Determining the Effectiveness of Schema Therapy on Anxiety and Suicidal Thoughts in Students Experiencing Romantic Trauma

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ABSTRACT

The present study aimed to determine the effectiveness of schema therapy on anxiety and suicidal thoughts in students experiencing romantic trauma. This study was applied in purpose and quasi-experimental in design, utilizing a pretest-posttest control group framework. The statistical population included all students at the Islamic Azad University, Malard Branch, who were experiencing romantic trauma. From this population, 30 individuals were voluntarily selected and randomly assigned to two groups: an experimental group (n = 15) and a control group (n = 15). Data collection tools included the Beck Anxiety Inventory (BAI), the Beck Scale for Suicide Ideation (BSS), and the schema therapy protocol developed by Young et al. (2003). Data were analyzed using SPSS version 26. To test the research hypotheses, a univariate analysis of covariance (ANCOVA) was performed. The results indicated that, at the posttest stage, the mean scores for anxiety and suicidal ideation decreased among participants who received schema therapy. As observed, there was a statistically significant difference between the mean scores of the experimental and control groups across all four variables ($p < 0.05$). The findings of this study demonstrated that schema therapy leads to improvements in anxiety and suicidal ideation among students who have experienced romantic trauma.

Keywords: Schema therapy, anxiety, suicidal thoughts, romantic trauma

Introduction

Communication is one of the most important aspects of human life, characterized by multiple dimensions and formed in various ways. Whether effective or weak, communication constitutes a major part of human life, with one of its most significant aspects being interaction with the opposite sex and the matter of friendly

relationships between girls and boys (1). At every stage of life, individuals engage in particular types of relationships that can either enhance or compromise their personal and social well-being. Romantic relationships, in particular, play a major role in the lives of most young people and can represent key elements of identity, sources of intimacy, social standing, and emotional security. However, these relationships sometimes dissolve for various reasons, and the end of a romantic relationship can be one of the most distressing experiences a person might face. It is not easy to avoid the negative emotions associated with romantic relationships. Romantic breakup is often marked by feelings of rejection and humiliation following emotional intimacy, leading individuals into states of grief, sadness, and isolation (2, 3). In studies where individuals were asked to recall distressing life events, relationship turmoil or the end of a romantic relationship emerged as one of the most frequently cited experiences. Just as the beginning of a romantic relationship is typically accompanied by positive emotional responses like joy and pleasure, the end of such a relationship is often marked by feelings of rejection, loss, and emotional states such as anxiety, anger, jealousy, despair, and loneliness (4).

One behavior that individuals who feel hopeless and isolated may resort to is suicide, and this behavior is not uncommon among those who have experienced romantic trauma (5). It must be acknowledged that neglecting the issue of suicide poses a threat to public mental health. This concern becomes even more pronounced in specific subgroups of society due to their unique circumstances. One such group is university students, who due to their specific developmental stage, high rates of singleness, separation from family, detachment from long-standing relationships, dormitory living conditions, financial challenges, academic pressures, the necessity of forming new social bonds, the struggle for independence, and uncertainties regarding their future life and career, are especially vulnerable to mental health disorders such as depression, and consequently, suicide (6). Events that contribute to symptoms of emotional trauma can be categorized into Type I and Type II love trauma. In Type I trauma, events are sudden and unexpected, causing individuals to feel completely defeated and overwhelmed. In contrast, Type II trauma involves chronic and recurring events that consistently violate the individual's expectations from the relationship (2, 7).

In addition, individuals experiencing romantic trauma may also suffer from anxiety (4, 8, 9). Anxiety is described as a vague, unpleasant feeling of apprehension, often accompanied by physiological symptoms such as heart palpitations, chest tightness, headaches, sweating, restlessness, stomach discomfort, and an urgent need to urinate (Sadock, Sadock, & Ruiz, 2020). According to the American Psychiatric Association (2013), anxiety is a negative mood state characterized by physical symptoms of tension and worry about future events. The World Health Organization reports that approximately 100 million Europeans and 19 million Americans suffer from anxiety disorders, with prevalence in women being twice that of men. Recent findings indicate a critical rise in the incidence of these disorders. Approximately 8% of all psychiatric outpatients suffer from anxiety-related disorders, and 30–40% of individuals experience anxiety-related issues at some point in their lives. As such, anxiety disorders impose a significant burden on both individuals and society, often having longer durations than other psychological issues and being as disabling as many physical illnesses. Treatment for anxiety disorders is also among the most costly (2, 4). In Iran, studies show a prevalence range between 11.9% and 23.8%, and as with global data, anxiety disorders are among the most common mental health problems (2).

Given the wide range of difficulties caused by romantic trauma, including the aforementioned issues, psychological interventions are essential. One potentially effective approach is schema therapy. The term "schema" is broadly defined as a framework or structure. In psychology—particularly within cognitive science—the concept has a rich and prominent history. In cognitive development, a schema is regarded as a mental framework developed through real-life experiences that helps individuals interpret their experiences. Furthermore, perception is mediated by schemas, and individuals' responses are shaped by them. In other words, a schema represents a general framework composed of key elements of an event. According to Young, schemas are deeply ingrained and pervasive patterns consisting of memories, emotions, and bodily sensations that originate in childhood or adolescence, persist throughout life, pertain to the self and relationships with others, and are often maladaptive. While behaviors are rooted in schemas, they are not themselves considered part of the schema. The goal of schema therapy is to improve these maladaptive schemas (10). These early maladaptive schemas stem from unmet emotional needs in childhood, which fall into five core domains: secure attachment to others, autonomy and competence, freedom to express needs and emotions, spontaneity and play, and realistic limits and self-control. These schemas may develop due to unmet needs, overindulgence, or identification with dysfunctional parental behaviors. Early maladaptive schemas include emotional deprivation, abandonment/instability, mistrust/abuse, social isolation/alienation, defectiveness/shame, failure, dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, subjugation, self-sacrifice, emotional inhibition, unrelenting standards/hypercriticalness, entitlement/grandiosity, and insufficient self-control/self-discipline. These are grouped into five schema domains, each corresponding to one of the core emotional needs of childhood. It is believed that successful navigation of these developmental tasks in relation to parents and the environment is necessary for healthy development (2, 4). Therefore, it is reasonable to infer that such schemas play a significant role in emotional trauma.

In sum, given the research gap, the high prevalence of emotional trauma, and its undesirable consequences—such as hopelessness, depression, reduced self-esteem, mistrust/abuse, guilt, anger, anxiety, academic decline, probation, dropout, social relationship deterioration, and even suicidal behavior—the present study aims to answer the fundamental research question: What is the effect of schema therapy on anxiety and suicidal thoughts among university students experiencing romantic trauma?

Methods and Materials

Study Design and Participants

The present study was applied in purpose and quasi-experimental in design, employing a pretest-posttest framework with an experimental and a control group. Two groups were selected, and after administering eight 90-minute schema therapy intervention sessions (once per week) to the experimental group, a posttest was administered to participants in both groups. The statistical population included all students at the Islamic Azad University, Malard Branch, during 2022 who had experienced romantic trauma. According to statistical experts' recommendations for experimental research, a sample size of 15 participants per group was deemed sufficient. Based on voluntary sampling, 30 students with a history of romantic breakup were selected and randomly assigned to two groups of 15 participants: an experimental group and a control group.

Inclusion Criteria:

- Being single and having experienced a romantic breakup within the past year, with a score above the cutoff (20) on Ross's Romantic Breakup Inventory (1999)
- Willingness to participate in the training sessions
- No concurrent participation in any other training programs

Exclusion Criteria:

1. Missing more than two sessions
2. Voluntarily withdrawing from participation
3. Participating in other concurrent training programs during the schema therapy intervention

Data Collection

Beck Anxiety Inventory (BAI): Developed by Beck et al. (1998), this self-report inventory assesses the severity of anxiety. It consists of 21 items, each rated on a four-point Likert scale from 0 (not at all) to 3 (severely). Scores range from 0 to 63, with thresholds as follows: 0–7 (minimal anxiety), 8–15 (mild), 16–25 (moderate), and 26–63 (severe). The BAI has demonstrated high internal consistency, with a Cronbach's alpha of .92, test-retest reliability of .75 over one week, and item-total correlations ranging from .30 to .76 (Beck et al., 1998). In Iranian studies, Cronbach's alpha has been reported at .82 (Tefangchi, Raeisi, Ghamarani, & Rezaei, 2021), and Rafiei & Seifi (2019) found a Cronbach's alpha of .92. Factor analysis revealed five components explaining 58.54% of the variance. In the present study, Cronbach's alpha was .78.

Beck Scale for Suicide Ideation (BSSI): Developed by Beck (1979), the BSSI measures the intensity of suicidal ideation. It includes 19 items rated on a three-point scale (0 = least, 2 = most intense), yielding total scores between 0 and 38. The first five items serve as a screening tool: scoring zero on all five indicates absence of suicidal ideation. A total score of 1–5 suggests suicidal thoughts, 6–19 indicates suicidal readiness, and 20–38 reflects intention to commit suicide. The BSSI has shown strong psychometric properties, with a reliability coefficient of .80 in international studies (Grand et al., 2021). In Iranian samples, internal consistency was .82 among adolescent girls (Maleki Golandooz & Sardari, 2020), and .91 using Cronbach's alpha in another study (Behrouz, Golmohammadian, & Hojatkhah, 2021). In the current study, Cronbach's alpha was .83.

Ross Romantic Breakup Inventory (1999): This instrument, developed by Ross (1999), measures the intensity of romantic trauma. It comprises 10 items rated on a four-point scale, with scores ranging from 0 to 30. The total score indicates the severity of physical, emotional, cognitive, and behavioral distress. A score of 20 is considered the cutoff. Items are scored from 3 to 0, except for items 1 and 2, which are reverse-scored. In studies by Dehghani, Atef Vahid, and Gharaei (2011), internal consistency (Cronbach's alpha) was .81, and test-retest reliability after one week was .83. Akbari et al. (2012) also reported test-retest reliability of .83 in Iranian samples.

Intervention

The intervention protocol consisted of eight weekly schema therapy sessions, each lasting 90 minutes. In the first session, rapport was established, and the goals and significance of schema therapy were introduced in the context of addressing romantic trauma. The second session focused on identifying schemas by evaluating current and past life evidence and examining how these schemas relate to the recent breakup.

The third session taught cognitive techniques such as schema validity testing, cognitive reframing, and assessing the advantages and disadvantages of current coping styles. In the fourth session, participants explored the concept of the healthy adult mode, identified unmet emotional needs linked to the failed relationship, and practiced emotional expression strategies. The fifth session introduced experiential techniques such as guided imagery and imaginary dialogue to confront emotionally challenging breakup scenarios. The sixth session centered on therapeutic relationship modeling and role-playing to practice new relational patterns with significant others. In the seventh session, participants evaluated the pros and cons of adaptive versus maladaptive behaviors and developed strategies to overcome resistance to change. The final session involved a comprehensive review of previous content and rehearsal of newly acquired techniques to ensure integration and generalization of therapeutic gains.

Data analysis

Data analysis was conducted in several stages:

1. Demographic data were analyzed using frequency and percentage;
2. Descriptive statistics (mean and standard deviation) were computed for the study variables;
3. Statistical assumptions, including skewness and kurtosis, Levene's test, linearity, and homogeneity of regression slopes, were tested;
4. For inferential analysis, univariate analysis of covariance (ANCOVA) was used to test the hypotheses. A significance level of .05 was adopted. All data analyses were conducted using SPSS software, version 26.

Findings and Results

In the present study, a total of 30 participants were included and divided into two groups of 15: an experimental group and a control group. In terms of gender, the experimental group comprised 9 males (60%) and 6 females (40%), while the control group consisted of 7 males (46.70%) and 8 females (53.30%). Regarding age, the mean age of the experimental group was 21.46 years (±2.16), and for the control group, it was 21.73 years (±2.34). The descriptive statistics for the dependent variables of the study are presented in Table 1.

Table 1. Means and Standard Deviations of the Study's Dependent Variables by Group and Assessment Phase

Dependent Variable	Group	N	Pretest (M ± SD)	Posttest (M ± SD)
Anxiety	Experimental	15	32.20 ± 3.76	21.66 ± 5.02
	Control	15	34.46 ± 4.19	33.93 ± 4.32
Suicidal Thoughts	Experimental	15	15.33 ± 3.38	11.26 ± 1.90
	Control	15	14.13 ± 4.08	13.98 ± 3.75

Table 1 provides the mean and standard deviation scores for each of the dependent variables under investigation, separated by group and phase of assessment. As shown, participants in the experimental group demonstrated reduced mean scores for both anxiety and suicidal thoughts from pretest to posttest. In contrast, there were no significant changes observed in the control group's scores between the two assessment phases.

Table 2. Results of Univariate ANCOVA for Anxiety Between Groups After Controlling for the Covariate (Pretest Scores) at Posttest

Dependent Variable	Indicator	SS	df	F	p	Partial Eta Squared (η^2)	Power
Anxiety	Pretest	475.954	1	29.864	0.024	0.225	0.371
	Posttest	709.137	1	44.495	0.003	0.622	1.000

As shown in Table 2, the application of schema therapy had a significant effect on reducing anxiety in the experimental group at the posttest stage (F = 44.495, $p < .05$, $\eta^2 = .622$). Thus, the first hypothesis of the study, which stated that "schema therapy is effective in reducing anxiety among students with romantic trauma," was confirmed. Based on the group means and the observed effect size, schema therapy resulted in a 62% reduction in anxiety scores among participants in the experimental group ($p < .05$). The high statistical power (1.000) indicates adequate precision and sample size sufficiency.

Table 3. Results of Univariate ANCOVA for Suicidal Thoughts Between Groups After Controlling for the Covariate (Pretest Scores) at Posttest

Dependent Variable	Indicator	SS	df	F	p	Partial Eta Squared (η^2)	Power
Suicidal Thoughts	Pretest	220.238	1	43.206	0.021	0.115	0.374
	Posttest	91.450	1	17.941	0.000	0.499	1.000

As observed in Table 3, the implementation of schema therapy significantly reduced suicidal thoughts among participants in the experimental group at the posttest stage (F = 17.941, $p < .05$, $\eta^2 = .499$). Therefore, the fourth hypothesis of the study, which proposed that "schema therapy is effective in reducing suicidal thoughts in students with romantic trauma," was supported. Based on group means and effect size, schema therapy resulted in a 49% reduction in suicidal thought scores among the experimental group ($p < .05$). The high statistical power (1.000) further confirms the reliability of these findings and the adequacy of the sample size.

Discussion and Conclusion

Schema therapy had a significant effect on anxiety in students who had experienced romantic trauma. The results of the study, analyzed using univariate analysis of covariance (ANCOVA), demonstrated that the schema therapy intervention led to a reduction in anxiety scores in the experimental group during the posttest phase. However, no notable change in anxiety scores was observed from pretest to posttest in the control group. Thus, the first hypothesis of the present study was confirmed. This finding aligns with previous research (2). Schema therapy works by addressing and restructuring maladaptive coping styles and early maladaptive schemas formed in childhood, clarifying how these patterns influence the interpretation and management of life events. The therapy incorporates both cognitive and behavioral techniques and emphasizes the replacement of dysfunctional cognitive-behavioral patterns with more adaptive strategies, providing an opportunity to alleviate anxiety symptoms.

Furthermore, schema therapy targets the developmental roots of anxiety disorders by reconstructing early maladaptive schemas. This helps decrease avoidance of social and emotional interactions and negative emotional responses in daily communication. Cognitive and behavioral strategies such as schema validity testing, role-playing, and exposure with response prevention are particularly effective in reducing anxiety symptoms. These behavioral techniques assist clients in adopting healthier coping patterns and distancing

themselves from schema-driven interpretations, enabling them to view schemas not as inherent truths but as intrusive constructs. During treatment, schema therapy helps anxious individuals generate a "healthy voice" through cognitive challenges, empowering the healthy self-state. This therapeutic approach is especially beneficial for individuals whose anxiety stems from romantic rejection, helping them critically assess their schemas. Consequently, individuals learn to perceive schemas as external constructs that can be challenged using objective evidence. Behavioral strategies aim to help clients overcome avoidance of distressing interpersonal situations. Exposure-based methods are particularly useful in activating and modifying anxiety-related schemas.

Given the emotional emphasis in schema therapy, experiential and emotion-focused techniques constitute a substantial portion of treatment. These techniques enhance emotional awareness, acceptance, and emotional regulation in both personal and interpersonal contexts. Emotion-focused interventions allow clients to reprocess emotions, facilitate new learning, improve interpersonal affect regulation, and foster self-soothing, thereby enabling more successful engagement in daily activities and reducing anxiety symptoms. Essentially, schemas are considered structural and organizational cognitive components that people use to interpret, categorize, and evaluate experiences. The emotional emphasis in schema therapy makes it particularly effective for those who have experienced emotional trauma, helping them recognize and accept their emotions. The therapy promotes emotional reorganization, self-reflective learning, interpersonal affective adjustment, and self-soothing, laying the groundwork for schema improvement. When emotional and psychological needs that have been impaired by romantic loss are partially satisfied during therapy, the foundation is laid for restructuring maladaptive schemas, as such schemas typically emerge from unmet emotional needs. As a result, individuals who meet these needs through treatment may experience reduced anxiety and associated emotional distress.

Schema therapy also significantly impacted suicidal ideation among students experiencing romantic trauma. The findings, based on univariate ANCOVA, revealed that the schema therapy intervention reduced suicidal ideation in the experimental group at the posttest stage, whereas no substantial change occurred in the control group. This confirmed the study's fourth hypothesis and supports prior studies (11-13). The undeveloped self/enmeshment schema suggests that excessive emotional enmeshment with a significant other often results in the loss of individuality and impaired personal or social development. Individuals with this schema may believe they cannot live or be happy without the support of another. They feel psychologically fused with others, lack a distinct identity, and may experience chronic emptiness, confusion, purposelessness, or in extreme cases, existential doubt. Some researchers have established a link between intense interpersonal dependency and suicidal behavior. Likewise, the unrelenting standards schema is based on the belief that one must exert excessive effort to meet rigid performance standards to avoid criticism. This schema often develops in families that are highly critical and have perfectionistic expectations. It can result in chronic perfectionism, self-criticism, and when individuals fail to meet their standards, feelings of defeat, despair, and suicidal ideation may arise.

This finding can be further explained by recognizing that individuals experiencing suicidal ideation often suffer from depressive symptoms and have difficulty processing social cues. Socially, they tend to be withdrawn and avoid interpersonal engagement. These individuals often struggle with interpersonal communication due to perceived low social competence. Schema therapy can modify maladaptive

information-processing patterns, enhance social problem-solving skills, and improve reasoning. By altering maladaptive cognitions and behaviors, schema therapy reduces affective and anxiety symptoms. It also strengthens the self and increases psychological flexibility, thereby reducing suicidal ideation. Schema therapy supports the development of healthy relationships, emotional expression, and social-cognitive skills, which improve social and emotional development and facilitate peer acceptance. This approach can help individuals with depressive symptoms to function more effectively in social and emotional contexts. Additionally, the group-based component of schema therapy enhances technique activation and significantly impacts cognitive processing and judgment. Thus, suicidal thoughts among these students may be diminished or eliminated.

In practice, schema therapy applies techniques aimed at modifying maladaptive coping strategies—such as using flashcards—to help students reframe their cognitive styles. Behavioral techniques embedded in schema therapy also influence lifestyle changes and life path decisions, which are often intertwined with persistent schemas and suicidal ideation. Ultimately, the therapy supports schema reconstruction and reduces suicidal tendencies through logic and accurate cognitive insight.

Like all research, this study had limitations. One limitation was the psychological and emotional state of the participants during questionnaire completion, which may have affected the accuracy and reliability of their responses. This limitation was beyond the researcher's control.

Acknowledgments

Authors' Contributions

All authors equally contributed to this study.

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. Written consent was obtained from all participants in the study.

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.

Funding

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