

The Relationship of Emotional Child Abuse, Borderline Personality, and Self-harm Behavior with the Mediating Role of Object Relation in Female Adolescents

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Abstract

Background: Today, the borderline personality disorder has become highly prevalent among adolescents. Its relationship with the incidence of self-harm behaviors has augmented its importance. Thus, in the present article, we aimed to answer the question of what the relationship is of emotional abuse, borderline personality, and self-harm behavior with the mediating role of object relation in female adolescents.

Methods: This cross-sectional study was performed on 285 female students in Qazvin, Iran in the academic year of 2020-2021. Seven female middle schools were randomly chosen for sample collection. Child Trauma Questionnaire (CTQ) Scale, Object Relations Inventory, Leichsenring Borderline Personality Disorder Questionnaire, and Klonsky & Glenn Self-injurious Behavior Questionnaire were used to collect data from the participants. Finally, the data were entered into SPSS software version 25, and Pearson correlation coefficient and multiple regression were utilized to analyze them.

Results: The findings indicated the bivariate correlation of emotional abuse, object relations, and borderline personality with self-harm ($r=-0.10$, $P=0.04$, $r=-0.47$, $P=0.001$, and $r=-0.47$, $P=0.001$, respectively). Standardized coefficients of effects, object relations ($\beta=0.47$, $P=0.001$), borderline syndrome ($\beta=0.28$, $P=0.003$), and emotional abuse ($\beta=-0.10$, $P=0.046$) showed the most significant effects. The mediating role of object relations in this study was also confirmed.

Conclusion: Our results revealed a relationship between borderline personality disorder and self-harm behavior in female adolescents. Object relations can also greatly eliminate the effect of borderline personality disorder on self-harm.

Keywords: Child abuse, Object relations, Borderline personality disorders, Self-injurious behavior

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1. Introduction

Adolescence is often associated with significant psychological and physiological changes. The puberty-related changes can expose adolescents to numerous problems, one of which is borderline personality disorder (BPD) (1). It is a predominant pattern of instability in interpersonal relationships, self-image, emotions, and impulsivity. This pattern has been observed through some clinical findings, including repeated attempts to avoid imagined or real situations, instability of interpersonal relationships, identity disorder, impulsivity, repeated suicide or self-harm, emotional instability, chronic feelings of emptiness, and wrath (2). There might be a link between BPD and self-harm behavior. Self-harm refers to intentional self-harming behaviors without any predetermined intrinsic motivation or intention and have high human and financial costs for healthcare systems (3). Self-

harm is a Tran's diagnostic factor that is not related to BPD only. However, some experts believed that there is enough evidence to consider recurrent self-harm behavior as a disorder (4). According to the study by Hawton and colleagues, around 22,000 adolescents in England and Wales are hospitalized annually due to self-harm. Nonetheless, some researchers believed that these estimates are far from the truth due to the latent nature of this behavior and social conservatism (5).

In addition to borderline personality disorder, Emotional Child Abuse (ECA) is also an area of interest to psychologists on account of its probable relationships with self-harm behaviors. Emotional abuse is an overt and covert act that seeks to harm; by endangering a person's emotional health, subjects with this condition target the person's sense of worth, which can lead to irreparable mental and physical damage. In some cases, an adolescent even loses his or her life (6). Emotional

abuse has various dimensions as follows: 1. verbal abuse, in which the person gives a name to another one and tries to make his/her self-esteem worthless by using inappropriate names and sarcastic expressions that are usually accompanied by humiliation; 2. restrictive behaviors, such as behaviors aiming to restrict communication, as a result of which individuals are deprived of normal social actions and reactions, and prevented from forming friendly relationships with others; 3. withdrawal and avoidance, such as depriving somebody of intimacy and appropriate responses (7).

On the other hand, some cognitive and emotional theories emphasize that instead of addressing the differences in cognitive problems, we should take the commonalities between them into consideration; from this perspective, we could compare the effectiveness of different factors (8). Considering such an approach, we can point to the mediating role of these factors in the relationship between the other two variables. In this case, we can refer to object relations.

