

Prediction of Alexithymia Based on Primary Maladaptive Schemas with the Mediating Role of Cognitive Emotion Regulation Strategies in Patients with Borderline Personality Disorder

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Abstract

Introduction: Considering the high prevalence and negative effects of borderline personality disorders on the affected person and the society, the importance of knowing this disorder as much as possible and identifying the predictors and variables of these disorders is felt. The present study was conducted with the aim of predicting alexithymia based on primary maladaptive schemas with the mediating role of cognitive emotion regulation strategies in patients with borderline personality disorder.

Methods: It is an applied, cross-sectional, quantitative and descriptive correlational study. The statistical population was patients with borderline personality disorder Who Referred to counseling centers in Hamedan city from February 2022 to the end of May 2022. Based on the formula of Fidel and Tabachnig (2007), the sample was 107 people and increased to 120 people as a precaution. The sampling method was available and targeted. The research tools were three alexithymia questionnaires by Bagby, Parker and Taylor (1994), Yang's primary maladaptive schemas (1999) and Garnevsky and Kraij's (2006) cognitive emotion regulation strategies. Path analysis method was used to test the hypothesis.

Findings: The results showed that the gamma pathway is significant in the field of cut and rejection, impaired self-management and performance, and excessive tinnitus/inhibition to alexithymia. The gamma path from impaired limitations to mediating variables of positive emotional regulation and the gamma path from cut and rejection, impaired limitations and other orientations to mediating variables of negative emotional regulation are significant. The beta pathway from positive emotional regulation pathway as well as negative emotional regulation pathway is significant to alexithymia.

Conclusion: Early maladaptive schemas and negative emotion regulation strategies can cause alexithymia in people with borderline personality disorder.

Keywords: Alexithymia, Borderline Personality Disorder, Cognitive Emotion Regulation Strategies, Primary Maladaptive Schemas

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Introduction:

Borderline personality disorder is one of the most serious psychiatric disorders (1). This disorder is related to failure in the cognitive regulation of emotions (2) studies show that these patients have common characteristics (3) and especially mood and emotional fluctuations are very common and common in them (4) in the studies Done, one of the problems raised in borderline personality disorder is alexithymia (5). Alexithymia means problems in emotional self-regulation or inability to cognitively process emotional information and regulate emotions (6).

Because alexithymia is related to emotional regulation (7), therefore, it is one of the signs of a deficiency in emotional cognitive regulation (8). Studies show that alexithymia causes people with borderline personality disorder on the Alexey scale. Timely get a high score and show non-adaptive states of the cognitive regulation of emotion. Therefore, cognitive emotion regulation strategies in connection with alexithymia can be a relevant and important psychological construct in predicting borderline personality traits (9). Also, the problems related to emotion cognitive strategies in people with borderline personality disorder can be an introduction to be other problems (10) because problems in the cognitive regulation of emotion are abundantly seen in patients with borderline personality disorder (11).

Investigations show that one of the important structures in alexithymia is primary maladaptive schemas (12), on the other hand, one of the consequences of these schemas is the inability to cognitively regulate emotions. 13) In general, on one hand, researches confirm the relationship between primary maladaptive schemas and alexithymia (14) and on the other hand, research results show that between schemas There is initial inconsistency and difficulty in the cognitive regulation strategies of relationship emotion (15).

According to (16), primary incompatible schemas activate negative spontaneous thoughts (17). In general, some people create some incompatible schemas in order to face negative and traumatic childhood problems and events, and their use in adulthood leads to incompatible coping with problems (18). And for this reason, he will experience a large amount of annoying emotions (16) Finally, these ineffective cognitive and emotional patterns caused by the initial incompatible schemas make the process of controlling emotions difficult and in addition to the difficulty in cognitive regulation of emotion, it provides the basis for the formation or continuation of alexithymia (19). Several studies have also shown that patients with borderline personality disorder do not have the ability to regulate their emotions when emotional intensity increases and do not have the tendency to use adaptive strategies of cognitive emotional regulation (20).

