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Effectiveness of Schema Therapy on Self-Differentiation and Rejection Sensitivity in Patients with Borderline Personality Disorder

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A B S T R A C T

Objective: The current research aimed to investigate the effectiveness of schema therapy on self-differentiation and rejection sensitivity among patients with borderline personality disorder in Shiraz in 2022.

Methods and Materials: The research method was a quasi-experimental design with a pre-test, post-test, control group, and follow-up. The statistical population consisted of all individuals with borderline personality disorder who visited counseling centers in Shiraz, from which 50 individuals were selected through purposive sampling and randomly assigned to either the experimental group (25 individuals) or the control group (25 individuals). The experimental group underwent 12 sixty-minute sessions of schema therapy, while the control group was placed on a waiting list. The instruments used in this study included the Borderline Personality Questionnaire (Claridge & Brookes, 1984), Self-Differentiation (Skowron & Friedlander, 1998), and Rejection Sensitivity (Downey & Feldman, 1996). Data analysis was performed in two parts: descriptive and inferential (repeated measures ANOVA).

Findings: The results indicated that schema therapy training has an impact on self-differentiation and its components (emotional reactivity, I position, emotional cutoff, and fusion with others) in individuals with borderline personality disorder. Furthermore, the results showed that schema therapy training affects rejection sensitivity in individuals with borderline personality disorder.

Conclusion: Based on the findings of this study, it can be concluded that schema therapy is an effective treatment for improving self-differentiation and rejection sensitivity in individuals with borderline personality traits. It is recommended that this therapy be used for individuals with borderline personality traits in clinical settings.

Keywords: *Self-Differentiation, Rejection Sensitivity, Schema Therapy.*

1. Introduction

The etiology of Borderline Personality Disorder (BPD) has attracted significant attention from therapists and

researchers over the past 35 years. BPD is a severe personality disorder characterized by extensive and severe emotional, behavioral, and cognitive dysregulation (Benazzi, 2006). This disorder is distinguished by pervasive and excessive instability in mood, self-image, interpersonal relationships, and intense arousal. The approximate prevalence of BPD is 1 to 3 percent over a lifetime and 1.4 to 5 percent in the general population (Ditrich et al., 2021). According to the Diagnostic and Statistical Manual of Mental Disorders, BPD is identified by criteria such as avoidance of real or imagined abandonment, unstable interpersonal relationships, identity disturbance, suicidal behaviors or self-harming, emotional instability, chronic feelings of emptiness, inappropriate and intense anger or difficulty controlling anger, and transient paranoid ideation or severe dissociative symptoms. According to DSM-5, individuals with BPD exhibit instability in all aspects of life, including interpersonal relationships, self-image, and emotions and are very impulsive. This condition begins before early adulthood and is present in various contexts, and is indicated by five or more of the following: 1- frantic efforts to avoid real or imagined abandonment. 2- a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation. 3- identity disturbance: markedly and persistently unstable self-image or sense of self. 4- impulsivity in at least two areas that are potentially self-damaging. 5- recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior. 6- affective instability due to a marked reactivity of mood. 7- chronic feelings of emptiness. 8- inappropriate, intense anger or difficulty controlling anger. 9- transient, stress-related paranoid ideation or severe dissociative symptoms. Statistics report about 1.6 percent of the general population suffers from this disorder, which may increase to 5.6 percent. 10 percent of outpatient psychiatric patients and 30 to 60 percent of patients with other personality disorders suffer from this disease. Intense paranoid thoughts related to stress have been reported in 30 to 75 percent of them (Association, 2022).