Self-harm can lead to multiple complications, including the quality of object relations impairment. Among the theorists of object relations, there are basic areas of agreement, such as the fact that personality is formed through experiences in early childhood relationships and that internal representations create self and other. These representations serve as a pattern for current experiences and become more complex, distinct, and flexible in line with natural development (9). Objective relationships can be considered as a person's representation of herself/himself and others, as well as the emotions associated with these representations; in other words, it refers to individuals' capacity to establish human relationships, which is formed in the early years of life (10). Internalized representations dictate a set of anticipations about the reactions and behavioral performance of other people. Thus, seeing and visualizing objects that have been satisfying in the past can have a positive effect on creating the sense of calm and security against threats. Moreover, derangements of object relations undermine the foundations of personal security and increase vulnerability to anxiety (11).

It should be acknowledged that nowadays, BPD is very common among adolescents and its relationship with the occurrence of self-harm behaviors has increased its importance. Moreover, self-harm behaviors, such as suicide, which is a deliberate act of self-harm and ultimately leads to death, are a major problem in healthcare systems around the world and

have been increasing over the recent years (12).

Additionally, the lack of research in this field due to the nature of these variables has doubled the research gap, which is one of the reasons why the researcher addressed this issue in this article. Identifying these relationships to some extent contributes to the development of theoretical foundations and the expansion of knowledge in this regard. In addition, educational and medical centers, psychiatrists, psychologists, counselors, families, researchers, and anyone whose job is fairly related to adolescents can use the results of this study to design therapeutic and educational interventions. As a result, the present article intended to verify the relationship of ECA and object relations with BPS in adolescents with self-harm behaviors, in Qazvin, Iran in 2020.

2. Methods

The research method herein was cross-sectional. The statistical population of the study included all the 1106 female students in the junior high schools of Alborz region of Qazvin, Iran in the academic year 2020-2021, according to the statistics presented by the Education General Office of Qazvin Province, Iran. The sample size was calculated via the PASS software version 15 for each variable of emotional abuse, borderline personality disorder, self-harm behavior, and object relation; accordingly, the biggest sample size was determined for the variable of self-harm according to the study conducted by Sansone and et al. (13). To detect the optimum sample size, we considered a confidence level of 80%, a margin of error of 5%, the statistical power of 80%, and the effect size of ($r=0.52$); therefore, the smallest sample size was calculated to be 77. However, we ultimately included 285 participants into the study. The data-encoding techniques were used to avoid contamination of the samples in all the stages. Additionally, all the inclusion and exclusion criteria were considered in the early stages of screening, and there was no sample loss after the final selection. The inclusion criteria were female students in the junior high schools, living in Qazvin city, interested in cooperation, and without any mental illnesses. The exclusion criteria were reluctance to cooperate, incomplete questionnaires, illness, and migration.

In the current study, subject-related ethical considerations were observed. These considerations were as follows: 1. the subjects expressed their consent to participate in the study in writing, prior to the beginning of the study; 2. they were informed about

the subject and methods of the study; 3. the researcher undertook to protect their private and personal information; 4. the results were interpreted for them; 5. they were presented with the necessary instructions required to complete the questionnaire; 6. participation in this study did not entail any financial burden for them; 7. the research had no incompatibility with the religious and cultural norms of the subjects and society.

2.1. Instruments

We employed the followings for data collection: Child Trauma Questionnaire (14), Bell Object Relations Inventory (15), Leichsenring Borderline Personality Disorder questionnaire (16), and Klonsky & Glenn Self-harm Behavior questionnaire (17).

