



## Modeling borderline personality symptoms based on attachment: the mediating role of self-differentiation and mentalization

Effat. Shirazi<sup>1</sup>, Mehdi. Ghasemi Motlagh\*<sup>2</sup>, Behrang. Esmaeili Shad<sup>3</sup> & Abolfazl. Bakhshipour<sup>4</sup>

1. PhD student, Department of Psychology, Bojnord Branch, Islamic Azad University, Bojnord, Iran
2. \*Corresponding author: Assistant Professor, Department of Psychology, Bojnord Branch, Islamic Azad University, Bojnord, Iran
3. Assistant Professor, Department of Educational Sciences, Bojnord Branch, Islamic Azad University, Bojnord, Iran
4. Assistant Professor, Department of Psychology, Bojnord Branch, Islamic Azad University, Bojnord, Iran

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#### Corresponding Author's Info

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avestaps@yahoo.com

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**Background and Aim:** Borderline personality disorder is a complex and serious mental disorder that is characterized by a pervasive pattern of problems in regulating emotions and controlling impulses, and instability in interpersonal relationships and self-concept. The aim of the present study was to model borderline personality symptoms based on attachment: the mediating role of self-differentiation and mentalization. **Methods:** The current research is descriptive and correlational (using structural equation modeling). The statistical population studied in this research included all the female and male students of the undergraduate and postgraduate courses of Tehran Azad University who were studying in the academic year 2019-20. The sample of the present study included 370 people who were selected by purposive sampling. Data were collected using the Borderline Personality Questionnaire (Lishnernig, 1999), the Revised Close Relationships-Relationship Structure Questionnaire (Fralely, Valero Brennan, 2000), the Self-Differentiation Questionnaire of Skowron and Friedlander (1998) and the Reflective Action Scale of Fonagy et al. (2015) was obtained. In the present study, the mean, standard deviation, correlation and normality of the distribution of research variables were investigated using descriptive statistics. Also, in order to analyze the data and answer the research questions, the structural equation modeling method is used, which after confirmatory factor analysis - in the measurement model part, in the structural equation model part, the existing causal relationships between the variables are examined. In the part of the structural function model, the intensity of the causal relationships (direct, indirect and total) between the underlying variables and the amount of variance explained in the whole model is specified. SPSS and Amos version 21 software were used for this purpose. **Results:** The results showed that attachment ( $\beta=0.41$ ), self-differentiation ( $\beta=0.24$ ), and mentalization ( $\beta=0.28$ ) have a direct effect on borderline personality symptoms ( $P<0.001$ ). Self-differentiation and mentalization had a mediating role in the relationship between borderline personality symptoms and attachment. **Conclusion:** As a result, it can be concluded that the modeling of borderline personality symptoms based on attachment with the mediating role of self-differentiation, and mentalization has a favorable fit.



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### Introduction

Personality disorders are persistent patterns of inner experience and behavior that: deviate significantly from the expectations of one's culture, are pervasive and inflexible, begin in adolescence or early adulthood, persist over time, and lead to distress or disorder. (American Psychological Association, 2013). One of the most common personality disorders is borderline personality disorder. Borderline personality disorder is a complex and serious mental disorder characterized by a pervasive pattern of problems in emotion regulation and impulse control, and instability in interpersonal relationships and self-concept (May et al., 2021).

On the other hand, another important factor in the formation and evolution of borderline personality traits is attachment styles. According to Bowlby (1977), lack of security in attachment leads to personality disorders. Additionally, it leads to debilitating anxiety in close relationships and an inability to regulate intense negative emotions. Borderline personality disorder is characterized by a pattern of intense but unstable and unstable interpersonal relationships, which may result from a disturbance in primary attachment that develops early in life. People with borderline personality disorder are insecure in their attachment and specifically have an anxious and over-preoccupied attachment style (Hashworth, Reiss, & Greenier, 2021). On the other hand, Bowen (1978) put forward this hypothesis that due to the difference in the emotional processes of the original family, prominent traits differentiate differentiated and undifferentiated people. People with high differentiation can regulate a wide range of emotions and cope well with stress and have a clear sense of self. On the other hand, people with poor differentiation respond to others through emotional reactivity or emotional cutoff. They constantly seek the approval and acceptance of others. In addition, people with poor differentiation tend to experience higher rates of psychological and physical problems and tend to have unpleasant social relationships (Irkorica et al., 2022). As the level of self-segregation gradually decreases over the course of several generations, it is possible that as a result of this multi-generational transmission process, severe