Therefore, considering the high prevalence and negative effects of borderline personality disorders on the sufferer and the society, the importance of knowing this disorder as much as possible and identifying the predictors and variables of these disorders is felt. Therefore, the present study aimed to answer this question, whether primary maladaptive schemas play a role in predicting alexithymia with the mediating role of cognitive emotion regulation strategies in patients with borderline personality disorder?

Research Method:

The research is correlational. These studies investigate the relationship between variables. In other words, in this research, the number of simultaneous changes of the variables in the sample

is investigated. Statistical population: The statistical population of this study included all patients diagnosed with borderline personality disorder who referred to counseling centers in Hamedan city from March 1400 to the end of June 1401. Statistical sample and sampling method: The statistical sample was 107 people based on the formula of Fidel and Tabachnig (2013), which was increased to 120 people as a precaution. The sampling method was available and targeted. The criteria for entering the research included: age range from 18 to 55 years, at least third middle school education, diagnosis of the disorder based on the statistical and diagnostic guide criteria of mental disorders and using a structured diagnostic interview. Exclusion criteria from the research included: having a similar personality disorder, having psychotic symptoms, substance abuse, other mental disorders and chronic physical diseases. Ethical considerations of the research: providing a written letter of introduction and obtaining permission from the authorities in order to conduct the research, introducing yourself to the research units and explaining the objectives and nature of the research, assuring the research units about the confidentiality of the information and obtaining consent from the subjects. Examining and respecting trustworthiness and honesty in reviewing texts and analyzing information and not registering the names and surnames of the people under investigation was one of the important cases of observing ethical considerations in this research. Data analysis was done using descriptive statistical indicators such as frequency distribution table and using SPSS software to check for independence, normality and multicollinearity, and to test research hypotheses, path analysis method was used using the software. Laserl 8.5 was used.

The research tools were:

1. **Alexithymia Questionnaire:** The Toronto Alexithymia Questionnaire is a 20-question test with three subscales: difficulty in identifying emotions, difficulty in describing emotions, and objective thinking, on a 5-point Likert scale ranging from 1=completely disagree to 5=completely agree. Sanjad and was made by (21). A total score is calculated from the sum of the scores of the three subscales for total dyslexia. The psychometric properties of the Toronto Ataxia Scale-20 have been investigated and confirmed in numerous studies (19). In the version of the Toronto alexithymia scale -20, Cronbach's alpha coefficients for the total alexithymia were calculated as 0.85, which is a sign of good internal consistency of the scale. The test-retest reliability of the Toronto-20 alexithymia scale was confirmed in a sample of 60 people on two occasions with an interval of four weeks from 0.88 to 0.87 for the total alexithymia and different subscales (6). Cronbach's alpha of the three subscales of Toronto-20 alexithymia questionnaire is 0.77, 0.92 and 0.6, respectively, disorder in describing emotions, difference in recognizing emotions and objective thinking.

2. **Scale of primary maladaptive schemas:** The short form Young Schema Questionnaire was created by (22) to measure 15 schemas. This scale has 75 items that evaluate 15 primary maladaptive schemas. Each item is answered on a six-point continuum (one = completely untrue of me, to six = "completely describes me"). A high score in a subscale indicates maladaptive schema. Cronbach's alpha was 0.96 for the whole test and higher than 0.80 for the subscales. Cronbach's alpha of the Persian version was 0.62-0.90 and its internal consistency was 0.94 (16). The reliability coefficient obtained in the study (22) for 12 subscales was in the range between 0.71 and 0.90, which indicates high internal consistency for this questionnaire.

3. Cognitive emotion regulation strategies: This questionnaire was compiled by (23), the questionnaire has 36 items in a five-point Likert scale. They have reported good reliability and validity for this questionnaire. The alpha coefficient for the subscales of this questionnaire has been reported by (23) in the range of 0.71 to 0.81. The reliability of the two factors of positive emotional regulation and negative emotional regulation in the research (24) using Cronbach's alpha method is 84 respectively. 0.0 and 0.86 were obtained.