Child Trauma Questionnaire (CTQ): The Childhood Trauma Questionnaire (14) is a retrospective, self-report measure which allows a concise yet valid and authentic assessment of traumatic experiences in childhood; in particular, childhood experiences associated with child abuse or neglect by those around are well assessed by this questionnaire. Cases in which the child may have been abused or neglected comprise four components: physical abuse, emotional abuse, along with physical neglect, and emotional neglect aspects of the child-rearing environment, which should also be considered as the factors that may have been neglected. The CTQ was used for both adults and adolescents. This questionnaire consists of 53 items adjusted according to the five following factors: physical abuse, emotional abuse, physical neglect, emotional neglect and sexual abuse. We utilized a five-point Likert scale for determining the answers. Due to the multiplicity of experiences, the answers are set to the range of 1="never true" to 5="very often true". 10 to 15 minutes is enough to answer the questions. This questionnaire can be implemented in individual or group sessions. Each subscale is characterized by five questions. In this case, the range of scores of the questions is from 5 to 25 and the scores are categorized in four groups: none to low trauma exposure, low to moderate trauma exposure, moderate to severe trauma exposure, and severe to extreme trauma exposure for each scale. Drug or alcohol-dependent patients (N=286) were given the CTQ as part of a larger test group. The CTQ revealed a Cronbach's alpha of 0.95 for the total scale. The CTQ also revealed a good test-retest reliability for a subgroup (N=40) over a 2- to 8-month interval, with an intraclass correlation for the total scale of 0.88. The CTQ subscale scores have test-retest reliability coefficients ranging from 0.79 to 0.86, and internal consistency coefficients

ranging from 0.66 to 0.92 across the initial validation samples (14). The Persian version of CTQ proved a high internal consistency (Cronbach's $\alpha=0.65-0.91$) and acceptable test-retest reliability (18). In the study by Chegeni and co-workers (19), the CVI and CVR were measured for each item. The lowest and highest CVR were 0.60 and 0.84, respectively. Thus, for all the items, CVR was higher than the acceptance level (0.62). The total CVR for the whole questionnaire was 0.94. The lowest and highest CVI were 0.80 and 0.75, respectively. All the items were adequate in terms of CVI (higher than 0.77) and no items were removed. The total CVI (the mean of CVI of all the items) was 0.84. In order to identify the validity of the questionnaire, Mikaeili and Zamanloo (20) used the factor analysis method. They observed that the obtained factors were in line with the subscales of the questionnaire. In this study, as in the paper by Mikaeili and Zamanloo, the questions concerning sexual harassment were removed due to cultural sensitivities. A total of 40 items were used to determine violence. In another study, the reliability coefficient of this questionnaire was determined with Cronbach's alpha method for total Child Trauma, emotional violence, physical violence, emotional negligence, and physical negligence to be 0.91, 0.87, 0.85, 0.70, and 0.75, respectively (21).

Object Relations Inventory: This questionnaire was developed by Bell (15). It contains 45 items scored as "yes" or "no". It measures the four factors of alienation, insecure attachment, egocentricity, and social inadequacy. The reliability coefficients of the four-week and thirteen-week retest reliability coefficients of these sub-scales were reported by Bell to be in the range of 0.90, 0.58, 0.81, and 0.65, respectively (15). Simultaneous validity of this scale was also confirmed by its high correlation with the Minnesota Multiphasic Personality Inventory (MMPI) and the Millon Clinical Multiaxial Inventory (MCMI). The initial versions of this tool demonstrated a high content validity of separate items (I-CVI range: 0.50 to 1.00) and over the average overall content validity of the PEQ (S-CVI/UA=0.63; S-CVI/Ave=0.91). Among the items, 13 had a CVR of 1.00 and the rest had the following scores: two: 0.67, seven: 0.66, four: 0.33, five: 0.00, three: 0.33, and one: 0.66. The average CVR value was 0.53 (22). The reliability of the questionnaire using test-retest within an interval of 21 weeks for delusion and uncertain perception subscales was 0.78 and 0.65, respectively, and that for the rest ranged between these two numbers. Additionally, Cronbach's alpha for the subscales ranged from 0.66 for social disability to 0.82 for alienation. Using Cronbach's alpha coefficient, Robenzadeh and

colleagues (23) determined the reliability coefficient of the mentioned inventory to be 0.78. In the study conducted by Ahmadi and et al. (24), Cronbach's alpha coefficient was reported to range between 0.75 and 0.79.