signs of maltreatment may appear (Sohrabi et al., 2013). Bowen believes that no one will achieve a complete emotional separation from the family, but there are significant differences in terms of the amount of differentiation that each person achieves. In addition, there are also differences in terms of the emotional independence that children belonging to the same family reach (Tixeria & Pereira, 2015). It seems that the lack of mentalizing capacity leads to the emergence of symptoms of borderline personality disorder (Bateman & Fonagy, 2015). Mentalization is a form of mental activity about oneself and others, which means understanding and interpreting human behavior in conscious mental states (such as needs, desires, feelings, beliefs, goals, intentions, and reasons) (Balls et al., 2012). This concept was taken from theory of mind and was first developed by Fonagy in 1989 more broadly in relation to understanding a number of mental disorders (Lorensen et al., 2014). Considering the importance of the topic, the aim of this research is to present the modeling of borderline personality symptoms based on attachment: the mediating role of self-differentiation and mentalization. The current research sought to answer the following question:

1- Is the model of borderline personality symptoms based on attachment with the mediation of self-differentiation and mentalization suitable?

### Method

The current research is descriptive and correlational (using structural equation modeling). The statistical population studied in this research included all male and female undergraduate and graduate students of the Islamic Azad University of Tehran, who were studying in the academic year 2010-2012. A multi-stage cluster sampling method was used to select the research sample. Therefore, among the Islamic Azad Universities located in Tehran province, 4 universities were randomly selected, and in the second stage, some fields of study were randomly selected from among the academic fields of each academic unit. In the third stage of the university entry year, for each field, randomly selected and questionnaires were given to those students who declared their readiness to answer the questions in the questionnaire. Some researchers consider a minimum sample size of 100 and describe a sample size of 200 or higher as desirable (Meyer, Gamest, & Guarino, 2006). In recent years, the method of subject ratio to estimated parameters has

been widely used among SEM researchers. Based on this method, a 5:1 ratio of subjects to the estimated parameters produces a small sample size, a 10:1 ratio is an appropriate sample size, and a 20:1 ratio is an optimal sample size (Schumacher and Lomax, 2004). Steven (1996) recommends a ratio of 15 subjects per observed variable and Michel (1993) recommends a ratio of 10 to 20 subjects per observed variable (Mayer, Gamest, & Guarino, 2006). According to these explanations and the possibility of dropping out of the participants, 370 people were selected by purposive sampling.

### Materials

**1. Borderline Personality Questionnaire:** The borderline personality questionnaire was created by Leishnernig in 1999 to measure borderline personality traits in clinical and non-clinical samples and based on Kerenberg's theory of borderline personality organization as well as DSM-IV diagnostic criteria. Is. The questionnaire contains 53 items and the last two questions of the questionnaire are not included in any of the factor classes, so they have been omitted in the Iranian version. This questionnaire includes scales to measure identity confusion, primary defense mechanisms, damaged reality testing and fear of intimacy. Leishnernig (1999) reported the internal consistency coefficient of the questionnaire between 0.68 and 0.91 and its retest validity between 0.73 and 0.89. Mohammadzadeh and Rezaei (2011) investigated the validity of the questionnaire in Iranian society. Principal components analysis with promax rotation suggested four factors, which were named as identity confusion, primary defense mechanisms, damaged reality testing and fear of intimacy, respectively. In addition, concurrent validity was confirmed with a coefficient of 0.70 and correlation of subscales with the whole scale and with each other with coefficients of 0.71 to 0.80. Three types of retest reliability, classification and internal consistency were obtained with coefficients of 0.80, 0.83 and 0.85, respectively. Based on the results, alpha coefficient was calculated as 0.85 for the whole questionnaire and 0.68 for identity confusion factors, 0.72 for primary defense mechanisms, 0.66 for damaged reality testing, and 0.65 for fear of intimacy, which are satisfactory. Mohammadzadeh and Rezaei (2013) concluded that based on the results, the Borderline Personality Questionnaire (BPI) has good validity and reliability in Iranian society and can be used as a reliable tool in borderline personality research.