Findings:

The descriptive findings of the research were: 12.5% under 25 years old, 10% 25-30 years old, 36.7% 31-36 years old, 23.3% 37-40 years old, 10.8% 41-45 years old and 7 6.6% were over 46 years old, 45% were women, 66% were men, 48.3% were married, and 51.7% were single. Research hypothesis: primary maladaptive schemas with the mediating role of cognitive emotion regulation strategies have an effect on alexithymia in patients with borderline personality disorder.

Before testing the model, the assumptions of colinearity of variables and independence of errors were examined. The results showed that the tolerance index and the variance inflation index as well as the value of the Watson camera index, which was implemented in order to investigate the assumption of error independence, were obtained within the acceptable range. If the tolerance index is smaller than one (collinearity < 0.1), the inflation index is smaller than ten ($vif < 10$) and the Durbin-Watson test value is smaller than four (Durbin-Watson < 4), it can be said that the regression assumptions have not been violated. Is. Therefore, according to the obtained indicators, it can be concluded that the conditions of the test have been met. Therefore, in order to test the desired path analysis model, i.e., to investigate the primary incompatible schemas with alexithymia, considering the mediating role of the subjects' cognitive emotion regulation strategies, the path analysis method was used. The results showed that the fit indices of the path analysis indicated the overall fit of the desired model (Figure 1-4). To check the fit of the factor models from the indices 1. Chi-square ratio to degree of freedom 2. Bentler-Bonnet index (NFI) and Tucker-Lewis or unsmoothed goodness of fit index (NNFI), 3. Root mean square approximation index (RMSEA) and other criteria RMR, GFI, AGFI, CFI have been used.

Table 1. The goodness of fit indices for the main research hypothesis

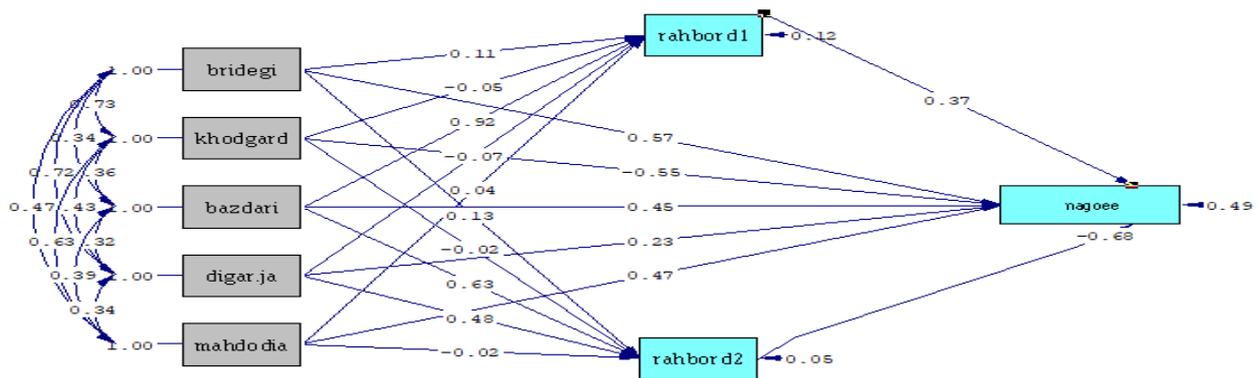
Model	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	NFI	CFI	NNFI
Three factors	1.86	1	1.86	0.25	0.98	0.86	0.98	0.99	0.97

As mentioned in the above table, the criteria of $0.98 = 0.98$ and 0.97 respectively, which shows that the model's indicators have a good fit.

Table 2. Path coefficients of the research model

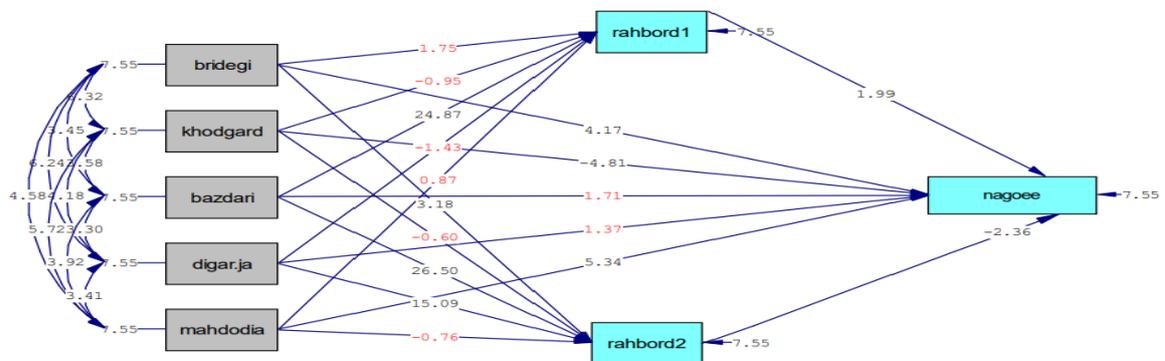
	Coefficient type	Direction	Standardized path coefficient	t statistic	sig
1	Gamma	Cut and rejection to alexithymia	0.57	4.17	P<0.05
2	Gamma	Impaired self-regulation and performance in alexithymia	0.55	-4.81	P<0.05
3	Gamma	Impaired limits to alexithymia	0.45	1.71	P>0.05
4	Gamma	Another orientation to alexithymia	0.23	1.37	P>0.05
5	Gamma	Listening to excessive ringing/ inhibiting alexithymia	0.47	5.34	P<0.05
6	Gamma	Cut and rejection to positive emotional regulation	0.11	1.75	P>0.05
7	Gamma	Self-management and impaired performance to positive emotional regulation	-0.05	-0.95	P>0.05
8	Gamma	Impaired limitations to positive emotional regulation	0.92	24.87	P<0.05
9	Gamma	Another orientation to positive emotional regulation	-0.07	-1.43	P>0.05
10	Gamma	Listening to excessive ringing/inhibition of positive emotional regulation	0.04	0.87	P>0.05
11	Gamma	Cut and rejection to negative emotional regulation	0.13	3.18	P>0.05
12	Gamma	Impaired self-regulation and negative emotional regulation	-0.02	-0.60	P<0.05
13	Gamma	Impaired limitations to negative emotional regulation	0.63	26.5	P<0.05
14	Gamma	Another orientation to negative emotional regulation	0.48	15.09	P<0.05
15	Gamma	Listening to excessive ringing/inhibition of negative emotional regulation	-0.02	-0.76	P<0.05
14	Beta	Positive emotional regulation to alexithymia	-0.37	-4.2	P<0.05
15	Beta	Negative emotional regulation to alexithymia	0.68	2.36	P<0.05

Existing direct effects and their path coefficients in the proposed model



Chi-Square=1.86, df=1, P-value=0.17244, RMSEA=0.087

Existing direct effects and their significance in the proposed model



Chi-Square=1.86, df=1, P-value=0.17244, RMSEA=0.087

The production indices of the structural equation model are not only limited to the general fit indices of the model, but also the standard parameters β and γ and the corresponding t values for each of the causal paths from the exogenous variable of primary maladaptive schemas to the endogenous variables of alexithymia. (Gamma coefficients) and from the exogenous variable of primary maladaptive schemas to mediating variables of cognitive emotion regulation strategies (gamma coefficients) and from the mediating latent variable of cognitive emotion regulation strategies to the endogenous latent variable of alexithymia (beta coefficients). These coefficients and indicators also show the relative strength of each route. β and γ regression coefficients are standardized and their value must be between zero and one. As can be seen in the table, the gamma path to cutting and rejection, self-management and impaired performance, ear to excessive ringing/inhibition to alexithymia is significant. The gamma path from impaired limitations to mediating variables of positive emotional regulation and the gamma path from cut and rejection, impaired limitations, other direction to mediating variables of negative emotional regulation is significant. The beta pathway is also significant from the path of positive emotional regulation as well as negative emotional regulation to alexithymia. In general, it can be said that the proposed general model has an acceptable fit. The coefficients of path γ and path β were not significant in all paths, but the coefficients of goodness of fit indices were at a high and acceptable level. This means that the assumed direct and indirect causal paths of the general model were well confirmed.

Discussion and Conclusion:

In this research, alexithymia was predicted based on primary maladaptive schemas with the mediating role of cognitive emotion regulation strategies in patients with borderline personality disorder. The results showed that the gamma path leads to cut-off and rejection, self-regulation and impaired functioning of the ear. It is significant for hyperarousal/inhibition of alexithymia. The gamma path from impaired limitations to mediating variables of positive emotional regulation and the gamma path from cut and rejection, impaired limitations, other direction to mediating variables of negative emotional regulation is significant. The beta pathway is also significant from the path of positive emotional regulation as well as negative emotional regulation to alexithymia. The result of this finding with findings is consonant (25- 33).

In connection with the schema of abandonment/instability, it can be said that a person who has such a schema in his mind believes that important people in his life may die or be abandoned at any moment. become interested in another person. In connection with alexithymia, it was also said that the most important characteristic of these people is the inability to express emotions, the unwillingness to express and express emotions, how can a person who sees that others have rejected him interact with them. The reason for this person withdraws himself from the people around him every day. And in general, he will not want to communicate with the people around him.

In relation to misbehavior, mistrust can be said, the signs of this scheme include the feeling of being abused by others, allowing others to exploit. A person who feels abused will definitely cut off his interactions with the other party, and will not share his happiness, sadness, interest with others. A person who feels helpless in the face of other people's bad behavior has no choice but to withdraw from others.

Emotional deprivation. People who have this schema formed in their minds, perform certain behaviors such as not expressing their desire for affection, not expressing their feelings and other behaviors that lead to their deprivation and cause their emotional needs to be unsatisfied. Since these people do not expect emotional support and do not request such a thing, of course they do not receive it. A little precision in the features related to this schema and emotional alexithymia, reveals that these two features completely overlap with each other.

In the schema of defect/shame, the feeling that a person is an imperfect, undesirable person in the most important aspects of his personality. It was mentioned earlier that alexithymia people are generally avoidant, when a person feels that no one values and respects him and that he is worthless, every common-sense dictate that the most logical thing to do is to avoid It is others, in this way that the existence of the schema provides the basis for the creation of alexithymia.

A person with a schema of social isolation avoids the group, because he feels that the group has also rejected him. In this part, it can be said that in general, people have mentalities in their existence that these mentalities can gradually act in a person's existence and lead him to some feedbacks, when the schema There is something in the person, this schema gradually works on the person's thoughts and affects the person's behavior.

People who have a dependency/incompetence schema feel that they cannot handle their daily responsibilities without serious help from others. Therefore, they do not engage in interactions to gain an experience in which they can exchange the feelings of others towards themselves as

well as their feelings towards others, in general, a person does not engage in any kind of interaction.

The transformational roots of the schema of vulnerability to harm or disease are: modeling from parents, extreme support of parents to the child, traumatic and traumatic experiences in early childhood. In the case of traumatic childhood experiences, because a person experiences damage and loss from childhood and bitter experiences cannot be erased from the mind, therefore, a person cannot have a positive relationship with others, a point that is important for people with alexithymia. It is clearly stated that they cannot have a good relationship with others.

The transformational roots of the untransformed/trapped self are: parents' control, parents' guilt tactic. According to the signs and evidence in the undeveloped self-schema, he reads minds, for example, he thinks "I am a loser", the person reads the minds of others or tries to perceive emotions. and he guesses their opinions and has complete faith in his guess, and this is while he does not have the ability to make a definite guess. With a little reflection, it can be concluded that these factors can easily lead a person to emotional ataxia.

In the schema of failure, a person sees failure and lack of success before action, the evolutionary roots of this schema are the parents' extreme objection, disregard for the child's successes. The signs of this scheme are: inability to take steps towards success, choosing goals below the level of ability, irresponsibility towards interpersonal relationships, alienation from people around. The result of this action is an alexithymic person who even normally has nothing to say and cannot find the right words to express his feelings and problems. One of the ways to control tension, especially in the case of negative emotions, is to vent and express emotions caused by tension. If these emotions are not discharged and the person is unable to express his negative feelings verbally, the psychological component of emotional expression systems and mental distress, including anxiety and depression, increases. People who have the ability to recognize their feelings and express their emotional states in an effective way, can better face the problems of life and are more successful in adapting to the environment and others, and as a result, these people have better health They will be more psychological.

The schema domain of excessive alertness and inhibition includes: negativity / pessimism, emotional inhibition. The characteristic of the negativity/pessimism schema is a deep and continuous focus on the negative aspects of life, along with underestimating the positive and optimistic aspects of life by neglecting them. A little reflection on these characteristics can easily show that these characteristics can destroy the human spirit and make him soulless and emotionless. Because life is not only pain and suffering, there are also positive points for life along with negative points. Negativity is the main reason for turning away from others.

Having a pattern of stubborn criteria, extreme fault-finding, is very similar to obsessive thoughts, the obsessive person is very sensitive, strict, not flexible, thoughts are inextricably linked with actions, every person thinks the way he thinks. will work, excessive fault-finding of others and failure to express faults in the correct way will lead to problems in relationships. Stubborn standards, extreme fault-finding causes a feeling of pressure and continuous and extreme fault-finding of people and themselves, and this is considered as a primary incompatible schema that causes disruption in interpersonal relationships. Health becomes pleasure and a sense of worth. In order to confirm the influence of schemas on alexithymia, (Tim, 2013) (33) believes that the basis of every pathology is one or more schemas.

In the punishment schema, the basic belief that people should be severely punished for their mistakes often includes feelings of anger, intolerance, and impatience toward those (including the individual himself) who have not performed according to his standards and expectations. Usually, such people, due to not considering special conditions, ignoring other people's problems and not empathizing with their feelings, cannot ignore their own mistakes and others. When people with alexithymia hardly express their emotions. This failure to regulate emotions makes prevention and successful adaptation difficult. In fact, people who can express their emotions in time are released from psychological pressure. But a person has the opinion that he should be severely punished for his mistake, and he cannot resolve his anger in a problem-oriented way, and he resorts to anger and violence, it is certain that the problem will not be solved in this case. In this section, it is necessary to state that if people can raise their problems clearly and by talking to each other, they can solve the problems much better than if the problems remain hidden, when a person does not know the other party at all. How can he solve the problem, so how to behave during problems is very important.

The field of impaired limitations includes: entitlement/secretary, self-control and insufficient self-discipline. A person who has a scheme of entitlement / grand secretary believes that he is head and neck higher than others. He often insists that others should provide him with everything he wants, and this causes problems in interpersonal relationships. With the activation of this schema, a person sees himself head and neck above others, feels himself superior and higher than others, when a person thinks that he is higher and better than others, and he should Whatever it wants to achieve, (reasonable or unreasonable) following this thought and the subsequent behaviors of this thought, problems will arise one after another.

Research limitations:

Since the instrument for measuring the variables is a self-reporting instrument, completing the questionnaires is largely influenced by people's interest in self-introduction or showing off. The study sample was selected only from patients diagnosed with borderline personality disorder who referred to counseling centers in Hamedan. Therefore, the generalization of the results to other groups should be done with caution.

Research applications:

According to the results of the research, it is suggested that schema therapy sessions should be held for people with borderline personality disorder in order to identify the initial incompatible schemas and take necessary measures to treat them. Also, it is necessary to hold emotional regulation training sessions for these patients so that they can properly regulate their emotions in order to prevent alexithymia from occurring in them.

Conflict of interest

There is no conflict of interest in this article

Ethical considerations

In this study, ethical standards including the principle of respect and confidentiality, preventing the disclosure of information obtained from the subjects with their real names, the freedom of the subjects to participate or leave the study, and obtaining written consent from the subjects have been observed. This article is extracted from the master's thesis of the first author with the ethics code IR.IAU.H.REC.1401.037 from the Islamic Azad University of Hamedan branch.

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