Borderline Personality Disorder Questionnaire:

This questionnaire is a 53-item questionnaire designed by Leichsenring (16) to be responded with yes / no. The items measure the symptoms over a period of one week and include all the nine criteria of BPD defined in the DSM-5. Leichsenring reported its retest reliability as 0.73. The validity and reliability of this questionnaire was reported by Levy (25) as desirable. Moreover, the results of a study conducted by Shadara and co-workers (26) demonstrated that the questions used in the questionnaire are useful, obvious, and relevant. In this study, we also examined the validity of the questionnaire, the results of which revealed the content validity for all the subscales ($CVR > 0.7$). In addition, we established necessary and sufficient conditions for construct validity. This scale also shows the desirable internal consistency (Cronbach's alpha is 0.75). Herein, the Cronbach's alpha value was obtained to be 0.84. The reliability of the questionnaire was assessed by Pourshahriar and colleagues (18) and the value was reported as 0.8.

Self-harm Behavior Questionnaire: This 39-item questionnaire was developed by Klonsky and Glenn (17). This questionnaire was then used to evaluate 13 functions of self-harm behaviors, which have been confirmed in empirical and theoretical studies. These 13 functions are classified under two general factors, called intrapersonal and interpersonal functions. The intrapersonal factor comprises self-focused functions, such as effect regulation, self-punishment, breaking out of dissociation, preventing suicide, and emphasizing one's suffering. The interpersonal factor is composed of self-focused functions, such as interpersonal influence, peer bonding, revenge, self-care, sensation seeking, and toughness. The scores were rated at a three-point Likert scale (0=completely irrelevant, 1=partially relevant, and 2=completely relevant) (17). Using Cronbach's alpha, the internal consistency scores of the intrapersonal and interpersonal functions were measured to be 0.89 and 0.75, respectively (17). In a study in Iran, conducted by Ataei and et al. (27), the total mean of the content validity ratio (CVR) and content validity index (CVI) were 0.88 and 0.95, respectively. Moreover, the correlation between K10 and GHQ-12 was meaningful ($r=0.63$, $P < 0.001$). In the research conducted by Saffarinia and colleagues (28), the reliability of this list was calculated to be 0.76. Furthermore, the face and content validity

of this questionnaire was affirmed by Saffarinia and colleagues in the aforementioned study. Peymannia and co-workers (29) used Cronbach's alpha method for measuring the reliability of this questionnaire as 0.71. In a study by Khanipour and co-workers (30), a Cronbach's alpha coefficient of 0.94 was reported for this questionnaire.

After coordination with Education General Office of Qazvin province, the borderline personality disorder questionnaire was distributed among the female students of junior high schools. The students who scored higher than the cut-off point in the questionnaire were identified. Subsequently, the questionnaires concerning the Object Relations Inventory, emotional abuse scale, and self-harm behavior were distributed among them. Mean \pm Standard deviation (SD) and number (percentage) were used to report descriptive analysis as applicable. To determine the distribution, we employed Kolmogorov-Smirnov test; it was found that the data were normally distributed. Inferential statistical analysis was performed with Pearson correlation coefficient and Step-wise regression using SPSS version 25. The four-step Baron and Kenny method was utilized to determine the mediating role.

In Baron and Kenny method, the relationship between a mediating variable and an independent and dependent variable can be considered once the requirements between the relationships of the variables are met. The assumptions of the mediator models included four conditions; if all of them are met, one variable will be a complete mediator and if the first three conditions are met, the variable will be a partial mediator. These conditions are as follows:

- 1) The relationship between the independent variable and the dependent one is significant;
- 2) The relationship between the independent variable and mediator variable is significant;
- 3) The relationship between the mediator variable and dependent variable is significant when the independent variable and mediator are entered simultaneously to predict the dependent variable in the regression equation;
- 4) If the relationship between the independent variable and the dependent variable is fully explained by the mediating variable, the relationship between the independent variable and the dependent one is reduced to zero.