**2. Revised questionnaire on close relationships - relationship structure:** This questionnaire is based on the dimensional approach of attachment and is one of the most widely used tests in the field of adult attachment. The revised version of the Experiences Questionnaire, which is the newest scale for measuring adult attachment styles, was created in 2000 by Fraley, Valero Brennan and based on the

Attachment Styles Scale (Brennan, Clark, & Shaver, 1998). This questionnaire is a new self-report tool that assesses attachment-related anxiety and avoidance with 36 questions in four different domains of attachment to mother, father, friends, and emotional partner, and includes nine sections that are used in all four domains. In each domain, the first six questions measure the avoidance dimension and the last three questions measure the anxiety dimension. Each domain is scored on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Each person scores between 6 and 42 in the avoidance dimension and 3 to 21 in the anxiety dimension. The first four questions are reverse scored. Higher scores indicate a greater amount of insecure attachment in the relationship domain. Moreira, Martinez, Goya and Cannavaro (2015) examined the validity of the questionnaire and confirmed its two-factor structure. Rocha et al. (2017) also confirmed the two-factor structure of this questionnaire and reported Cronbach's alpha range between 0.78 and 0.91. Cronbach's alpha of avoidant attachment to mother, father, emotional partner and friend was calculated as 0.87, 0.86, 0.78 and 0.85 respectively. Cronbach's alpha of anxious attachment was reported as 0.91, 0.91, 0.89 and 0.88 respectively. Pouravari et al. (2014) by examining the results of factor analysis showed that the two-factor model using two factors of avoidance and anxiety in each domain is suitable in Iranian society. Cronbach's alpha coefficient for avoidant attachment in relation to mother was 0.86, father was 0.85, friend was 0.82 and anxious attachment was reported as 0.80, 0.76 and 0.83 respectively. Cronbach's alpha coefficient for the total score of avoidant and anxious attachment was calculated as 0.81 and 0.82, respectively. In addition, the retest coefficient of this questionnaire after two weeks was between 0.69 and 0.80.

**3. Self-differentiation questionnaire:** Self-differentiation questionnaire was first designed and implemented in 1998 by Skowron and Friedlander (1998) with 43 questions, then Skowron and Smith (2003) revised it. This questionnaire has 45 questions and answers are done on a six-point Likert scale from 1 (not at all true about me) to 6 (completely true about me). A high score means differentiation and a low score means no differentiation. The questionnaire has 4 subscales: 1- Emotional reactivity: reflecting the degree to which a person responds to an environmental stimulus with excessive sensitivity or with emotional variability; 2- My position, which, in addition to clearly defining one's sense of self, determines the level of loyalty to one's beliefs at a time when a person is forced to act against his beliefs; 3- Emotional avoidance shows a feeling of fear of intimacy and a feeling of excessive vulnerability in relation to others. Items related to this subscale indicate fear of intimate relationships, defensive behaviors. Finally, 4- intermingling with others

indicates conflict in overly emotional relationships with others. To calculate the overall score of this questionnaire, the item scores of each subscale are added together. Skowron and Friedlander (1998) reported an internal consistency of 0.88 for the whole scale and 0.83 for the subscales of emotional response, emotional avoidance, 0.82, integration with others, and 0.80. In Iran, Yunsi (2006) used the exploratory factor analysis method to investigate the factor structure of the questionnaire; After implementing factor analysis, four factors were obtained. The content validity of this questionnaire was reported as 0.85 using the internal consistency method.

**4. Reflexive action (function) questionnaire:** The reflective action (function) questionnaire was created by Fonagy et al. (2015) to measure mentalization or reflective functions, which is: It is the capacity to interpret the inner mental states of oneself and others such as feelings, wishes, goals, desires and attitudes. This questionnaire is a 46-question self-report tool that is scored on a seven-point Likert scale from completely disagree (1) to completely agree (7). Examining the psychometric properties of this questionnaire by Badoud et al. (2016) confirmed the two-factor structure of the questionnaire. Cronbach's alpha of the severity factor was 0.71 and the intra-item correlation of this subscale was also reported as 0.29. Cronbach's alpha of the uncertainty factor was also 0.67 and its intra-item correlation was 0.28. The test-retest correlation after three weeks was calculated for certainty and uncertainty subscales of 0.70 and 0.54, respectively.