Psychoanalytic theorists consider specific forms of BPD pathology to correspond to an inner and mental sense of self-differentiation in relation to a subject or object. Kohut used the term "narcissistic object relations disorders" to describe mental disorders (Thornton et al., 2023; Trull et al., 2018). Disorders in this approach are classified by severity. Psychosis represents a very severe dissociation of the self. Borderline states are characterized by a weakening or disruption in the structure of the self. Neurotic states, in comparison to borderline states, are less severe and cause less dysfunction and have mild mood instability (Ditrich et al., 2021; Goreis et al., 2021). The primary goal of self-differentiation is the balance between emotions and cognition. Individuals who have the most blending between their thoughts and emotions perform the weakest; they are likely dominated by automatic or involuntary emotional responses and typically malfunction at low levels of anxiety. Since these individuals cannot differentiate thoughts from emotions, they also have difficulty differentiating themselves from others (Finzi-Dottan, 2023; Işık et al., 2020; Lampis et al., 2019). Differentiated individuals have a strong sense of self and a more positive self-image, whereas undifferentiated individuals lack an independent individual identity. People with BPD cannot tolerate distress in their daily lives and resort to maladaptive emotional regulation strategies such as thought suppression, avoidance, and impulsive behaviors like aggression and violence to manage their chaos and negative emotions (Mozas-Alonso et al., 2022; Parsakia et al., 2023; Peleg, 2008; Rafezi & Saboori, 2022; Rahimzadegan & Atadokht, 2020). The emergence of these dysfunctional behaviors is explained in the emotional cascade model (Salehi et al., 2021; Shariat et al., 2021), based on Linehan's (1992) biosocial model. In the emotional cascade model, negative affect in individuals with BPD initiates rumination and decreases differentiation, leading to further exacerbation of negative affect (Linehan, 1992).

Despite significant research identifying predictive factors for BPD, it appears that the potential role of rejection sensitivity in predicting this disorder has not yet been examined. Individuals with BPD make frantic efforts to avoid rejection. Rejection sensitivity can lead to profound changes in self-image, affect, cognition, and behavior. These individuals may experience severe rejection stemming from intense mood reactivity. Therefore, the disorder in intimate and interpersonal relationships can be attributed to the absence of stable internal objects, leading to idealization and devaluation of others, fear of abandonment, and sensitivity to rejection in these individuals (Yuan et al., 2022). In rejection sensitivity, four types of behavior are observed: a) coldness and insensitivity, including verbal and physical coldness, b) hostile and aggressive behavior, having both verbal and physical dimensions, c) indifference and neglect, involving physical and psychological unavailability and neglect of the child's needs, d) ambiguous rejection, where the individual believes their parents really do not care much about them or love them (Brown et al., 2019; He et al., 2018). Rejection sensitivity experienced by individuals with

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borderline personality traits leads to mental exclusion and ultimately feelings of being marginalized. For example, research evidence shows that rejection sensitivity in individuals with borderline personality traits is consistently associated with negative emotional outcomes including depression, feelings of worthlessness, loneliness, decreased self-image, and self-esteem (Brown et al., 2019; Mastropaolo et al., 2020).

Based on theoretical evidence regarding BPD and its high prevalence, numerous therapeutic measures have been utilized considering the etiology of this disorder, one of which is schema therapy introduced by Young (2003). He provided a model regarding BPD that is particularly useful in understanding sudden and unpleasant emotional mindsets in these patients. Schema therapy is one of the therapeutic interventions whose effectiveness has been demonstrated in several studies (Pilkington et al., 2023; Pugh, 2015). Early maladaptive schemas are defined as a pervasive and extensive pattern of memories, emotions, cognitions, and bodily sensations that have formed in relation to interpersonal relationships, rooted in childhood and adolescence, and develop over the course of an individual's life and are significantly flawed. The term schema is generally defined as a structure or framework that refers to the abstract representation of distinguishing characteristics of an event. In the field of cognitive development, schemas are considered cognitive maps that guide the interpretation of information and problem-solving (Young, 1998; Young et al., 2006; Zolfaghari et al., 2021). Schemas are formed during development through life experiences with significant others and continue to impose themselves on subsequent life experiences; thus, schemas can be positive or negative, adaptive or maladaptive. Some characteristics of early maladaptive schemas include: 1- deep and pervasive patterns or themes, 2- consisting of memories, emotions, cognitions, and bodily sensations, 3- formed during childhood or adolescence, 4- persist throughout life, 5- related to self or relationships with others, 6- highly dysfunctional. The concept of a schema mindset is an important part of schema theory, referring to a set of schemas and processes that overshadow a patient's thoughts, feelings, and actions in a specific situation at the expense of other schemas. Mindsets are closely related to an individual's fundamental beliefs and originate from creating collections of related schemas (Bach et al., 2018; Johns, 2005; Young et al., 2006; Zolfaghari et al., 2021). On the other hand, in the etiology of personality disorders, many believes that the core of personality disorders are early maladaptive schemas formed as a result of adverse childhood experiences, shaping rejection sensitivity (Bilge & Balaban, 2021; Carter et al., 2013; Dickhaut & Arntz, 2014).

Given the increase of this disorder in current societies, research on its etiology and the factors influencing its formation has been limited. On the other hand, Young (2003), in the etiology of personality disorders, states that the core of personality disorders are early maladaptive schemas formed as a result of adverse childhood experiences (Young et al., 2006). Indeed, depending on the type of relationship between the child and parent during childhood, specific styles of cognitions and schemas are formed in the child. Therefore, individuals with BPD experience emotional and emotional helplessness, such that they find themselves trapped by emotions and feelings from which they cannot escape; they also have little awareness of their emotions and face a feeling of lack of control over their lives. Therefore, this research aims to investigate the specific styles of cognitions and schemas formed in these individuals and the factors influencing the formation of these schemas. Hence, the researcher in the current study seeks to answer this question: Does schema therapy affect self-differentiation and rejection sensitivity in patients with borderline personality disorder?

2. Methods and Materials

2.1. Study Design and Participants

The present research employed a quasi-experimental design with a pre-test-post-test scheme, incorporating an experimental group and a control group. The study population consisted of all individuals diagnosed with Borderline Personality Disorder (BPD) who visited counseling centers in Shiraz in 2022. Using a purposive and accessible sampling method, individuals diagnosed with BPD by a psychiatrist based on diagnostic interviews and according to the following criteria were selected as eligible samples. Inclusion criteria included: age range of 30 to 60 years, at least having an education level of middle school, residing in Shiraz, willingness and informed consent to participate in the research project, and presence of borderline personality traits based on clinical interviews (the traits of this personality disorder are listed in the Diagnostic and Statistical Manual of Mental Disorders by the American Psychological Association). Exclusion criteria included: not suffering from other psychological and psychiatric disorders (not having known severe psychiatric disorders), participation in other psychotherapy programs and judicial

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treatments outside of the educational and therapeutic intervention during the research implementation, hospitalization in a psychiatric hospital during the research period, absence from more than three therapy sessions, and relocation. Initially, 50 individuals with BPD were selected from those visiting counseling centers in Shiraz based on the research inclusion criteria through accessible sampling. The referred patients were evaluated for diagnosis confirmation by a specialist (clinical psychologist) through a structured clinical interview based on the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders. Subsequently, 25 individuals were randomly allocated to the experimental group and 25 to the control group. The experimental group underwent 12 sixty-minute sessions of schema-focused therapy on a weekly basis, while the control group remained on a waiting list. After the intervention, both groups were re-evaluated in the post-test regarding the research variables. Ethical principles such as confidentiality, use of data solely for research purposes, full freedom and choice of participants to withdraw from continuing participation in the research, and accurate information provision upon participants' request about the results, along with training for the control group after the experimental group treatment, were considered in the research.

2.2. Measures

2.2.1. Borderline Personality

This scale, developed from the Schizotypal Traits Questionnaire (STQ) by Claridge and Brookes (1984) and later revised by Rawlings, Claridge, and Freeman (2001), consists of 18 dichotomous (yes-no) items. The Borderline Personality Scale is used to study borderline traits in non-clinical populations (Mohammadzadeh, Godarzi, Taghavi, & Molazadeh, 1384). Rawlings et al. (2001) reported a Cronbach's alpha coefficient of 0.80. Since the Borderline Personality Scale was based on DSM-III criteria, in the study by Mohammadzadeh et al. (1384), 6 questions were added based on clinical psychology and psychiatry texts to cover the DSM-IV-TR definition of BPD. Ultimately, 24 questions remained in three factors: hopelessness, impulsivity, and dissociative and paranoid symptoms related to stress, with an internal consistency of 0.77 and a test-retest reliability coefficient of 0.84. In the current study, the 24-item version was used. Since the questions are based on a Likert scale, it was not possible to present variance (Payandeh Najafabadi & Omid Najafabadi, 2016). Therefore, the Sequential Tau coefficient was calculated using the R software, resulting in a Sequential Tau coefficient of 0.82.

2.2.2. Rejection Sensitivity

This questionnaire, created by Downey and Feldman (1996), assesses rejection sensitivity with 18 two-part (A and B) questions based on a 6-point Likert scale. Part A of each question relates to the anxiety level felt by the individual in the situation described, and part B assesses the likelihood of receiving a positive response to the rejection. For example, one question asks: "You ask a friend to do you a big favor. A) How worried or anxious do you become that your friend will not do the favor? (from 1 not at all worried to 6 very worried) and part B is about how likely it is that the friend will willingly do the favor (from 1 very unlikely to 6 very likely)." Downey and Feldman (1996) calculated rejection sensitivity by first subtracting the "acceptance expectation" scores in each situation (part B) from 7 to compute "rejection expectation" scores. Then, they multiplied the rejection expectation score by the "anxiety level" for each situation and then calculated the average score for the 18 situations. The scale's creators found acceptable internal consistency and test-retest reliability coefficients in a sample of 321 females and 263 males. The Cronbach's alpha reliability coefficient obtained in the study was 0.83. No significant difference was found in rejection sensitivity scores between females and males. Downey and Feldman (1996) also conducted a principal component analysis on the data, identifying five factors with eigenvalues greater than one but ultimately accepted a single general factor since the scree test indicated only one factor explaining 27% of the variance, with all questions having a factor loading higher than 0.3 on the first factor (Brown et al., 2019; Mastropaolo et al., 2020).

2.3. Differentiation of Self

Skowron and Friedlander (1998) Differentiation of Self Inventory (DSI): This 43-item questionnaire includes four subscales: 1. Emotional Reactivity, 2. I Position, 3. Emotional Cutoff, and 4. Fusion with Others (Skowron & Friedlander, 1998). The goal is to measure individuals' level of self-differentiation. The Emotional Reactivity subscale reflects the degree to which an individual responds to environmental stimuli with excessive or variable emotional sensitivity. The I Position subscale, consisting of 11 items, alongside a clear definition of self-sense, determines the extent of fidelity to personal beliefs when forced to act

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against them. The 12-item Emotional Cutoff subscale indicates fear of intimacy and excessive vulnerability in relationships with others, reflecting fears of intimate relationships and defensive behaviors like over-functioning, distancing, or denial. Lastly, the 9-item Fusion with Others subscale represents excessive emotional involvement in relationships. The questionnaire is rated on a 6-point Likert scale, with higher overall and subscale scores indicating higher levels of self-differentiation. Skowron and Friedlander (1989) reported a Cronbach's alpha coefficient of 0.88, with subscale coefficients for Emotional Reactivity at 0.84, I Position at 0.83, Emotional Cutoff at 0.82, and Fusion with Others at 0.74 (Parsakia et al., 2023; Rezvani & Saemi, 2019; Skowron & Friedlander, 1998).

2.4. Intervention

2.4.1. Schema Therapy

Schema therapy was conducted in a group format based on Young's model for all participants in the experimental group (Young et al., 2006). After administering the pre-test to both groups, the experimental group underwent therapy for 12 sessions, twice a week, each session lasting 60 minutes, while the control group did not receive any treatment. The post-test was conducted one week after the therapy concluded for both the experimental and control groups, and the therapy was carried out by a specialist in clinical and counseling centers.

Table 1

Description of Group Sessions in Schema Therapy

Session	Content
First	Overview of session structure and group rules, schema therapy concept introduction, group therapy, pre-test questionnaire completion, establishing rapport and trust among group members, assignment of tasks.
Second	Review of previous session's task, teaching the relationship between schema therapy and eating behaviors and cognitive processes, continuing to build therapeutic relationship and trust, task assignment.
Third	Review of previous session's task, therapy process instruction, schema connection with the inner child, presenting an example of a maladaptive schema, factors influencing schema acquisition, task assignment.
Fourth	Review of previous session's task, identifying and activating patient's schemas, mental imagery with significant life figures including peers and others who played a role in schema formation, helping patients experience emotions related to schemas at the start of the session, task assignment.
Fifth	Review of previous session's task, introducing coping styles, reviewing coping styles in several group members, examples of coping styles, task assignment.
Sixth	Review of previous session's task, schema validation, gathering concrete evidence supporting the schema through discussion with group members, collecting evidence refuting the schema, redefining schema-confirming evidence, task assignment.
Seventh	Review of previous session's task, evaluating the pros and cons of members' coping responses, creating schema education cards, introducing schema record forms, task assignment.
Eighth	Review of previous session's task, employing imaginary dialogue technique, schema dialogue (imaginary dialogue), empowering patient to fight against and distance from schema, task assignment.
Ninth	Review of previous session's task, initiating dialogue between schema and healthy aspect, reviewing schema record form, writing a letter to parents and imaginary dialogue with them in therapy session using the empty chair technique, setting specific behaviors as potential change targets, task assignment.
Tenth	Review of previous session's task, therapeutic strategies for changing behaviors affecting schema persistence, reviewing effective methods for emotional and impulse control, task assignment.
Eleventh	Review of previous session's task, reviewing schemas such as self-sacrifice, emotional deprivation, and emotional inhibition in group members, teaching proper communication and emotional expression, task assignment.
Twelfth	Review of previous session's task, recap of exercises and tasks from previous sessions, reviewing effective methods for tolerating distress and frustration in tasks based on self-discipline schema, preparing for final tests from the group.

2.5. Data analysis

The data obtained from the administration of the questionnaires were analyzed using SPSS software version 24 in two parts: descriptive and inferential (Analysis of Variance with Repeated Measures).

3. Findings and Results

This section presents the descriptive statistics (mean and standard deviation) of the scores for self-differentiation components and rejection sensitivity in both schema therapy and control groups across pre-test, post-test, and follow-up stages.

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Table 2

Descriptive Findings

Group	Variable	Index	Pre-test	Post-test	Follow-up
Schema Therapy	Emotional Reactivity	Mean	21.64	30.68	30.52
		SD	4.54	4.68	3.48
Control	Emotional Reactivity	Mean	19.48	17.16	18.84
		SD	2.96	5.13	5.57
Schema Therapy	I Position	Mean	22.36	31.88	30.60
		SD	4.42	5.29	5.29
Control	I Position	Mean	23.00	22.76	24.68
		SD	5.32	7.73	7.82
Schema Therapy	Emotional Cutoff	Mean	25.32	29.32	29.48
		SD	5.02	4.07	4.98
Control	Emotional Cutoff	Mean	23.16	21.56	21.80
		SD	4.83	7.43	5.89
Schema Therapy	Fusion with Others	Mean	21.56	28.04	29.00
		SD	4.71	3.61	3.06
Control	Fusion with Others	Mean	21.80	21.24	21.64
		SD	3.11	2.96	2.36
Schema Therapy	Rejection Sensitivity	Mean	65.72	57.08	61.88
		SD	8.46	9.32	9.35
Control	Rejection Sensitivity	Mean	64.92	63.80	64.92
		SD	7.67	7.66	9.74

As observed, the means in the schema therapy groups at the post-test stage show an increase compared to the pre-test. According to the results in Table 2, it can be inferred that the schema therapy method has led to an increase in the components of self-differentiation and a decrease in rejection sensitivity among patients with borderline personality disorder.

Table 3

Mixed ANOVA Test for Self-Differentiation Components Scores with Greenhouse-Geisser Correction

Variable	Source	SS	df	MS	F	Sig	Eta Squared
Emotional Reactivity	Test (Repeated Measures)	480.69	1.51	318.30	25.29	0.001	0.35
	Test*Group Interaction	929.44	1.51	615.45	48.89	0.001	0.51
	Between-Group	3119.04	1.00	3119.04	75.54	0.001	0.61
I Position	Test (Repeated Measures)	770.56	1.12	686.15	32.87	0.001	0.41
	Test*Group Interaction	618.88	1.12	551.08	26.40	0.001	0.36
	Between-Group	864.00	1.00	864.00	9.71	0.001	0.17
Emotional Cutoff	Test (Repeated Measures)	57.33	1.48	38.77	5.11	0.02	0.11
	Test*Group Interaction	257.65	1.48	174.23	13.97	0.001	0.23
	Between-Group	1290.67	1.00	1290.67	18.07	0.001	0.27
Fusion with Others	Test (Repeated Measures)	374.56	1.26	297.57	89.47	0.001	0.65
	Test*Group Interaction	448.48	1.26	356.30	107.12	0.001	0.69
	Between-Group	807.36	1.00	807.36	26.83	0.001	0.36

The results in Table 3 indicate that the calculated F-value for the within-group factor for the stages (pre-test, post-test, and follow-up) is significant at the 0.05 level for all four components ($P < 0.05$). Therefore, there is a significant difference between the mean scores of self-differentiation components at the three stages of pre-test, post-test, and follow-up. The Bonferroni post-hoc test was conducted to examine the differences between means at the treatment stages, showing a significant difference between the scores of self-differentiation components from pre-test to post-test, and pre-test to follow-up. However, there was no significant difference between the scores of self-differentiation components from post-test to follow-up, indicating that the scores of self-differentiation components did not

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significantly change from the post-test to the follow-up stage. Based on the results in Table 3, regarding the interaction between stages and group factors, the calculated F value for the effect of stages (pre-test, post-test, and follow-up) between the schema therapy and control groups is significant at the 0.05 level for self-differentiation components ($P < 0.05$). According to the results in Table 3 for the between-group factor, the calculated F-value at the 0.05 level for self-differentiation is significant ($P < 0.05$). Hence, there is a significant difference between the overall mean scores of self-differentiation in both schema therapy and control groups. In general, it can be concluded that the schema therapy method has impacted self-differentiation scores, in that the experimental group (schema therapy) has shown an increase in self-differentiation scores compared to the control group, and the increase in self-differentiation scores at the follow-up stage compared to the pre-test was also significant, indicating a continued and significantly different increase in self-differentiation scores at the follow-up stage compared to the pre-test, which shows the treatment's (schema therapy) stability on self-differentiation scores.

Table 4

Mixed ANOVA Test for Rejection Sensitivity Scores with Greenhouse-Geisser Correction

Variable	Statistical Index	Factors	SS	df	MS	F	Sig	Eta Squared
Rejection Sensitivity	Test (Repeated Measures)	604.37	1.74	347.34	14.93	0.001	0.24	
	Test*Group Interaction	353.49	1.74	203.16	8.73	0.001	0.15	
	Between-Group	334.51	1.00	334.51	3.77	0.03	0.09	

The results in Table 4 show that the calculated F value for the within-group factor for the stages (pre-test, post-test, and follow-up) is significant at the 0.05 level for rejection sensitivity ($P < 0.05$). Therefore, there is a significant difference between the mean scores of rejection sensitivity at the three stages of pre-test, post-test, and follow-up. The Bonferroni post-hoc test results indicate a significant difference between the scores of rejection sensitivity from pre-test to post-test, and pre-test to follow-up ($P < 0.05$). Also, there is no significant difference between the scores of rejection sensitivity from the post-test to the follow-up stage, indicating that the scores of rejection sensitivity did not significantly change from the post-test to the follow-up stage ($P > 0.05$). Based on the results in Table 4, regarding the interaction between stages and group factors, the calculated F value for the effect of stages (pre-test, post-test, and follow-up) between the schema therapy and control groups is significant at the 0.05 level for rejection sensitivity ($P < 0.05$). Hence, there is a significant difference between the mean scores of rejection sensitivity at the pre-test, post-test, and follow-up stages in both groups.

4. Discussion and Conclusion

The present study aimed to investigate the effectiveness of schema therapy on self-differentiation and rejection sensitivity in patients with borderline personality disorder. The results indicated that the schema therapy method had an impact on self-differentiation scores, such that the experimental group (schema therapy) showed increased self-differentiation scores compared to the control group. Given that the increase in self-differentiation scores at the follow-up stage compared to the pre-test was also significant, the trend of increasing self-differentiation scores continued at the follow-up stage compared to the pre-test, significantly differing, indicating the treatment's (schema therapy) stability on self-differentiation scores. The research findings are consistent with the results of the previous studies (Hajhosseini et al., 2021). Individuals with high self-differentiation and a strong I position have a clear definition of themselves and their beliefs, and they act based on thought and logic in highly emotional situations, demonstrating good ability in identifying and regulating emotions. In contrast, undifferentiated individuals, who experience emotional cutoff and emotional reactivity, lose control of their behavior in certain situations, experience high anxiety and fear, are highly self-critical, and ruminate on catastrophic thoughts in stressful situations. These individuals have difficulties in regulating emotions and respond to others through emotional reaction or emotional cutoff. According to Bowen, the underlying factor in the emergence of psychological problems is emotional fusion, which is the opposite of differentiation and disrupts self-differentiation from the family (Hajhosseini et al., 2021). Bowen (1966) believed that individuals with the most fusion between their thoughts and emotions are not capable of effectively regulating their emotions (Parsakia et al., 2023). Linehan (1993) considered emotional reactivity to be a

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prominent characteristic of individuals with borderline personality disorder. On the other hand, emotional reactivity is one of the main components of self-differentiation, which, according to Bowen's theory, indicates that individuals with low differentiation experience emotional reactivity; they are unable to differentiate feeling from thinking, and the current research results also support this (Linehan, 1992). Given the mentioned content, it can be stated that schema therapy, by integrating cognitive and behavioral approaches within a therapeutic model, has been able to enhance the individual's ability to differentiate mental and emotional processes. In other words, schema therapy, a summary of an individual's healthy responses, identification of schema roots, and dysfunctional thoughts, is the best tool to help individuals identify schema-triggering situations, recognize negative behaviors, and how to replace them with healthy behaviors, leading to individual insight into schemas and facilitating change (Pilkington et al., 2023). Therefore, schema therapy was able to increase the self-differentiation capability of patients with borderline personality disorder by distinguishing healthy and unhealthy behaviors.

Moreover, the results showed that the schema therapy method had an impact on rejection sensitivity scores. Also, given that the decrease in rejection sensitivity scores at the follow-up stage compared to the pre-test was significant, the trend of decreasing rejection sensitivity scores continued at the follow-up stage compared to the pre-test and was significantly different, indicating the treatment's (schema therapy method) stability on rejection sensitivity scores. The research results are consistent with previous findings (Albein-Urios et al., 2019; Baljé et al., 2016; Bidari & Haji Alizadeh, 2019; Dickhaut & Arntz, 2014; Köck & Walter, 2018; Pinto-Gouveia et al., 2006; van Maarschalkerweerd et al., 2021). Overall, based on the data obtained in the present study, it can be concluded that schema therapy intervention on rejection sensitivity in patients with borderline personality disorder is effective. In explaining this finding, it can be mentioned that in this approach, individuals with borderline personality disorder have been able to use experiential strategies, especially writing letters, to significant individuals in their lives who harmed them during childhood and adolescence, enabling them to recognize their emotions and feelings and assert their rights (Brown et al., 2019). On the other hand, schema therapy, utilizing the therapeutic relationship and employing techniques such as limit-setting parenting and empathetic reality testing, has been effective in balancing schemas, especially emotional deprivation schema, on emotional instability in patients. Moreover, since patients are sensitive to rejection signs, schema therapy, utilizing cognitive techniques, especially redefining schema-confirming evidence and completing schema record forms, has led individuals to be non-judgmental observers and accurate describers of behaviors, neither adding to nor subtracting from their observations. Furthermore, limit-setting parenting is one of the fundamental strategies in schema therapy during the change phase (Dickhaut & Arntz, 2014).

5. Limitations & Suggestions

The major limitation of this study relates to its external validity, as the research population consisted of a specific group from society, namely individuals with borderline personality disorder in Shiraz, thus limiting the generalizability of the results to the broader population. Data collection was based on self-report measures, presenting another limitation related to measurement accuracy, as the feedback or self-reports from individuals about themselves might differ from what can be observed in their actual behavior and actions. Given the findings of the current study, it is recommended that mental health professionals and those in the health sector consider designing and applying methods inspired by schema therapy to improve the mental health of individuals with borderline personality disorder. Given the effectiveness of this treatment, it is advisable that this therapeutic approach be utilized in clinical centers to manage the distress arising from traumas and crises.

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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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