3. Results

A total of 285 female students (13.36 ± 0.92 years) of junior high schools of Qazvin participated in this study. The highest frequency belonged to the students in grade 8 ($n=110$), grade 9 ($n=75$), and grade 7 ($n=100$), respectively. The majority of the students were from three- and four-member families and nearly 70% of the samples were 13 to 14 years old (Table 1).

The mean \pm SD scores of the total sample (285 students) in the variables of physical abuse, emotional abuse, physical neglect, emotional neglect, object relations, borderline personality disorder, and self-harm were 43.28 ± 8.98 , 51.56 ± 8.92 , 65.96 ± 11.65 , 41.35 ± 8.08 , 17.83 ± 5.98 , 5.70 ± 5.94 , and 25 ± 15.04 , respectively (Table 2).

The study indicated the bivariate correlation of emotional abuse with object relations, along with the relationship of borderline personality and self-harm (with the correlation coefficients of $r=-0.19$, $P=0.04$, $r=-0.23$, $P=0.037$, and $r=-0.10$, $P=0.048$, respectively). Moreover, the bivariate correlation between BPD and SIBs indicated a positive correlation of $r=0.47$, $P=0.009$, meaning that an increase in personality disorder will increase self-harm behaviors (Table 3).

To determine the mediating role, we compared regression coefficient of child emotional abuse and self-harm behaviors in the fourth stage with the presence

of object relations ($P=0.046$ and $\beta=-0.08$) with two-variable regression coefficient in the first stage and without the presence of object relations ($P=0.046$ and $\beta=-0.10$). The results showed that the beta coefficient decreased in the fourth stage and was not significant, but according to the value of the Sobel test, the reduction in regression coefficient was not significant ($P=0.056$). Thus, the mediating role of object relations in the relationship between emotional abuse and self-harm is minor (Table 4).

The analysis of the mediating role of object relations in the relationship between BPD and self-harm also showed the insignificant regression coefficient of these two in the fourth stage with the presence of object relations ($P=0.09$ and $\beta=0.10$). This analysis also indicated that the reduction in regression coefficient is significant according to Sobel test ($P=0.003$). Therefore, object relations play a full mediating role in the relationship between BPD and self-harm (Table 5).

4. Discussion

The main hypothesis of the present study was that BPD and emotional child abuse explain self-harm behaviors in adolescents through the mediation of object relation. The results of the analysis revealed that BPD and emotional child abuse accounted for 0.28 and -0.10% of the variance of adolescents' self-harm

Table 1: Basic characteristics of the participants

Variables	N (%)
Age, year	
12	30 (10.52)
13	105 (36.84)
14	102 (35.78)
15	48 (16.86)
Education (middle school)	
7th grade	100 (35.8)
8th grade	110 (38.52)
9th grade	75 (26.31)
Household number	
2	5 (1.75)
3	46 (16.14)
4	160 (56.15)
5	55 (19.29)
6 \leq	19 (6.66)
Father's job	
Unemployed	15 (5.26)
Freelancer	110 (38.59)
Employed	77 (27.01)
Other	83 (29.13)

Table 2: Descriptive statistics of the variables

Variables	Mean \pm SD
Age	
Father	42.96 \pm 5.77
Mother	38.74 \pm 4.92
Student	13.36 \pm 0.92
Emotional abuse	
Emotional abuse	51.56 \pm 8.92
Physical abuse	43.28 \pm 8.98
Emotional neglect	41.35 \pm 8.08
Physical neglect	65.96 \pm 11.65
Object relations	
Insecure attachment	5.12 \pm 2.26
Social inadequacy	3.37 \pm 1.82
Alienation	6.15 \pm 1.67
Egocentricity	3.17 \pm 2.3
Total	17.83 \pm 5.98
Bipolar Personality Disorder	
Disappointment	1.48 \pm 1.94
Impulsivity	3.01 \pm 2.33
Stress-related dissociative and paranoid symptoms	1.2 \pm 1.48
Total	5.7 \pm 5.94
Self-harm	25 \pm 15.04

