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The Relationship of Mindfulness, Self-Differentiation and Alexithymia With Borderline Personality Traits

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Abstract

Background: Psychological problems such as borderline personality traits can negatively affect students' behaviors, cognition, interpersonal communication and academic achievement. It is important to identify factors such as mindfulness, self-differentiation, and alexithymia and determine their relationship these traits.

Objectives: This study was performed to investigate the relationship of mindfulness, self-differentiation and alexithymia with borderline personality traits.

Methods: In this descriptive correlational study, 309 students from Shahid Bahonar University of Kerman (217 female and 92 male) were selected using the random cluster sampling method. They completed the Five Factor Mindfulness Questionnaire, the Self-Differentiation Scale, the Toronto Alexithymia Scale and the Borderline Personality Scale. After collecting the questionnaires, the data were analyzed using SPSS-24 and AMOS-24 software programs and path analysis method.

***Results*:** The analyses showed that the direct effect of mindfulness was significant only on fear of intimacy ($p < 0.05$). Self-differentiation predicted three sub-scales of borderline personality including defense mechanisms, fear of intimacy ($p < 0.001$) and reality testing ($p < 0.05$) in a significant and negative manner. Alexithymia had a significant positive impact on all subscales of borderline personality including identity disturbance, primary defense mechanisms, fear of intimacy ($p < 0.001$) and damaged reality testing ($p < 0.05$).

Conclusion: Alexithymia, self-differentiation and mindfulness were the most powerful predictors of students' borderline personality traits, respectively.

Keywords: mindfulness, differentiation, borderline personality trait, alexithymia

Introduction

Borderline personality disorder had been characterized with traits such as identity disturbance, primary defense mechanisms, damaged reality testing, fear of intimacy, emotional instability, interpersonal problems, impulsivity, fear of abandonment and risk of suicidal behaviors. The prevalence of borderline personality disorder in the general population, hospitalized patients and outpatients is approximately 1.6%, 10% and 20%, respectively [1]. The prevalence of borderline personality traits is estimated to range from 13% to 20% [2]. Mood swings are common in this disorder, and affected people may seem to be arguing for a moment and depressed for another. The sense of dependence and aggression is strong in them and the social relations of patients with this disorder are chaotic

[3]. Borderline personality disorder, which begins in early adulthood and causes disturbances in cognitive processing of emotions, has a pervasive pattern of instability in interpersonal relationships, self-image and emotions with marked impulsivity. The underlying factors of this disorder are different, and it is associated with disturbed emotional states, anxiety, anger, depression and dangerous behaviors such as self-harm and drug abuse [1].

Research shows that several factors can affect borderline personality traits [4]. Mindfulness, differentiation and alexithymia have been considered by researchers in this regard. The component of mindfulness has a stronger negative relationship with the symptoms of emotional disorders than other components [5,6]. Research shows that mindfulness is related to borderline personality [7], and even mindfulness training can reduce psychological problems on the one hand and increase levels of metacognitive awareness on the other by promoting psychological well-being [8,9]. Mindfulness is the non-judgmental observation of a continuous flow of internal and external stimuli [10] that manifests itself through attention to the present goal [11]. Mindfulness has been adopted to increase awareness and skillfully respond to mental processes involved in alexithymia and maladaptive behaviors [12].

On the other hand, the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines personality disorder as "self" impairments and impairments in interpersonal functions [1]. These impairments include how people [13] think and feel about themselves and others and how these factors relate to others [14]. Both self-disturbances [15] and thinking disorders and cognitive distortions [16]. Two of these self-disturbances and cognitive problems, including self-differentiation and alexithymia, have been suggested as important factors in borderline personality [17]. The concept of "self" has been used by many researchers and clinical professionals as an "organizational structure" for borderline personality, but there is considerable variation in this use, and this depends on how clearly researchers define the concept of self [18]. The structure of self-concept is operationally defined by indicators such as differentiation. Bowen, emphasizing the meta functions in the concept of "self", coined the term "self-differentiation" for his concept at both interpersonal and interpersonal levels [19].

Differentiated individuals have a clear definition of "self", adopt a specific orientation in life and do not lose control [20]. This structure interacts positively with a large number of indicators of healthy psychosocial adjustment and communication function [21]. Studies have shown that there is a negative relationship between self-differentiation and borderline personality disorder [22], in addition to self-differentiation, the role of alexithymia in borderline personality is undeniable [23]. Alexithymia is the main determinant of borderline personality traits [24] and predicts 21% of the variance of self-harming behaviors in borderline personality disorder [25]. Thus, the severity of the symptoms of this disorder is related to the severity of alexithymia, which determines the frequency of disturbed behaviors [26]. Also, a significant relationship has been found between borderline personality disorder and alexithymia [27]. Research also suggests that mindfulness and differentiation are associated with alexithymia [28].

According to the research background mentioned above, mindfulness and differentiation are associated with borderline personality disorder and alexithymia, and on the other hand, alexithymia is associated with borderline personality traits. Therefore, in this study, we seek to answer the question of whether mindfulness, self-differentiation and alexithymia are able to predict borderline personality traits in the form of a model? This hypothetical model, presented in the figure below, shows the relationship of variables that no research has been designed to investigate.

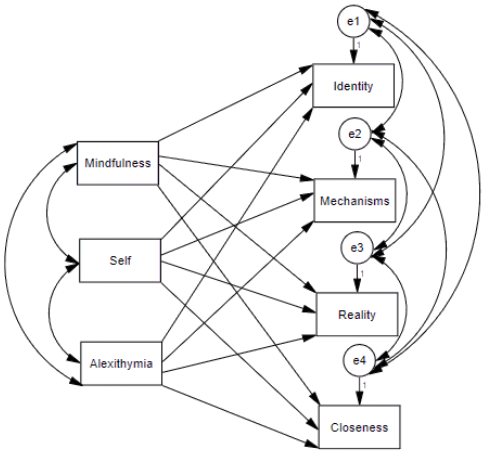


Figure 1: The hypothetical model

Methods

The method of this research was descriptive and the research design was correlational in the form of structural equation modeling. After the approval of the ethics committee, all students of Shahid University of Kerman with a population of 14833 (8200 female, 6633 male) in the academic year of 2017-18 were selected as the statistical population, and according to Morgan table 390 people were selected as the research units by cluster random sampling. The participants answered the questionnaires after providing informed consent. At first, three faculties (literature, mathematics, economics) were chosen from the faculties of Shahid Bahonar University of Kerman. Then, 10 classes from each faculty were randomly selected and 13 people from each class were randomly enrolled. Finally, a sample of 390 people was selected. The researcher presented at the classrooms in the faculty and the questionnaires were given in order, and the students were asked to fill them out carefully and after some time, the questionnaires were collected.

Due to sample attrition and the omission of a number of questionnaires, 309 questionnaires remained, which was sufficient for statistical analysis based on the number of variables. In the present study, according to the measurement scales and available data for data analysis, first a descriptive report was presented using the indicators of center orientation and dispersion (mean and standard deviation), and then to test the hypothesis SPSS-24 and AMOS-24 software were used. The following tools were used to collect data.

Borderline Personality Questionnaire: This questionnaire was developed by Leichsenring (1999) to measure borderline personality traits in clinical and non-clinical samples and is answered as yes (1) / no (0). This questionnaire basically has 53 items and is designed based on DSM-IV. This questionnaire includes factors for measuring identity disturbance (46, 42, 37, 36, 34, 33, 27, 26, 15, 8), primary defense mechanisms (48, 40, 39, 29, 16, 10, 9). 1), damaged reality testing (41, 21, 13, 12, 7) and fear of intimacy (50, 28, 25, 23, 20, 19, 14, 5). The last two questions of the questionnaire are not placed in any of the factor classes of the questionnaire and their final score is not calculated in the final score of the person, therefore they have been removed in the Iranian version and the number of questions has been reduced to 51. The internal consistency and retest reliability of this test is satisfactory so that Cronbach's alpha coefficients of components this test ranged from 0.68 to 0.91.

Also, the retest correlation of this test was between 0.73 and 0.89 [29]. In Iran, concurrent validity with a coefficient of 0.70 established, and the correlation of subscales with the whole scale and each other ranged from 0.71 to 0.80. Test-retest and split-half reliability and internal consistency with coefficients of 0.80, 0.83, and 0.85, respectively, were obtained [30]. In this study, the overall reliability of this tool was 0.89 and the reliability of the subscales was between 0.73 and 0.88.

Self-differentiation scale-revised form: This scale was developed by Skowron and Friedlander (1998) in three stages [31], and it was revised by Skowron and Schmitt (2003). The scale consists of 46 items and four subscales, namely emotional reactivity (ER) (40, 38, 34, 30, 26, 21, 18, 14, 10, 6, 1), I-position (IP) (43). 41, 35, 31, 27, 23, 19, 15, 11, 7, 4), emotional cutoff (EC) (42, 39, 36, 32, 28, 24, 20, 16, 12, 8, 3, 2) and fusion with others (FO) (37, 33, 29, 25, 22, 17, 13, 9, 5). Participants rate each item on a 6-point Likert scale from 1 (completely incorrect) to 6 (completely correct). Internal consistency of the total score and subscales of this scale for emotional reactivity was 0.84, fusion with others was 0.74, I-position was 0.83, emotional cutoff was 0.82 and the total score of the scale was 0.88 [32]. In the Iranian sample, the differentiation scale has been standardized on normal samples and its validity has been announced through retest and Cronbach's alpha for the whole scale of 0.85. The coefficient of similarity of the subscales of this scale is also obtained as follows: emotional reactivity: 0.77, I-position: 0.60, emotional cutoff: 0.84, fusion with others: 0.70 [33]. In this study, the overall reliability of this tool was 0.88 and the reliability of the subscales was 0.79-0.85.

Toronto Alexithymia Questionnaire: This 20-item scale developed by Taylor and Bagby (1992) measures alexithymia in the three subscales of difficulty in recognizing emotions (3, 6, 7, 9, 13, 14), difficulty in describing emotions (2, 4, 11, 12, 17) and externally oriented thinking (5, 8, 10, 15, 16, 18, 19, 20), based on a five-point Likert scale ranging from strongly disagree [1] to strongly agree [5]. Scores of 60 and above are considered as alexithymia and scores of 52 and below are considered as without alexithymia [34]. Cronbach's alpha of this scale in the Iranian sample is 0.82 for difficulty in identifying emotions, 0.75 for difficulty in describing emotions and 0.72 for externally oriented thinking [35]. In this study, the overall reliability of this tool was 0.75 and the reliability of subscales was between 0.71 and 0.75.

Five-Factor Mindfulness Scale: The 39-item self-assessment scale was developed by Bauer et al. (2006) by combining items from several mindfulness questionnaires and has five subscales of observing (1, 6, 11, 15, 20, 26, 31, 36), describing (2, 7, 12, 22, 27, 32, 37), acting with awareness (5, 8, 13, 18, 23, 28, 34, 38), nonjudging (3, 10, 14, 17, 25, 30, 35, 39) and nonreactivity (4, 9, 19, 21, 24, 29, 33). The subject should express on a five-point Likert scale from never or very rarely [1] to often or always [5] how much he or she agrees or disagrees with each of the items. The range of scores in this scale is 39-195. The higher the total score, the higher mindfulness [36]. In the Iranian sample, after examining the psychometric properties of the scale, its validity was established and Cronbach's alpha coefficient for the whole scale was calculated 0.87, and for each of the subscales of observing, describing, acting with awareness, nonjudging and nonreacting Cronbach's alpha coefficient was respectively 0.72, 0.86, 0.87, 0.77 and 0.63 [37]. In this study, the overall reliability of this tool was 0.88 and the reliability of the subscales was between 0.82-0.85.

Results

The participants in this study were 309 people, including 217 female and 92 male students. The age range of the participants in the study was 18-47 years with a mean of 21.23 and a standard deviation of 3.87, and most of them were undergraduate students.

Table 1 shows the indicators related to descriptive statistics including mean and standard deviation for the variables examined in this study. Among the borderline subscales, the highest mean was related to identity disturbance (2.39 ± 2.08) and the lowest mean belonged to reality testing (0.40±0.65).

Table 1: Descriptive statistics indicators

Variables	Mean	Standard deviation
Mindfulness	121.67	9.80
Self-differentiation	161.79	16.76
Alexithymia	53.80	10.57
Identity disturbance	2.39	2.08
Defense mechanisms	1.92	1.81
Reality testing	.40	.65
Fear of intimacy	1.82	1.50

According to Table 2, the age range of the participants in the study was 18-47 years with a mean of 21.23 years and a standard deviation of 3.87. Table 2 shows the frequency distribution and percentage of age variables in the sample group. As can be seen in the table, the age range of 273 participants in the study (88.35%) was between 18-27 years and 2 individuals were in the age range of 38-47 years. The frequency distribution and the percentage of variable of level of education in the members of the sample group show that most of the students were studying at the undergraduate level (81.23%), and only one was a doctoral student.

Table 2: Frequency distribution of age and education variables

Variable		Frequency	Percentage
Age	18-27	273	88.35
	28-37	17	5.50
	38-47	2	.65
	No data	17	5.50
Level of education	BA	251	81.23
	MA	26	8.42
	PhD	1	.32
	No data	31	10.03

The correlation of the variables is presented in Table 3. According to the table, mindfulness had a significant positive relationship with self-differentiation and a significant negative relationship with alexithymia and all the subscales of borderline personality. The relationship between self-differentiation was positive and significant with alexithymia and negative and significant with all subscales of borderline personality traits. Alexithymia also had a significant positive relationship with all subscales of borderline personality

Table 3: Correlation matrix of research variables

Variables	1	2	3	4	5	6	7
1)Mindfulness	1						
2)Self-differentiation	.49**	1					
3)Alexithymia	-.61**	.46**	1				
4)Identity disturbance	-.20**	-.25**	.37**	1			
5)Defense mechanisms	-.31**	-.39**	.39**	.60**	1		
6)Reality testing	-.13**	-.20**	.18**	.44**	.45**	1	
7)Fear of intimacy	-.19**	-.32**	.37**	.51**	.53**	.40**	1

***p≤.05, **p≤.01, ***p≤.0001**

First, the assumptions of structural equation modeling were examined and after ensuring the existence of the necessary conditions to fit the model, the fit indices p, X2, TLI, CFI, IFI, RMSEA and X^2/df were used. First, the initial model, which consisted of three exogenous

variables and four variables endogenous, was drawn by the method of maximum likelihood estimation using AMOS software. However, after examining the fit indices in the initial model, it was found that the data of the present sample did not support the developed model. Therefore, the initial model was modified by the software based on the proposed correction indicators. As can be seen in Table 4, the fit indices mentioned for the final model indicate the appropriate fit of the model.

Table 4: Model fit

Initial model				Final model			
X^2 (p)	**(.0001) 273.76**	**The less the better**	**Inappropriate fit**	**X^2 (p)**	**(.16) 6.51**	**The less the better**	**Appropriate fit**
TLI	.33	.95≤	Inappropriate fit	TLI	.98	.95≤	Appropriate fit
CFI	.61	.90≤	Inappropriate fit	CFI	.99	.90≤	Appropriate fit
IFI	.62	.90≤	Inappropriate fit	IFI	.99	.90≤	Appropriate fit
RMSEA	.38	.05≥	Inappropriate fit	RMSEA	.04	.05≥	Appropriate fit
X^2/df	45.62	2 or 3≥	Inappropriate fit	X^2/df	1.62	2 or 3≥	Appropriate fit

One of the features of structural equation modeling is estimating the direct effects of variables on each other. The direct effects of the variables studied in this study are presented in Table 6. According to the data in this table, mindfulness had a direct effect on just one of the subscales of borderline personality, that is, fear of meaningful intimacy. The direct effect of self-differentiation on three subscales of borderline personality, namely identity disturbance, defense mechanisms and reality testing, was significant. The effect of alexithymia was also significant on all the subscales of borderline personality.

Table 5: Estimation of direct impact coefficients

Variables		B	β
Mindfulness	Fear of intimacy	.01*	.12*
Self-differentiation	Defense mechanisms	-.02***	-.22***
	Reality testing	-.004*	-.11*
	Fear of intimacy	-.001***	-.18***
Alexithymia	Identity disturbance	.007***	37***.
	Defense mechanisms	.05***	.29***
	Reality testing	.008*	.13*
	Fear of intimacy	.05***	.36***

***p≤.05, **p≤.01, ***p≤.0001**

The total effects are shown in Table 6, which indicate that the total effect of mindfulness on fear of intimacy was significant, and the total effect of differentiation was significant on three subscales of borderline personality, namely identity disturbance, defense mechanisms and reality testing. The effect of alexithymia was also significant on all subscales of borderline personality

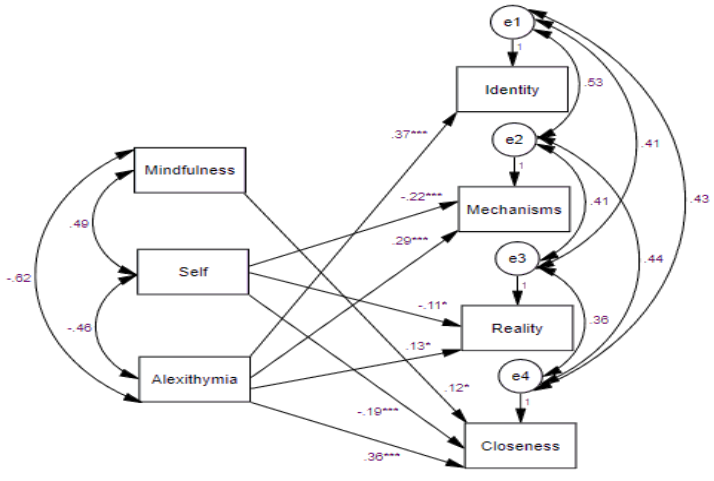
Table 6: Estimation of total effect coefficients

Variables		B	β
Mindfulness	Fear of intimacy	.01*	.12*
Self-differentiation	Defense mechanisms	-.02***	-.22***
	Reality testing	-.004*	-.11*
	Fear of intimacy	-.001***	-.18***
Alexithymia	Identity disturbance	.007***	37***.
	Defense mechanisms	.05***	.29***
	Reality testing	.008*	.13*
	Fear of intimacy	.05***	.36***

***p≤.05, **p≤.01, ***p≤.0001**

The following is a graph of the fitted path with standard regression coefficients on each path.

Figure 2 shows the fitted model predicting borderline personality traits. Numbers are standardized on regression coefficients paths. As can be seen, the direct effect of mindfulness was significant only on fear of intimacy (β=0.12, p≥0.05). The direct effect of self-differentiation on three subscales of borderline personality, namely defense mechanisms (β=-0.22, p≥0.001), reality testing (β=-0.11, p≥0.05) and fear of intimacy (B=-0.19, p≥0.01), was significant and negative. The effect of alexithymia on all subscales of borderline personality, that is, identity disturbance (β=0.37, p≥0.01), defense mechanisms (β=0.29, p≥0.01), reality testing (β=0.13, p=0.05) and fear of intimacy (β=0.36, p=0.01), was positive and significant.



***p≤.05, **p≤.01, ***p≤.0001**

Figure 2: Fit model diagram of borderline personality traits

Discussion

The present study was conducted to investigate the model of the relationship of mindfulness, alexithymia and self-differentiation with borderline personality traits and found the following findings: The direct effect of mindfulness was only significant on fear of intimacy. Self-differentiation predicted three sub-scales of border personality, namely defense mechanisms, reality testing and fear of intimacy, in a significant and negative way, and alexithymia had a significant positive effect on all sub-scales of border personality.

These findings are consistent with the results of [9, 22, 38-42]. The explanation for this finding is that mindfulness consists of seven basic factors: no njudging, patience, beginner's mind, trust, not striving, acceptance and letting go [11], and these

factors cause a person with characteristics of lack of judgment, empiricism, trustworthiness, no futile struggle, patience and acceptance of events as they are gain more cognitive power and be able to have more control and peace [43]. Thus, mindfulness as a cognitive factor affects the fear of intimacy.

Alexithymia impairs the ability to perceive, use, and organize emotions, and causes emotional malfunctioning in those who do not have the ability to control emotions properly [44]. This finding is consistent with the results of [28-30]. When emotional information cannot be perceived and evaluated in the process of cognitive processing, the person becomes emotionally and cognitively helpless and confused. This disability disrupts the organization of emotions and cognitions and increases the likelihood of using neurotic and immature defense styles in stressful situations [35]. But people with low alexithymia have a more effective understanding of social and interpersonal situations, have higher emotional capacity, are easier to deal with life challenges, and have better mental health levels. Also, these people are more successful in coping with negative experiences and show better and more appropriate adaptation in relation to others and the environment compared to people who do not have the ability to understand and express their emotional states [45].

The results also showed that the direct effect of self-differentiation on borderline personality traits, that is, defense mechanisms, reality testing and fear of intimacy, is significant. These findings are consistent with the results of [28,30]. Explaining this finding, it can be said that a differentiated person is secure about his / her identity and can freely enter intimate relationships, pursue meaningful goals, and is more likely to succeed in all aspects of his or her own life. Self-differentiation helps to strike a balance between emotional and intellectual functioning on the one hand and intimate relationships and autonomy on the other [19]. People with high levels of differentiation have role flexibility, more intimate contacts and an emotionally higher capacity for closeness and intimacy. These people can better cope with the threatening feelings caused by differences in opinions and act better in stressful situations.

Reasoning, self-adherence, purposefulness, balance, correct social judgment, adjusted expectations, strong decision-making power, self-control, anxiety resistance and reliability enable a person to maintain a personal position in relationships (Owning one's thoughts, behaviors, and feelings and maintaining an inner guidance), while valuing intimacy and contact with others [46]. A person with high differentiation has better and more adaptability and a higher ability to cope with stress, and also experiences more emotional intimacy while recognizing and maintaining appropriate boundaries. Therefore, it can be stated that such characteristics in combination with low alexithymia may affect borderline personality symptoms such as defense mechanisms, fact-finding, and fear of intimacy.

As researchers have described differentiation, differentiated individuals rely on reasoning, self-discipline, purposefulness, balance, correct social judgment, adjusted expectations, strong decision-making power, self-control, resistance to anxiety, trustworthiness and greater adaptability [47]. Therefore, they score lower on the borderline personality. In other words, the set of characteristics of people with mindfulness and differentiation combined with the ability to express emotions reduces symptoms such as identity disturbance, defense mechanisms, reality testing, and fear of intimacy.

The aim of this study was to investigate the relationship of mindfulness, self-differentiation and alexithymia with borderline personality traits. According to scientific models, by integrating the theory of mindfulness with mindfulness meditation, therapists can inhibit projections in clients by increasing the levels of metacognitive awareness obtained in mindfulness meditation. In doing so, they improve clients' mindfulness capacity and review their mental representations [13]. Differentiated individuals have a clear definition of "self" and a specific orientation in life and do not lose control [20]. This structure interacts positively with a large number of indicators of healthy psychosocial adjustment and communication function [32]. Inability to regulate emotions reduces mental health in individuals, and increase in these negative emotional states can disrupt various areas of their lives.

The present study was performed among a sample of students, which can be considered a limitation

and therefore caution should be exercised in generalizing the results. It is suggested that this model be used to design and plan a model of psychological intervention to reduce alexithymia and borderline personality traits among students. It is also suggested that courses for teaching mindfulness, self-differentiation, expression of emotions and identification of borderline personality traits and its relationship with the mentioned factors be offered to principals, teachers and professors of educational centers.

Conclusion

In general, if psychologists try to reduce alexithymia, it can be expected that along with increasing mindfulness and increasing self-differentiation, borderline personality traits will decrease. Therefore, emotional instability, interpersonal problems, impulsivity, fear of abandonment, identity disturbance and risk of suicidal behaviors will be reduced in the target population, and we will see an increase in academic achievement and a decrease in academic failure and abnormal behaviors in educational settings.

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Conflict of interest

None declared.

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