The ethical considerations of the present study were as follows: 1- All participants received verbal information about the study and participated in the study if they wished and with informed consent. 2- Subjects were assured that all information is confidential and will be used for research purposes. 3- In order to respect privacy, the names and surnames of the participants were not recorded. 4- To ensure the work process, all questionnaires were implemented by the researcher himself. In the present study, the mean, standard deviation, correlation and normality of the distribution of the research variables were investigated using descriptive statistics. In order to analyze the data and answer the research questions, the structural equation modelling method is used, which after confirmatory factor analysis - in the measurement model part - in the structural equation model part, the existing causal relationships between the variables are examined. In the part of the structural function model, the intensity of the causal relationships (direct, indirect and total) between the underlying variables and the amount of variance explained in the whole model is determined. SPSS and Amos version 21 software were used for this purpose.

## Results

47% of the respondents were male, and 53% of the respondents were female. The average age of the respondents is 25.3 years, with a standard deviation of 7.48. The minimum age is 20 years, and the maximum age is 31 years. The most education related to bachelor's education (57%) and the least related to master's education (43%).

## Implementation

Table 1. Descriptive statistics of research variables

Variable		Mean	SD	Skewness	Kurtosis	VIF	DW
<b>borderline personality</b>	Identity confusion	27/21	8/25	0/331	-0/205	2/36	1/70
	Primary defense mechanisms	30/76	10/38	0/370	-0/243	2/70	1/70
	Damaged reality check	22/55	7/81	0/365	-0/122	1/41	1/70
	Fear of intimacy	18/16	5/19	0/079	-0/709	1/78	1/70
<b>attachment style</b>	Avoidance dimension	24/41	6/16	-0/225	-0/505	1/02	1/70
	anxiety dimension	8/98	2/10	-0/469	0/391	1/89	1/70
<b>Differentiate yourself</b>	Emotional reaction	37/29	9/67	-0/108	-0/349	1/93	1/70
	emotional escape	42/80	12/51	-0/329	-0/154	2/09	1/70
	Mixing with others	36/84	10/17	-0/435	-0/247	1/32	1/70
	my place	29/77	7/52	0/331	-0/205	2/36	1/70
<b>mentalization</b>	Certainty	93/66	27/5	0/370	-0/243	2/70	1/70
	uncertainty	102/12	12/54	0/365	-0/122	1/78	1/70

The results of Table 1 show that the mean and standard deviation of borderline personality scores, attachment styles, self-differentiation, and subjectivity were reported. Also, the above table shows that skewness and elongation are between  $\pm 2$ ; Therefore, the data distribution of research variables is normal. The value of

Watson's camera is in the allowed range of 1.5 to 2.5; Therefore, the assumption of no correlation between errors is confirmed and regression can be used. The tolerance coefficient and variance inflation values also showed that there is no overlap between predictor variables.

Table 2. Correlation matrix between research variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
Identity confusion	1											
Defense mechanisms	0/10*	1										
reality check	0/17*	0/09	1									
Fear of intimacy	0/26*	0/26*	0/36*	1								
Avoidance dimension	0/29*	0/33*	0/35*	0/02	1							
anxiety dimension	0/22*	0/17*	0/29*	0/10*	0/27*	1						
Certainty	0/42*	0/29*	0/13*	0/28*	0/25*	0/36*	1					
uncertainty	0/28*	0/18*	0/41*	0/14*	0/41*	0/46*	0/29*	1				
Emotional reaction	0/30*	0/27*	0/36*	0/16*	0/43*	0/25*	0/58*	0/45*	1			
emotional escape	0/23*	0/18*	0/10*	0/11*	0/44*	0/02	0/29*	0/35*	0/47*	1		
Mixing with others	0/31*	0/21*	0/40*	0/25*	0/44*	0/44*	0/67*	0/47*	0/57*	0/30*	1	
my place	0/14*	0/41*	0/46*	0/28*	0/18*	0/41*	0/14*	0/41*	0/46*	0/29*	0/14*	1

According to Table 2, the correlation coefficients between the subscales of borderline personality symptoms, attachment, self-differentiation, and mentalization were statistically significant ( $P \leq 0.05$ ). The results related to the

implementation of the initial model in the standard mode, along with some of the most important indicators of model fit, are presented in Table 3.

Table 3. Fit indices of the proposed model of the relationship between attachment styles and borderline personality symptoms with the mediation of self-differentiation, and mentalization.

Model	RMSEA	GFI	CFI	AGFI	TLI	NFI
proposed model	0/002	0/95	0/99	0/97	0/99	0/98

The results of chi-square statistics showed that the values of (NFI) and (CFI) in the present study are equal to 0.98 and 0.99, respectively. Based on the criterion of 0.95 and above, these values determine the model and the value (RMSEA) was obtained for the present study of 0.002,

which indicates the good fit of the model with the data. Examining the fit indices of the model indicates that the desired model has a good fit with the data.

Table 4. Weighted regression statistics and critical ratios of research variables

Exogenous variable	Direction	Endogenous variable	b	B	t	P
attachment	←	Borderline personality syndrome	0/524	0/411	6/204	0/001

attachment	←	mentalization	0/478	0/345	5/895	0/001
attachment	←	Differentiate yourself	0/410	0/370	5/142	0/001
Differentiate yourself	←	Borderline personality syndrome	0/354	0/243	4/854	0/001
mentalization	←	Borderline personality syndrome	0/387	0/281	5/104	0/001

The standardized and unstandardized values show the prediction paths of the exogenous research variables on the endogenous variable with each other according to the t value obtained in the model. In general, all the obtained values are significant and indicate a meaningful prediction. The results showed that avoidant and anxious attachment styles were positively and directly related to borderline personality

symptoms ( $\beta=0.41$ ;  $P<0.001$ ), mentalization ( $\beta=0.34$ ;  $P<0.001$ ), mentalization ( $\beta=0.34$ ;  $P<0.001$ ), had its own differentiation ( $\beta=0.37$ ;  $P<0.001$ ). Also, self-differentiation was effective on borderline personality symptoms ( $\beta=0.24$ ;  $P<0.001$ ), mentalization was effective on borderline personality symptoms ( $\beta=0.28$ ;  $P<0.001$ ).

Table 5. Indirect estimation of the model using the bootstrap method

Variable	B	Lower bound	Upper bound	Sig.
Attachment style on borderline personality traits through the mediating role of self-differentiation	0/310	0/159	0/387	0/001
Attachment style on borderline personality symptoms through the mediating role of mentalization	0/377	0/197	0/414	0/001

The indirect paths considered according to the standardized values ( $\beta$ ) obtained, the indirect path, attachment styles on borderline personality

symptoms through the mediating role of self-differentiation and mentalization were confirmed according to the bootstrap estimation method.

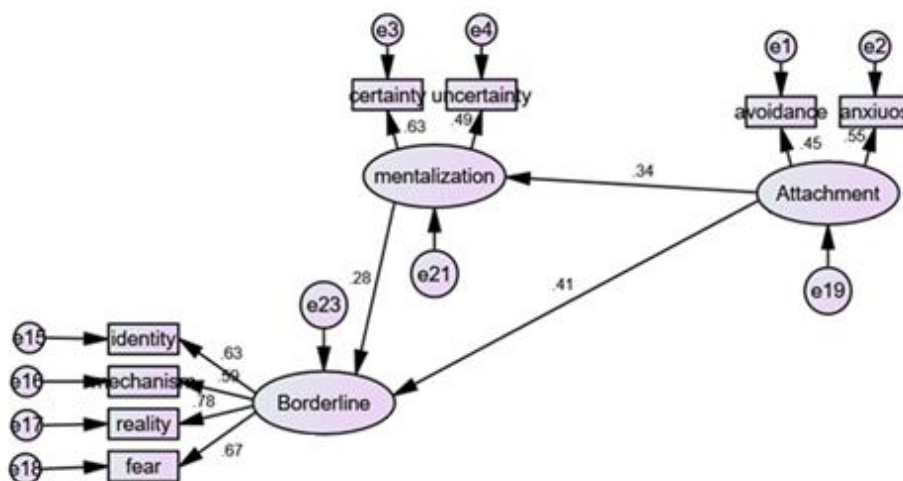


Figure 1. The final model of the tested pathways along with standardized prediction statistics of attachment styles on borderline personality symptoms through the mediating role of mentalization

### Conclusion

The aim of the present study was to model borderline personality symptoms based on attachment: the mediating role of self-differentiation and mentalization. The results showed that attachment affects the symptoms of

borderline personality through the mediation of self-differentiation. The results of this research were consistent with the following studies: Pourmohamed and Jahangiri (2019); Pourshahriar, Alizadeh and Rajaeinia (2018); Karimi et al. (2018); Mousaviyan and

Sharifzadeh (2017); Bijari, Hosseini and Nasiri (2016); Karbalai Mehriziu colleagues (2014); Karami et al. (2014); Goodabout et al. (2019); Good (2019); Sitto, Fonagy and Leviten (2019). In explaining this finding, it can be said that as theoretical foundations and studies have consistently shown, there is a strong relationship between self-differentiation and attachment. Attachment styles and self-differentiation can be considered as stable and multigenerational psychological factors on which adult relational foundations are built (Steel, Teonsind, & Greenor, 2020). Skowron and Dandy (2004) claimed that attachment style and self-differentiation are used interchangeably in the literature. Self-differentiation requires the ability to acquire a sense of autonomy. If self-differentiation is understood in the form of the ability to deal with anxiety and being different and separate from others, it is considered a part of the attachment theory. According to Bowlby (1969), having a safe base in early childhood leads to the development of appropriate independence and efforts to explore the environment. Insecurity in attachment shows itself as anxious and avoidant attachment. Anxious attachment may lead to debilitating worry in close relationships and inability to regulate emotions, and avoidant attachment potentially contributes to relationship distrust and distancing. On the other hand, according to Bowen's theory (1966), a fully differentiated person is well aware of his beliefs and feels individuality. On the contrary, people who have poor differentiation when faced with anxiety in interpersonal relationships to reduce anxiety is emotional cutoff as the strongest predictor of avoidant attachment style. In general, the findings showed that there is a strong relationship between avoidant attachment and emotional cutoff, and anxious attachment and emotional reactivity (Lamps & Katodella, 2019). According to the theoretical and research background, it seems that people who have avoidant attachment use emotional cutting more and people who have anxious attachment tend to mix with others and become more reactive (Rostami & Saadati, 2018). Attachment-centered and homo-Boenian approaches consider emotional disconnection or disconnection and chronic anxiety as problematic factors in relationships, and both consider a positive sense of connection as a factor for promoting flexibility and tolerance of differences. What is possible in

Bowen's theory is considered as a problem-causing factor in relationships, and both consider a positive sense of connection as a factor for promoting flexibility and tolerance of differences. What may be seen as an emotional fusion in Bowen's theory is seen as anxious attachment in attachment-oriented approaches. Research results have shown that there is a relationship between anxious and avoidant attachment with the components of emotional reactivity and emotional cutting. The research of Heinlen et al. (2016) showed that high anxious and avoidant attachment is associated with a decrease in self-differentiation. In other words, as the anxious and avoidant attachment scores increase, the self-differentiation score decreases. His research and colleagues (2005) showed that anxious attachment style, negative mood and interpersonal problems are related to the reactivity dimension of self-differentiation. There is a relationship between avoidant attachment, negative mood and interpersonal problems with the emotional cutting dimension of self-differentiation.

The present study, like any other study, has limitations. The statement of these limitations can clarify the findings and suggestions of the research and help future researchers to adopt effective measures to deal with the threat of internal and external validity of research projects. The basic limitations of the present research are as follows. The results of the present study are limited to all male and female undergraduate and graduate students of Azad University of Tehran and may not be generalizable to students in other regions. The complexity and abundance of dimensions of the research variables and as a result the large number of questions in the questionnaires caused some of the subjects to be tired and confused in answering them. The cross-sectional and non-experimental nature of this research is one of the limitations of the research that limits reaching causal conclusions. Another limitation of the current research is the self-reporting of the tools used. It is suggested that this research be conducted in other cities in order to compare with the findings of this research. The role of negative life stressors should be considered in future researches, because it makes it possible to understand the various ways and paths that lead to borderline personality disorder within the framework of the stress-vulnerability model. It is suggested to conduct qualitative research in this

field as well. Considering the effect of emotional dysregulation indirectly through attachment to the symptoms of borderline personality, it is suggested that psychotherapy approaches be implemented to improve emotion regulation problems. Self-differentiation plays an important mediating role in the relationship between attachment and borderline personality symptoms, and it is necessary to pay more attention to therapists in therapeutic situations.

### Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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