Table 3: Correlation matrix of the study variables

Variable		1	2	3	4	5	6	7	8	9	10	11
1	Pearson Correlation	1										
	Sig. (2-tailed)	-										
2	Pearson Correlation	-0.21	1									
	Sig. (2-tailed)	0.041										
3	Pearson Correlation	-0.15	0.48	1								
	Sig. (2-tailed)	0.046	0.013									
4	Pearson Correlation	-0.06	0.42**	0.24	1							
	Sig. (2-tailed)	0.680	0.015	0.04								
5	Pearson Correlation	-0.24	0.44	0.49	0.23	1						
	Sig. (2-tailed)	0.04	0.014	0.012	0.04							
6	Pearson Correlation	-0.19	0.81	0.74	0.60	0.25	1					
	Sig. (2-tailed)	0.042	0.001	0.001	0.001	0.039						
7	Pearson Correlation	-0.23	0.38	0.39	0.25	0.34	0.56	1				
	Sig. (2-tailed)	0.04	0.023	0.023	0.039	0.022	0.001					
8	Pearson Correlation	-0.23	0.44	0.40	0.34	0.30	0.62	0.62	1			
	Sig. (2-tailed)	0.04	0.013	0.014	0.025	0.03	0.001	0.001				
9	Pearson Correlation	-0.11	0.33	0.29	0.30	0.35	0.48	0.52	0.61	1		
	Sig. (2-tailed)	0.047	0.025	0.031	0.031	0.024	0.012	0.001	0.001			
10	Pearson Correlation	-0.23	0.46	0.43	0.35	0.24	0.66	0.84	0.90	0.79	1	
	Sig. (2-tailed)	0.04	0.010	0.011	0.025	0.04	0.001	0.001	0.001	0.001		
11	Pearson Correlation	-0.10	0.38	0.35	0.24	0.25	0.47	0.36	0.45	0.37	0.47	1
	Sig. (2-tailed)	0.047	0.023	0.025	0.04	0.039	0.013	0.024	0.012	0.014	0.013	

1=emotional abuse, 2=insecure attachment, 3=social inadequacy, 4=alienation, 5=egocentricity, 6=total object relations, 7=disappointment, 8=impulsivity, 9=stress-related dissociative and paranoid symptoms, 10=total BPD, 11=self-harm

Table 4: Analysis of the mediating role of object relations in the relationships between childhood self-harm and emotional abuse

Level	Predictive variables	Dependent variables	R ²	F	β	P value
1	Emotional abuse (No presence Object relations)	Self-harm	0.008	3.32	-0.10	0.046
2	Emotional abuse	Object relations	0.036	18.90	-0.19	0.004
3	Object relations	Self-harm	0.062	19.36	0.47	0.001
4	Emotional abuse (The presence Object relations)	Self-harm	0.006	2.45	-0.08	0.86

Table 5: Analysis of the mediating role of object relations in the relationship between BPD and self-harm

Level	Predictive variables	Dependent variables	R ²	F	β	P value
1	BPD (the absence of object relations)	Self-harm	0.078	22.34	0.28	0.003
2	BPD	Object relations	0.435	29.86	0.66	0.001
3	Object relations	Self-harm	0.220	25.14	0.47	0.001
4	BPD (the presence of object relations)	Self-harm	0.01	3.01	0.10	0.09

BPD: Bipolar Personality Disorder

behaviors, respectively. Furthermore, with the entry of object relation into the relationship of BPD and emotional child abuse with self-harm behaviors, these relationships lost their significance. This implied that object relation plays a mediating role in the relationship between the two variables. Therefore, the general hypothesis of the research was confirmed. This finding is in line with those reported by Zaki and colleagues (31). They found that emotion regulation strategies can predict self-harm actions in people with BPD. Alilou

and colleagues (32) also reported emotion regulation to be associated with BPD, which is inversely correlated with reappraisal.

The study revealed that object relations have an impact on BPD. Stern and co-workers (33) regarded object relations as the core in BPD and reported that it plays a remarkable role in the psychopathology of BPD.

The findings also confirmed the relationship

between emotional abuse and object relations. Huh and colleagues (34) also regarded childhood emotional abuse as a factor related to self-criticism, which can predict alcohol consumption in adulthood. Mojahed and colleagues (35) observed that childhood emotional abuse is an effective factor in a person's self-perception, which may lead to psychological problems. The indirect effect of emotional abuse on BPD and self-harm is another finding of the present study, which is in line with the results of Pourshahriar and colleagues (18).

The obtained results can be explained based on several approaches. The first explanation can be deduced from the first and second paths of Suyemoto self-harm model of development. According to the first path of this model, SIBs are rooted in the first injuries of development. In fact, by internalizing emotional and physical abuse, children inefficiently and hostilely cultivate the first defective representations of themselves and the outside world, a concept that closely overlaps with Bowlby's "Internal Working Model of Attachment". According to this pattern, the quality of the mother-child relationship or the first interactions with the source of attachment is encoded as representations or internal models and influences one's interpersonal behaviors during adulthood. According to this pattern, the quality of the mother-child relationship or the first interactions with the source of attachment is encoded as representations or internal models and influences one's interpersonal behaviors during adulthood (36).

The impaired object relations cause an individual to get new experiences and establish external relationships in the form of an "externalization" process, which can lead to dysfunctional personality structures, such as BPD, as well as unpleasant consequences, like self-harm behavior. It has been shown that people with safe first relations have a positive image of themselves and others and perceive themselves as valuable, and others as accountable (37). Therefore, it can be expected that having positive and stable object relations can pave the way for adaptive interactions, which, along with problem solving and functional emotional regulation, is associated with mature behaviors.

According to the second path of the Developmental Model, self-harm is the result of the first abuses to the emotional system and regulation of an individual. A study indicated that child sexual abuse decreases the size of the amygdala (16%) and hippocampus (8%) compared to the control group, making the noradrenaline neural pathways of these individuals hypersensitive and resulting in extreme reactions

to life events and self-harm behaviors. Therefore, according to the results, emotional abuse not only leads to the formation of dysfunctional object relations (first path), but also makes individuals prone to self-harm behaviors by making their emotional structures vulnerable (second path), or may lead to their tendency to use drugs or alcohol in order to regulate their external emotions (38), which are behaviors that are more common in individuals with borderline disorder.

Bermas and Sabet (39) found that childhood injuries exert a direct impact on object relations may cause suicidal ideation in individuals. The relationship between object relations and suicide can be related to individuals' attempts to eliminate their internalized negative objects or unpleasant aspects. Therefore, it may be inferred that self-harm behaviors in individuals are the tendencies to eliminate unpleasant internal objects.

The findings regarding the indirect impact of emotional abuse on self-harm behaviors were not consistent with some other studies. One study reported that ECA was associated with self-criticism and suggested that childhood abuse is correlated with suicidal behaviors (40). This inconsistency may be due to the fact that emotional abuse cannot have the ability to directly affect self-harm behaviors; this effect can be mediated and influenced by some other mechanisms, such as object relations or BPD. Pourshahriar and colleagues (18) found that emotional abuse does not have a direct impact on borderline symptoms; in fact, it affects borderline personality mediated by attachment styles.

The direct effect of BPD on self-harm behaviors was another result of the present study, which is inconsistent with some previous findings. Self-harm behavior is known to be a common symptom of BPD (23); thus, