

# The Comparison of Effectiveness of Dialectical Behavioral Therapy (DBT) and Schema Therapy (ST) in Reducing the Severity of Clinical Symptoms (Disruptive Communication, Emotional Deregulation and Behavioral Deregulation) of Borderline Personality Disorder in Iran

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## ABSTRACT

Borderline personality disorder is one of the complex mental disorders. It also features impulsivity and self – harming behaviors. The objective of this research was to investigate and compare the effectiveness of DBT with that of ST in reducing the severity of clinical symptoms (i.e., disruptive communication, emotional deregulation and behavioral deregulation) of borderline personality disorder patients. The sample consisted of 45 borderline personality disorder patients selected based on diagnostic and statistical manual of mental disorder-fifth edition (DSM-5), clinical interview and borderline personality disorder severity index (BPDSI). Moreover, they were matched concerning age, educational status, sex, not suffering from acute physical, mental disorder and other criterion considered in this research. Then, they were randomly divided into three groups (i.e., 2 experimental groups and one control group). The instruments were included clinical interview and borderline personality disorder severity index (BPDSI). After pre testing, the first experimental group received 12 sessions of DBT and the second experimental group (ST) was administered 12 sessions of (ST), but the control group did not receive any intervention, then, post - test was taken from both groups. After 6 months, a follow-up test was administered. The results revealed that (ST) and (DBT) reduced the symptoms of borderline personality disorder in comparison with pre-test and control group ( $P < 0.001$ ). The effectiveness of (DBT) in disrupted communication was significantly higher than (ST) in post-test and follow-up periods. However, there was no significant difference between (DBT) and (ST) in terms of both emotional and behavioral deregulations. In addition, (ST) was more effective than (DBT) in reducing emotional deregulation, but there was no significant difference between them. Moreover, in follow-up period, the (DBT) was significantly more effective in reducing unstable interpersonal relationships and suicidal symptoms than (ST). However, the (ST) was more effective in reducing unstable emotional behaviors.

**Keywords:** Dialectical behavior therapy (DBT), schema therapy (ST), borderline personality disorder, disruptive communication, emotional deregulation, behavioral deregulation

## INTRODUCTION

Borderline personality disorder is a common and disabling psychiatric disorder characterized by major disturbances and impaired functioning. This disorder encompasses a chronic pattern of disability in cognitive, emotional, behavioral and interpersonal domains and identity (Bedics, Atkins, Harned, & Linehan, 2015). A pattern of problems, which includes the lack of self-confidence and the reliance on external determinants of excitement, ultimately leads to the patient's complaints of identity problems and feelings of emptiness. In a family whose negative excitement is like anger, the border patient eventually concludes that only extreme behaviors (i.e., sequential self-harm and suicidal attempts and threats) lead to attention, validation, and critical consideration of his excitement by others. Borderline personality disorder is the most common personality disorder in psychiatric settings; it is one of the most complex and serious psychiatric disorders with the symptoms of persistent problems in emotional regulation, impulse control, and instability in interpersonal relationships. This is characterized by major disturbances and disturbances in action. Due to the fact that this disorder

has rarely been studied, based on a three-factor model, most people with this disorder rarely seek treatment. However, when their incompatible behaviors lead to intolerable marital and family affairs, anxiety, substance abuse, and eating disorder, they seek treatment. The global statistics show that personality disorders, especially borderline personality disorder, outbreking some institutions report a 5.9% rate for a normal society (Lang, Edwards, Mittler & Bonavitacola, 2018; Torous, Levin, Ahern, & Oser, 2017; Bedics, Atkins, Harned, & Linehan, 2015; Arntz & Hannie, 2009). Pioneering BPD researchers believed that the disorder had a malignant prognosis and it was comparable to schizophrenia in this regard (DeCou, Comtois & Landes, 2019). In recent years, there has been a more optimistic view that symptoms of borderline personality disorder (especially impulsivity) decline during the fourth decade of life (Arntz & Hannie, 2009). In sum, from among all personality disorders, DBT has less stability over time, and in many short and long-term follow-up studies, a high rate of recovery has been reported (Torous, Levin, Ahern, & Oser, 2017).

Dialectical behavior therapy (DBT) with a completely compassionate and humane attitude was developed by

Linhan (2015). The tendency towards this method of treatment is in the general form of behavioral therapy; it was initially developed for the treatment of women with borderline personality disorder who have been chronically suicidal. The compassionate and partially maternal attitude of Linehan (Linehan, 1993) towards the borderline patients is very similar to Young's humanistic view (Neacsiu, Rizvi, & Linehan, 2010); both believe that the old tests of pathology have misjudged borderline patients. These patients do not intend to manipulate others, but behind their non-organize and unstable behaviors; is a very young child who feels lonely and needs maternal affection. A mother who does not have a physical presence, or if she was physically with her child, she had no real psychological presence. The theory of subjective dialectical behavioral therapy (DBT) states that borderline personality disorder is the result of an irritating environment; it is a kind of impairment in emotional regulation that results from serious deficiencies in interpersonal skills, emotional regulation, disturbance tolerance and many adaptive behavioral skills which are inhibited (Niedtfeld, Schmitt, Winter, Bohus, Schmahl, & Herpertz, 2017). On the other hand, many researchers have confirmed the model of dialectical behavioral therapy (DBT) and show that borderline patients experience problems in emotional regulation, interpersonal relationships, and tolerance of distress and suffering (Paris, 2018). Dialectical behavior therapy (DBT), which is held on a weekly basis, focuses on behavioral skills training, emotional regulation, distress tolerance, and interpersonal efficiency. In addition, empirical controlled studies have shown the effectiveness of this approach in a wide range of borderline symptoms. In fact, dialectical behavioral therapy (DBT) is the specific treatment for borderline personality disorder; its efficacy has been shown with high precision and extensive empirical evidence (Perepletchikova, Nathanson, Axelrod, Merrill & Walkup, 2017). Dialectical behavior therapy (DBT) is an empirically supported treatment for suicidal individuals. This therapy emphasizes that non-conforming behaviors in patients (e.g. self-harm, suicidal behavior, alcohol abuse and medications) are instrumental in regulating distressing emotional experiences. Following these non-adaptive behaviors, a temporary decrease in emotional arousal occurs; consequently, the use of these non-conforming strategies is negatively reinforced. Therefore, the main focus of DBT is on the acquisition, application, and generalization of specific adaptive skills which are trained in this therapeutic approach and its ultimate goal is helping the patients to break in and overcome this defective cycle (Coyle, Shaver, & Linehan, 2018). DSM-5 and BPDSI have mentioned that the three-factor model is more efficient than the five-factor model, and this model is more efficient than the one-factor model used in DSM-5; it can be stated that the model with three factors recognizes the nerves symptoms of personality disorder and this model is obtained through BPDSI. Furthermore, the effect of the treatment plan on the treatment behavior, in this model, is dialectical. Dialectical behavioral therapy (DBT) considers emotional disturbances as the core of borderline pathology. Emotional disturbance leads to a series of misconducts in other areas: including interpersonal misconduct, cognitive misconduct, and a misconstrued self-concept. It is thought

that these patients do not learn to identify, fix, and adjust emotional experiences. In addition, they do not trust in their private experiences. As a result, a fixed concept of self is not created and the patient experiences his borderline personality disorder as a container of emotions and conflicting, varied and intense states (Wojciechowski, 2019).

Several controlled studies have shown the effectiveness of this approach for borderline patients, including Linehan (2015). This form of treatment reduced the frequency of ultra-visceral behavior and preserved patients in dialectical behavioral therapy (DBT). In addition, after one year, patients who received dialectical behavioral therapy (DBT) spent less time in hospital than other patients. However, dialectical behavior therapy (DBT) was not more effective than the controlled conditions in terms of reducing frustration, depressed mood and suicidal ideation. Linehan (2015) considered patients with borderline personality disorder as the psychological equivalent of third-degree burn patients. She believed that borderline patients do not have any "emotional skin" and a subtle touch or movement can cause severe emotional pain. That is why in extreme cases, the patient falls in deep despair and believes that the only possible solution is suicide. In these circumstances, the patient's intention to suicide is to punish others, because they do not understand the surrounding. The pattern of "disapproval" involves disabling the emotional experiences of the individual and others tedious search for a precise understanding of the external and internal realities, as well as the over-simplification of the complexity of the conflict.

Schema therapy (ST) or schema-based therapy is an innovative and integrative therapy developed by Yang (1999) based on treatments and concepts of cognitive behavioral therapy. This treatment involves components of various approaches, including cognitive behavioral theories, attachment, object-structural relation, and analytical psychotherapy. In fact, Schema Therapy has integrated these components into a conceptual and therapeutic model. In this model, early maladaptive schema (EMS) are considered as core elements of personality disorder (Videler, Rossi, Schoevaars, Van der Feltz-Cornelis, & Van Alphen, 2014). Moreover, schema therapy (ST) has sought to open a barrier for therapists to treat personality disorders through the use of cognitive behavioral therapies as well as new therapeutic strategies.

This treatment is especially suitable for patients who have enduring and widespread mental disorders and are resistant to psychological therapies. Clinical experience has shown that patients with personality disorders respond well to schema therapy (ST). In fact, schemas act as monitoring patterns to determine what is being processed, thereby distorting and biasing information perceptions (MacLaren, & Best, 2010.; Young, 1990). Although this model encompasses a range of cognitive-behavioral techniques, it is inconsistent with its focus on the relationship of therapeutics and past traumatic experiences and those techniques (Young et al., 2003, translated by Hamidpour & Enduz, 2011). In schema therapy (ST), a patient with borderline personality disorder is considered a "vulnerable child". Although a borderline patient may look like an adult, he is, in fact, psychologically the abandoned

child seeking his parents. In Yang's theory, the borderline patient's inappropriate behavior; is due to his desperation and despair (not selfishness); the patient's multiple relationships are disrupted, not because of his greed, but because of his need. These patients do what all children do - when they feel safe and insecure and do not find anyone to care for them with compassion and security. Most patients with borderline personality disorder have been single children who have been mistreated; they have no one to care for them; they have often found themselves overwhelmed when they need support and care and have repeatedly harmed in their childhood. Overall, Young believes that although the patient may appear angry, indifferent, rancorous, or punitive, behind the picture, there is an abandoned child seeking help and guidance (Videler, & et al, 2014).

This research study could provide a suitable context for examining and comparing the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) in borderline personality disorder. Clinical therapists and crisis intervention specialists can make extensive use of the results of this study. Therefore, the present study seeks to understand the extent to which each of these therapies, schema therapy (ST) and dialectical behavior therapy (DBT), can contribute to the improvement of borderline personality disorder behaviors. Previous research studies considered emotional disturbances as the core of borderline pathology (Hamidpour & Enduz, 2011) and the results of our research indicated that the schema therapy (ST) significantly decreased the emotional deregulation. Thus, dialectical behavior therapy may be used in cases where the patient is more likely to have emotional dysregulation. However, in cases in which the patient is more disturbed communication using dialectical behavior therapy (DBT) is recommended.

## METHOD

**Participants:** The research method was semi experimental, in which the effectiveness of independent variable, dialectical behavioral therapy (DBT) and schema therapy (ST) on dependent variables (i.e., the symptoms of triple-domains: disruptive communication, emotional deregulation and behavioral deregulation) were investigated and compared. The study population included all male patients with borderline personality disorder who had been referred to public and private psychological clinics in Tabriz in 2016. The criteria for entering the research sample included structured clinical interview, educational status, age range of 17 to 45 years old, lack of acute physical and psychological disorder, as well as other criterion considered in this research. People with psychotic disorder, mood disorder, substance abuse, and psychiatric patients were excluded. The sample consisted of 45 borderline personality disorder patients based on diagnostic and statistical manual of mental disorder-fifth edition-text revision (DSM-5), clinical interview and borderline personality disorder severity index (BPDSI). In addition, they were matched considering age, educational status, sex, lack of acute physical and mental disorder and other criterion considered in this research. Then, the sample was randomly divided into three groups (i.e., two

experimental and one control group). The instruments were clinical interview and borderline personality disorder severity index (BPDSI). After pre testing, the first experimental group received 12 sessions of dialectical behavior therapy (DBT) and the second experimental group was administered 12 sessions of schema therapy (ST). However, the control group did not receive any intervention. Then post - test was taken from both groups. After 6 months' follow-up, the test was administered. For ethical considerations, the control group received 3 sessions of intervention. Data analysis was conducted through analysis of variance on difference scores.

**Instruments:** In order to collect the required data for the study, a structured clinical interview was administered based on DSM-5, and Borderline Personality Disorder Severity Index (BPDSI).

**Borderline Personality Disorder Severity Index (BPDSI):** Borderline Personality Disorder Severity Index is a semi-structured interview based on DSM-5, designed to assess the frequency and severity of specific manifestations of borderline personality disorders over the past 6 months. This instrument was used to measure the outcome of the treatment. This questionnaire includes 70 items which examine 9 criterion of DSM-5 for borderline personality disorder. Each item ranks the frequency and severity of the symptoms based on an 11-point scale (zero score is for never and 10 points per day). The aim of using this index is to determine the baseline level for measuring borderline personality disorder symptoms and the effectiveness of dialectical behavior therapy (DBT) in reducing the triple symptoms in patients with borderline personality disorder. To determine the internal consistency of this test, the Cronbach's alpha method was used; in the group of patients with borderline impairment, it was 0.85 and in the subscales, they ranged from 0.68 to 0.93. This questionnaire has a good differential validity (Weiner, Ensink & Normandin, 2018). In this study, the validity coefficient of the questionnaire for severity of borderline personality disorder and borderline personality scale was 0.779 and its reliability coefficient, using Cronbach's alpha, was 0.668. Moreover, the mean age of the dialectic behavioral group (DBT) was 28.48 and that of the control group was 28.28, which means that the means of the two groups were almost the same.

**Procedure:** At first, after pre testing, the first experimental group received 12 sessions of dialectical behavior therapy (DBT) and the second experimental group administered 12 sessions of schema therapy (ST). However, the control group did not receive any intervention. Then post - test was taken from both groups. After 6 months' follow-up, the test was administered. For ethical considerations, the control group received 3 sessions of intervention.

## RESULTS

Table 1 shows the descriptive statistics results for the severity of borderline personality disorder, presented in three stages of pre-test, post-test and follow up for the three factors of borderline personality disorder.

Table 2 shows the results of multivariate analysis of covariance (MANCOVA) concerning the comparison of the two experimental and control groups.

Table 2 summarizes the results of the multivariate analysis comparing the post-test and pre-test difference scores in the dependent variables in the dialectical behavior therapy (DBT) and schema therapy (ST) groups. The table shows that there is a significant difference between dialectical behavior therapy (DBT) and schema therapy (ST) in terms of at least one of the dependent variables. To investigate the point of difference, one-way analysis of variance was performed on the dependent variables.

Table 3. shows the results of one-way analysis of variance comparing post-test and pre-test difference scores (i.e., impaired communication, emotional adjustment, and behavioral adjustment) in dialectical behavior therapy (DBT) and schema therapy (ST) groups.

Table 3 shows that one-way analysis of variance in the dependent variables of disrupted communication ( $F = 312.92$ ,  $P = 0.00$ ), emotional maladjustment ( $F = 224.41$ ,  $P = 0.00$ ) and behavioral maladaptation ( $F = 117.33$ ,  $P = 0.00$ ) are significant. In other words, dialectical behavior therapy (DBT) and schema therapy (ST) were effective in reducing the three factors of borderline personality disorder (disrupted communication, emotional deregulation and behavioral deregulation). Table 4 shows the Tukey post hoc test results investigating post-test, pre-test difference scores in the three factors in the experimental and control groups.

As evident in table 4, concerning the dependent variable of disrupted communication, the mean difference between dialectical behavior therapy (DBT) and schema therapy (ST) was significant ( $P = 0.007$ ). Moreover, it can be seen that the mean of disrupted communication in post-test of dialectical behavior therapy (DBT) group is 5.28 and that of schema therapy (ST) is 8.09. Therefore, dialectical behavior therapy (DBT) had a greater effectiveness on reducing the disrupted communication in post-test than schema therapy (ST). There was also a significant difference between the two experimental groups and the control group in terms of reducing the disrupted communication, in the post-test. The post-test mean of the control group in disrupted communication is 21.29, which indicates that the two experimental groups were more effective than the control group in reducing the disrupted communication. Furthermore, in behavioral deregulation, there is no significant difference between the means of dialectical behavior therapy (DBT) and schema therapy (ST) ( $P = 0.107$ ), but there is a significant difference between the two experimental groups and the control group ( $P = 0.001$ ). According to results of Table 1, it can be seen that the mean of behavioral deregulation in post-test of dialectical behavior therapy (DBT) group is 3.98 and that of schema therapy (ST) is 2.84. However, in the control group, it is 11.49. In the dependent variable of emotional dysregulation, the mean difference between dialectical behavior therapy (DBT) and schema therapy (ST) is not significant ( $P = 0.419$ ), but the results also showed that the difference between the two experimental groups and the control group in the post-test period is significant ( $P =$

0.001). According to results of Table 1, the mean of emotional dysregulation in dialectical behavior therapy (DBT) group in post-test is 6.04 and that of schema therapy (ST) is 6, in the control group, it is 14.48. In fact, these results show that the two experimental groups were more effective than the control group. Table 5 shows the results of one-way analysis of variance regarding follow-up difference scores.

Table 5 shows that the differences of the dependent variables of disrupted communication ( $F = 301.088$ ,  $P = 0.001$ ), emotional deregulation ( $F = 410.804$ ,  $P = 0.001$ ) and behavioral deregulation ( $F = 101.873$ ,  $P = 0.001$ ) are significant. In other words, dialectical behavior therapy (DBT) and schema therapy (ST) were effective in reducing the triple factors of borderline personality disorder (i.e., disrupted communication, emotional deregulation, and behavioral deregulation). Table 6 shows Tukey post hoc test results on follow-up difference scores - pre-test on the three factors in experimental and control groups.

As it is evident in Table 6, in the dependent variable of the disrupted communication, the mean difference between dialectical behavior therapy (DBT) and schema therapy (ST) is 2.1125 and significant ( $P = 0.02$ ). The follow-up difference scores - pre-test mean of dialectical behavior therapy (DBT) group is 16.70 and that of schema therapy (ST) is 14.58. Therefore, dialectical behavior therapy (DBT) had more efficacy in reducing disturbed communication than schema therapy (ST) in follow-up. There was also a significant difference between the two experimental groups in the follow-up difference scores of disturbed communication and the control group. The mean follow-up difference of disturbed communication in control group is -0.125, which indicates that the two experimental groups were more effective than the control group. In the dependent variable of behavioral deregulation, there was no significance difference between two experimental group, since the mean difference between dialectical behavior therapy (DBT) and schema therapy (ST) is -1.43 ( $P = 0.157$ ). The results also show that there was a significant difference between the two experimental groups and the control group in the follow-up period. According to the results, it is observed that the mean follow-up difference of behavioral deregulation is 6.67 in dialectical behavior therapy (DBT), 7.80 in schema therapy (ST) and -0.061 in the control group.

In the dependent variable of emotional dysregulation, the mean difference of dialectical behavior therapy (DBT) with schema therapy (ST) was -0.8452 ( $P = 0.179$ ) which was not significant. Also, the results showed that there was a significant difference between the two experimental groups and control group in the follow-up period. According to the results, it can be seen that the mean pre-test, follow up of dialectical behavior therapy (DBT) was 10.81, schema therapy (ST) was 11.66 and the control group was -0.21, which shows that the two experimental groups were more effective than the control group.

Table 1: Descriptive statistics results of experimental and control groupsscore on three factors of borderline personality disorder

Variables	Statistical Indexes	Dialectical Behavioral Therapy	Schema Therapy	Control Group
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		Pre test	Post test	Fallow up	Pre test	Post test	Fallow up	Pre test	Post test	Fallow up
Disrupted Communication	Mean	22.29	5.28	5.60	22.64	8.09	8.06	21.34	21.29	21.32
	Standard Deviation	2.36	1.13	1.24	1.35	0.4825	0.899	1.64	1.28	1.64
	Minimum	18.50	3.63	4	20.50	7.38	6.25	18.13	19.25	18.88
	Maximum	25.75	7.38	7.88	25.25	8.75	9.63	23.00	23.50	23.63
Behavioral Deregulation	Mean	10.75	3.98	3.90	10.54	2.84	2.74	11.64	11.49	11.70
	Standard Deviation	1.24	0.78	0.447	1.41	0.4304	0.5123	1.23	0.756	1.09
	Minimum	9.36	2.80	3.11	8.76	2.15	2.13	10.17	10.36	9.98
	Maximum	13.27	5.34	4.69	12.57	3.35	3.73	13.62	13.14	14.01
Emotional Deregulation	Mean	16.81	6.04	6.002	16.10	4.59	4.445	15.13	14.48	15.34
	Standard Deviation	1.414	0.46	0.498	0.862	0.679	0.742	1.22	1.426	0.987
	Minimum	14.56	5.30	5.33	14.81	3.59	3.55	12.85	11.47	14.06
	Maximum	18.49	6.71	6.99	17.64	5.51	5.46	17.02	16.42	17.34

Table 2: The results of multivariate analysis for comparing post-test, pre-test in experimental and control groups

Effect		Value	F	Significance
Group	Pillai's trace	1.32	16.64	0.001
	Wilks' Lambda	0.013	63.44	0.001
	Hotelling trace	48.81	195.22	0.001
	The Roy greatest root	48.30	418.61	0.001

Table 3: The results of one-way ANOVA on post-test difference scores in the three factors in the experimental and control groups

Source of change	Dependent Variable	Sum of Squares	Degree of Freedom	Average Squares	F	Level of Significance
Group	Disrupted communication	1689.80	2	844.90	312.92	0.001
	Emotional deregulation	736.36	2	368.18	224.41	0.001
	Behavioral deregulation	332.22	2	166.11	117.33	0.001
Error	Disrupted communication	72.90	27	2.70		
	Emotional deregulation	44.30	27	1.64		
	Behavioral deregulation	38.23	27	1.42		
Total	Disrupted communication	5084.18	30			
	Emotional deregulation	2531.88	30			
	Behavioral deregulation	1065.30	30			

Table 4: Tukey post hoc test results on post-test, pre-test difference scores in the three factors in the experimental and control groups

Dependent Variable	Group	Group	Mean group differences	Standard deviation error	Significance
Disrupted communication	Dialectical Behavioral Therapy	Schema Therapy	2.46	0.73485	0.007
		Control	17.00	0.73485	0.001
	Schema Therapy	Dialectical Behavioral Therapy	-2.46	0.73485	0.007
		Control	14.55	0.73485	0.001
Emotional deregulation	Dialectical Behavioral Therapy	Schema Therapy	-0.73	0.57283	0.419
		Control	10.12	0.57283	0.001
	Schema Therapy	Dialectical Behavioral Therapy	0.73	0.57283	0.419
		Control	10.86	0.57283	0.001
Behavioral deregulation	Dialectical Behavioral Therapy	Schema Therapy	-1.12	0.53213	0.107
		Control	-6.43	0.53213	0.001
	Schema Therapy	Dialectical Behavioral Therapy	1.12	0.53213	0.107
		Control	7.55	0.53213	0.001

Table 5: The results of one-way analysis of variance in follow-up difference scores - pretest on the three factors of borderline personality disorder in the experimental and control groups

Source of change	Dependent Variable	Sum of	Degree of	Average	F	Level of
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		Squares	Freedom	Squares		Significance
Group	Disrupted communication	653.826	2	326.913	301.88	0.001
	Emotional deregulation	876.427	2	438.213	410.804	0.001
	Behavioral deregulation	361.451	2	1101.668	101.873	0.001
Error	Disrupted communication	74.153	27	2.746		
	Emotional deregulation	28.815	27	1.067		
	Behavioral deregulation	47.899	27	1.774		
Total	Disrupted communication	4983.188	30			
	Emotional deregulation	2556.484	30			
	Behavioral deregulation	1101.668	30			

Table 6: Tukey post hoc test results on follow-up difference scores - pre-test on the three factors in the experimental and control groups

Dependent Variable	Group	Group	Mean group differences	Standard deviation error	Significance
Disrupted communication	Dialectical Behavioral Therapy	Schema Therapy	2.1125	0.74114	0.022
		Control	16.70	0.74114	0.001
	Schema Therapy	Dialectical Behavioral Therapy	-2.1125	0.74114	0.022
		Control	14.5875	0.74114	0.001
Emotional deregulation	Dialectical Behavioral Therapy	Schema Therapy	-.8452	0.4620	0.179
		Control	11.0224	0.4620	0.001
	Schema Therapy	Dialectical Behavioral Therapy	.8452	0.4620	0.179
		Control	11.8676	0.4620	0.001
Behavioral deregulation	Dialectical Behavioral Therapy	Schema Therapy	-1.1343	0.59565	0.157
		Control	6.7303	0.59565	0.001
	Schema Therapy	Dialectical Behavioral Therapy	1.1343	0.59565	0.157
		Control	7.8646	0.59565	0.001

## DISCUSSION

The results of the study supported the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) in the three factors of borderline personality disorder (i.e., disruptive communication, emotional deregulation and behavioral deregulation), both in the post-test and follow-up phases, this finding was confirmed in the previous studies. Previous researchers have confirmed the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) in reducing the impulsivity of patients with borderline personality disorder (Linehan, 2015; Linehan, 1993). Moreover, Rizvi and Sayrs (2017), Barnicot, Gonzalez, McCabe and Priebe (2016) have confirmed the effectiveness of dialectical behavior therapy (DBT) in reducing the suicidal and self-destruct behaviors of patients with borderline personality disorder. Dialectical behavioral therapy (DBT) is more useful for reducing risky behaviors of borderline patients. The reason for this is the existence of some of the distinctive features of (DBT), such as: 1) persistently reviewing the risk of behaviors such as suicide or self-mutilation throughout the therapeutic program; 2) clearly focusing on modifying these behaviors at the first stage of treatment; 3) encouraging patients to consult their therapists, by telephone when triggered by high-risk behaviors; 4) preventing psychological burnout by the therapist throughout group therapy sessions. In evaluating the effectiveness of schema therapy, the results showed

that schema therapy reduces the morbid symptoms (i.e., impaired communication, emotional dysregulation and behavioral dysregulation) of borderline personality disorder in the experimental group. These results are consistent with the findings of (Yousefi et al. 2010; Arendz and Haniyeh, 2009; Nadworthet al., 2009; Ganderson, 2008; Salavati, 2007; Gisen Blue, Deacon, Tilburg, and Dirksen, 2006; Beck et al., 2004; Woblen, Coristine, Doug, and Pontefract, 2000). Confirming the research hypothesis, it was observed that schema therapy (ST) reduced the morbidity of patients with borderline personality disorder in the experimental group. The effectiveness of schema therapy (ST) on emotional dysregulation in patients with borderline personality disorder was confirmed in the experimental group. The results also showed that schema therapy (ST) decreased behavioral deregulation in borderline personality disorder in the experimental group.

The comparison of the experimental groups regarding the dependent variables showed that the difference between the dialectical behavior therapy (DBT) and schema therapy (ST) groups with regard to the control group in all three dependent variables (i.e., disrupted communication, emotional deregulation and behavioral deregulation) was significant. With regard to the experimental groups, the results showed that dialectical behavior therapy (DBT) had more efficacy than schema therapy in disrupted communication. No significant differences were found between the two experimental groups in terms of the

dependent variables of emotional deregulation and behavioral deregulation. Furthermore, the results showed that there was no difference between dialectical behavior therapy (DBT) and schema therapy (ST) in terms of emotional and behavioral deregulation variables. In fact, perhaps in schema therapy (ST), the goal is to track mentalities, and the schema therapist tracks the patient's moment-to-moment mentalities throughout the session and the strategies that match each of the schema's mentalities. For example, if the patient is in the mind of the punishing parent, the therapist will use strategies specifically designed to control and manage this mentality. When tracking and adjusting the patient's minds, the therapist acts as a "good parent" and the patient gradually internalizes the therapist's parenthood as his or her healthy adult mentality, making this approach effective at dialectical behavior therapy.

In the follow-up period, the comparison of the experimental groups and the control group regarding the effect on the dependent variables showed that dialectical behavioral therapy (DBT) and schema therapy (ST) were effective over time and in the difference between the dialectical behavior therapy (DBT) experimental groups with the schema therapy (ST) with the control group in all three dependent variables, disorganized, dysregulated. Emotional and misbehavior is meaningful behavior. The comparison of the experimental groups at the follow-up stage also showed that dialectical behavior therapy (DBT) had a better effect on schema therapy (ST). No significant differences were found between the two experimental groups in terms of the dependent variables.

Meanwhile, it is only schema therapy (ST) that can be promising as a comprehensive treatment of borderline personality disorder. Some studies examined the relationship between maladaptive schemas, distress and dysfunctional styles of self-perception in borderline personality patients (Leichsenring, Leibing, & Kruse, 2011; Zanarini, Laudate, Frankenburg, Reich, & Fitzmaurice, 2011; Sarno, Madeddu, & Gratz, 2010; Soler, Pascual, Tiana, Cebria, Barrachina, & Campins, 2009).

Studies on the nine symptoms of borderline personality disorder showed that the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) in reducing the symptoms of borderline personality disorder was different. Based on the results in some symptoms, the difference between dialectical behavioral (DBT) and schema therapy (ST) was significant. Schema therapy causes symptoms of madness attempts to cure the real or imagined duplication through an abandoned child's ineffective mentality (Videler, & et al, 2014). Furthermore, these results showed that schema therapy (ST) was more effective in reducing emotional deregulation. No significant difference was observed in other symptoms between schema therapy (ST) and dialectical behavior therapy (DBT). These results were consistent with those of Videler, & et al (2014) and Walkup (2017).

In the follow up period, the dialectical behavior therapy (DBT) was significantly more effective than schema therapy (ST) in terms of reducing the disrupting behavior. In addition, schema therapy (ST) showed more efficacy in terms of suicidal symptoms, destructive behaviors and emotional deregulation than dialectical behavior

therapy (DBT). Dialectical behavior therapy was effective in reducing insane actions to avoid the exclusion or abandonment of patients with borderline personality disorder. In other words, was effective in mindfulness, stress tolerance skills, and the reduction of the feelings of exclusion and abandonment. Individuals with borderline personality are susceptible to symptoms of rejection. Mindfulness skills teach one to observe and accurately describe behaviors by taking a non-judgmental stance, not adding anything from their observations. In addition, when individual feel excluded, they resort to impulsive behaviors, which in turn leads to their actual exclusion and a faulty cycle. In stress tolerance, one learns by tolerating the frustrations created by performing some efficient behaviors, not worsening the situation and preventing the reinforcement of the defective cycle (Linnahan et al., 1993).

Dialectical behavioral therapy is effective in reducing crazy actions in order to avoid the exclusion or abandonment of patients with borderline personality disorder. It can be said that acquiring mindfulness and stress tolerance skills is effective in reducing the feeling of rejection. Individuals with borderline personality are sensitive; they soon resort to shaking behaviors, which themselves lead to real rejection and the person enters a defective cycle. Learning how to tolerate stress will prevent the failures caused by not performing some efficient behaviors and the strengthening of the defective cycle (Wojciechowski, 2019; Perepletchikova, Nathanson, Axelrod, Merrill, & Walkup, 2017). Dialectic behavioral therapy lends itself theoretically as a well-researched and effective therapeutic model for difficult-to-treat and multi problem adolescents. It provides a balance between problem focused intervention and acceptance to improve the integration of illness and adolescent identity. Future research is warranted on the applicability of DBT across other pediatric the medical conditions to replicate the findings and to examine long-term outcomes. DBT was examined specifically among adolescents in seven studies including samples of inpatient and outpatient suicidal and self-injurious adolescents. Across these trials, DBT was associated with reduced suicidal ideation, fewer psychiatric hospitalizations, and an overall significant improvement in functioning in several domains, including interpersonal relationships and emotion regulation (Weiner, Ensink, & Normandin, 2018; Torous, Levin, Ahern, & Oser, 2017; Stevenson, Meares, & Comerford, 2003; Stone, 1990). Furthermore, the results showed that schema therapy (ST) was more effective than dialectical behavior therapy (DBT) in terms of reducing emotional deregulation. The results of the subsequent findings showed that at follow-up period, the dialectical behavior therapy (DBT) was significantly more effective in reducing unstable interpersonal relationships and suicidal symptoms than schema therapy (ST). However, the schema therapy (ST) was more effective in reducing unstable emotional behaviors.

**Basic and Clinical Research Implications:** The present study has several implications for basic and clinical research. We introduced a paradigm to study cultural differences in terms of dialectical behavior therapy (DBT) and schema therapy (ST) for borderline patients; it helps the second-level outpatient therapy, intensive therapy with

behavioral changes that have been devised. This research paradigm allows the examination of cultural differences in terms of the frequency and intensity of dialectical behavior therapy (DBT) and schema therapy (ST) to reduce the severity of clinical symptoms (i.e., disruptive communication, emotional deregulation and behavioral deregulation) of borderline personality disorder patients in Iran. In fact, the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) on the three factors of borderline personality disorder was confirmed. The effectiveness of dialectical behavior therapy (DBT) in disrupted communication was significantly more than schema therapy (ST) in post-test and follow-up periods. However, there was no significant difference between dialectical behavior therapy (DBT) and schema therapy (ST) in both emotional and behavioral deregulations. Moreover, the results showed that schema therapy (ST) was more effective than dialectical behavior therapy (DBT) in reducing emotional deregulation. The results of the subsequent findings showed that at follow-up period, the dialectical behavior therapy (DBT) was significantly more effective than schema therapy (ST) in reducing unstable interpersonal relationships and suicidal symptoms. However, the schema therapy (ST) was more effective in reducing unstable emotional behaviors. Cultural variation in psychopathology may be manifested as functional dysregulation of emotion and behavioral regulation. Clinical disorders have been previously characterized as functional dysregulation of emotion and its cognitive bases in borderline patients. Before the therapeutic intervention in pretest of three groups (i.e., two experimental and one control groups), the symptoms of borderline personality disorder (especially impulsivity, disturbed communication, behavioral deregulation and emotional deregulation) were high. After the intervention in posttest, the rate of disrupted communication decreased significantly more than the other aspects of personality in dialectical behavior therapy (DBT) group. However, the effectiveness of schema therapy (ST) was higher than dialectical behavior therapy (DBT) in terms of decreasing the emotional dysregulation. Furthermore, the impulsivity and disturbed communication in all borderline personality disorder patients in Iran were more than those of the other borderline personality disorder patients in different areas around the world, while prior research has identified that symptoms of borderline personality disorder (especially impulsivity) declines during the fourth decade of life (Arntz & Hattie, 2009). In addition, in long-term follow-up studies, a high rate of recovery has been reported (Swales & Dunkley, 2019). In fact, long-term (i.e., more than 6 months) follow-ups were needed in this study. Thus, the present research team is conducting a period of 3 years as follow-up the experimental group. Clinical observation and family reports of borderline personality disorder patients in this research, in the pretest and posttest presented information on behavioral and emotional aspects, which resulted in a need for qualitative research study in this area; that would allow greater cultural differences or similarities.

**Limitations and Future Directions:** There are a number of limitations in the current study. The limitations of this study are the lack of study of First, female borderline personality disorder patients were not studied. They should

have been considered in comparison with male borderline personality disorder patients, to determine the effectiveness of dialectical behavior therapy (DBT) and schema therapy (ST) in treating the borderline personality disorder. Second, the number of samples was small. It limits the generalizability of the results. Third, the duration of follow-up was short. Future studies of cultural influences in disturbed communication and emotional deregulation in social situations may benefit from methodological variation in paradigms, on regulation of emotional and behavioral processing.

## CONCLUSION

Dialectical behavior therapy (DBT) and schema therapy (ST) were effective; they reduced the symptoms of borderline personality disorder considering the pre-test and the control group. In addition, they reduced non self-identity, in the sense that an inadequate parental relationship will inspire a borderline personality disorder person that his feelings, thoughts, behaviors and experiences are inaccurate. With the repetition of these conditions, the person involved in the process feels invalid; therefore, he treats the environment in order to check the correctness of his feelings, thoughts and behaviors in accordance with the environment and conditions. This approach, especially in individual therapy sessions, it prevents self-sustaining, self-reliance, thereby endowing one's thoughts and feelings (King, Rizvi, & Selby, (2019).

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