recurrence, exploration of strategies to prevent relapse and recurrence. Assignment: Practice and apply relapse prevention strategies.

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2.3.2. Mindfulness-Based Therapy

The mindfulness-based therapy sessions were conducted based on the following protocol (Segal et al., 2018).

Session 1: Conduct a pre-test, establish rapport and conceptualize, discuss the necessity of using mindfulness-based cognitive therapy, and introduce the concept of autopilot.

Session 2: Teach body scan meditation, practice mindful breathing and meditation, focus on exercises and deeply sense them.

Session 3: Practice three-minute breathing exercises, perform mindful movements, continue meditation exercises, and focus on mindful breathing and body awareness through sight or sound.

Session 4: Emphasize staying in the present moment, practice five minutes of mindful seeing or listening, explore unpleasant experiences, and identify and define the anxiety problem.

Session 5: Focus on how to react to thoughts and feelings, explore the impact of meditation exercises on the mind and body, and practice responses to habitual patterns.

Session 6: Teach mindful monitoring, establish a relationship with thoughts, focus on the mind, recognize positive and negative thoughts, appreciate pleasant and unpleasant thoughts, practice non-judgmental attention to thoughts, and allow their entry and acceptance.

Session 7: Practice mindful breathing exercises, focus on body parts, sounds, thoughts, and emotions, and address a problem during the exercise to explore its impact on the mind and body.

Session 8: Summarize all sessions and conduct a post-test.

2.4. Data analysis

For statistical analysis, SPSS-26 software was used, employing repeated measures ANOVA and Bonferroni post-hoc test.

3. Findings and Results

In terms of demographic characteristics, the mean (standard deviation) age of the Cognitive Behavioral Therapy (CBT) group was 20.98 (2.10), the Mindfulness-Based Therapy group was 21.04 (2.39), and the control group was 21.81 (2.56). Descriptive data for all three groups at the pre-test, post-test, and follow-up stages are presented in Table 1.

Table 1

Descriptive Data of Scores for Experimental and Control Groups at Three Stages (Pre-test, Post-test, and Follow-up)

Statistical Indicators	Group	Pre-test Mean (SD)	Post-test Mean (SD)	Follow-up Mean (SD)
Fear of Intimacy	CBT Group	131.82 (20.44)	104.91 (21.55)	103.32 (21.69)
	Mindfulness Group	132.72 (18.91)	105.42 (19.32)	104.49 (22.77)
	Control Group	130.94 (20.33)	130.51 (23.48)	131.40 (22.61)
Relational Obsessive-Compulsive Disorder	CBT Group	36.29 (4.43)	30.29 (4.63)	30.18 (4.81)
	Mindfulness Group	36.92 (4.39)	30.60 (4.69)	30.42 (4.90)
	Control Group	36.18 (4.89)	36.52 (4.22)	36.42 (4.47)

As observed in Table 1, the scores of both experimental groups for fear of intimacy and relational obsessive-compulsive disorder showed significant changes in the post-test stage, while the control group's scores remained unchanged. To test the significance of the effectiveness of the interventions, a repeated measures ANOVA was used at three stages. Initially, the necessary assumptions were checked. The results of the Shapiro-Wilk test indicated that the data were normally distributed ($p > .05$). Additionally, the results of Levene's test confirmed the homogeneity of variances, and Mauchly's test confirmed the sphericity assumption ($p > .05$). Thus, the use of a mixed ANOVA with repeated measures was justified. The results of the repeated measures ANOVA are reported below.

Table 2

Mixed ANOVA with Repeated Measures at Three Stages

Source of Variation	Group	Components	Sum of Squares	df	Mean Square	F	p	Effect Size
Fear of Intimacy	CBT Group	Constant	174823.222	1	174823.222	285.31	0.000	0.94
		Group	791.023	2	395.512	12.39	0.001	0.42

		Error	382.449	28	13.650			
	Mindfulness Group	Constant	176199.545	1	176199.545	291.59	0.000	0.96
		Group	820.924	2	410.460	12.99	0.000	0.45
		Error	401.320	28	14.332			
Relational Obsessive-Compulsive Disorder	CBT Group	Constant	64288.242	1	64288.242	190.50	0.000	0.85
		Group	342.104	2	171.052	10.28	0.001	0.32
		Error	591.524	28	21.125			
	Mindfulness Group	Constant	68305.402	1	68305.402	192.71	0.000	0.88
		Group	382.921	2	191.460	10.84	0.001	0.37
		Error	602.492	28	21.517			

As seen in Table 2, both Cognitive Behavioral Therapy and Mindfulness-Based Therapy had a significant effect on relational obsessive-compulsive disorder (F = 10.20, F = 10.84) and fear of intimacy (F = 12.39, F = 12.99) over time ($p < .01$). Thus, it can be concluded that both interventions had a significant impact on reducing fear of intimacy and relational obsessive-compulsive disorder and increasing positive emotions in female students.

Table 3

Comparison of Adjusted Mean Scores for Experimental Groups

Statistical Indicators	Stage	CBT Group Mean Difference	Significance	Mindfulness Group Mean Difference	Significance
Fear of Intimacy	Post-test	Pre-test	26.52	0.00	27.72
	Follow-up	Pre-test	26.94	0.00	27.99
	Follow-up	Post-test	0.42	1.00	0.27
Relational Obsessive-Compulsive Disorder	Post-test	Pre-test	5.91	0.00	6.19
	Follow-up	Pre-test	6.13	0.00	6.27
	Follow-up	Post-test	0.11	1.00	0.12

Based on the contents of Table 3, there was a significant difference between pre-test and post-test scores for both approaches concerning fear of intimacy and relational obsessive-compulsive disorder ($p < .01$), indicating the significant effectiveness of these two therapeutic methods. Additionally, no significant difference was observed between post-test and follow-up scores ($p > .05$), suggesting the effects were stable.

Table 4

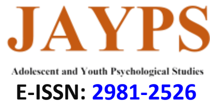
Multiple Comparisons of Adjusted Mean Scores for CBT and Mindfulness-Based Therapy Groups (Interaction of Group and Time: Pre-test and Post-test)

Variable	Group I	Group J	Mean Difference (I-J)	Std. Error	Significance
Fear of Intimacy	CBT Group	Mindfulness Group	0.91	2.32	1.00
Relational Obsessive-Compulsive Disorder	CBT Group	Mindfulness Group	0.42	1.16	0.94

According to Table 4, analysis using the Bonferroni test indicates that there is no significant difference in the effectiveness of the two interventions on the study variables ($p > .05$).

4. Discussion and Conclusion

The present study aimed to compare the effects of Cognitive Behavioral Therapy and Mindfulness-Based Therapy on relational obsessive-compulsive disorder and fear of intimacy in female students. Statistical analysis of the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data showed that despite the significant effectiveness of both therapeutic approaches, there was no significant difference in their effectiveness. Additionally, follow-up tests indicated that the effects of both Cognitive Behavioral Therapy and Mindfulness-Based Therapy were stable. These findings are consistent with various studies (Amir et al., 2022; Apolinário-Hagen et al., 2020; Bakhtiari & Pourdel, 2024; Beck, 2020; Boschloo et al., 2019; Brotto et al., 2019; Dobkin et al., 2020; Doron et al., 2016; Fani Sobhani et al., 2021; Gautam et al., 2020; Ghahremani et al., 2022; Goldberg et al., 2019; González-Valero et al., 2019; Karadayı Kaynak & Mısırlı, 2023; Leeuwerik et al., 2019; Lyvers et al., 2021; Mohamadi et al., 2019; Nesset et al., 2021; Reid et al., 2021; Scigala et al., 2021; Sharafi et al., 2023; Surmai & Duff, 2022; Teasdale, 2004; Tickell et al., 2020; Yüksel & Bahadır Yılmaz, 2020).

Explaining the findings, Kabat-Zinn (1983) suggests that mindfulness means paying attention to the present moment in a particular, purposeful, and non-judgmental way. Currently, mindfulness has rapidly become an effective and efficient approach to dealing with increasing problems. From a scientific research perspective, many clinical psychologists now use mindfulness as a highly effective tool for reducing stress and anxiety (Yüksel & Bahadır Yılmaz, 2020). Mindfulness-based therapy involves specific behavioral, cognitive, and metacognitive strategies to focus attention, which helps prevent factors that create negative moods, negative thoughts, tendencies toward worrisome responses, and fosters new perspectives and pleasant thoughts and emotions (Tickell et al., 2020). Mindfulness therapy is particularly useful in managing stress, reducing anxiety, improving mood, and enhancing the quality of life. This therapeutic approach emphasizes awareness and acceptance, helping individuals face life's challenges more constructively. In this therapy, individuals are encouraged to accept their experiences without trying to change, escape, or deny them, reducing the tension caused by resisting difficult life realities. Mindfulness exercises can also increase empathy and compassion towards oneself and others, improving relationships and reducing social tensions (Fani Sobhani et al., 2021).

One of the mindfulness skills that can be helpful is acceptance. The relationship between acceptance and change is a central concept in current psychotherapy discussions (Goldberg et al., 2019). On the other hand, Cognitive Behavioral Therapy leads to personal resilience by identifying and challenging distorted thinking patterns, which effectively reduces anxiety and improves emotions (Apolinário-Hagen et al., 2020). To treat these thoughts, clients first need to be made aware of their presence and influence, and then taught to create more positive and adaptive self-talk through cognitive restructuring (Dobkin et al., 2020). Additionally, Cognitive Behavioral Therapy assumes that intervention changes cognition, emotion, and behavior, meaning that it helps participants correct their incorrect perceptions and apply these corrections in their interactions with others, leading to a more positive outlook. By correcting beliefs and perceptions about their emotions, they can practically reduce negative emotions during the intervention. This makes Cognitive Behavioral Therapy effective in emotional regulation (Reid et al., 2021). Cognitive Behavioral Therapy is based on the idea that changing the way we think can lead to positive changes in our feelings and behaviors. This approach emphasizes self-efficacy and empowering patients to manage their psychological issues (Nesset et al., 2021). Additionally, one of the primary goals of Cognitive Behavioral Therapy is to eliminate cognitive errors, distortions, and biases, enabling individuals to function more effectively (Boschloo et al., 2019). The cognitive-behavioral approach focuses on cognitive distortions and efforts to change emotions and behaviors, emphasizing behavior. The therapist helps clients identify their cognitive distortions and replace them with more positive and realistic thinking patterns (Gautam et al., 2020). Cognitive Behavioral Therapy, recognized as one of the most effective treatments for psychological disorders such as anxiety and depression, is based on the principle that thoughts, feelings, and behaviors are interconnected. This therapeutic method focuses on changing irrational and destructive thought and behavior patterns to help individuals cope more effectively with their psychological challenges (Sharafi et al., 2023). In Cognitive Behavioral Therapy, combining cognitive and behavioral strategies enables individuals to strive for significant behavioral changes and evaluate the outcomes of these changes. Through cognitive restructuring, the therapy aims to transfer learned skills to the individual's daily life, effectively turning the patient into their own therapist, capable of better managing their emotions (Leeuwerik et al., 2019). Therefore, it is reasonable to conclude that both approaches are effective in reducing fear of intimacy and relational obsessive-compulsive disorder, with no significant difference in their effects.

This study, like other studies, faced limitations, including the following significant ones: The first limitation pertains to the statistical population, limited to students from Tehran, which might reduce the generalizability of the results.

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Additionally, the non-random convenience sampling method may pose challenges in generalizing the findings. Another limitation was the use of self-report measurement tools for data collection, which might compromise the accuracy of findings due to potential dishonesty, inattention, and response errors. Also, throughout the study, there were variables outside the control of the researcher. Therefore, caution is advised in generalizing the results of this study.

Given the limitations and results of this study, it is suggested that the effectiveness of each intervention be compared with other psychotherapy approaches. Additionally, it is recommended to compare the effectiveness of these two approaches on other variables and in other statistical populations. Furthermore, it is suggested to conduct workshops to teach the techniques and protocols of Cognitive Behavioral Therapy and Mindfulness-Based Therapy for counselors and psychotherapists. Finally, specialists are encouraged to use Cognitive Behavioral Therapy and Mindfulness-Based Therapy for female student clients.

5. Limitations & Suggestions

Overall, this study concluded that self-compassion training for girls with self-harming behavior could increase the use of positive emotion regulation strategies and cognitive flexibility while decreasing the use of negative emotion regulation strategies. Since the adolescent girls participating in the present study have different etiologies for self-harming behavior and typically possess diverse cognitive, emotional, behavioral characteristics, and family conditions, these features may have influenced the study's results. Thus, there are limitations in generalizing the findings, interpretations, and causal attributions of variables, suggesting that future research on girls with self-harming behavior should consider the role of the etiological factors of self-harming behavior and cognitive, emotional, behavioral characteristics, and family conditions. Additionally, given the effectiveness of the self-compassion training program on girls with self-harming behavior, it is recommended to use the self-compassion program to increase the use of positive emotion regulation strategies and cognitive flexibility by girls with self-harming behavior and reduce the use of negative emotion regulation strategies in this group of girls.

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Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics 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.

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Authors' Contributions

All authors contributed equally.

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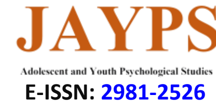
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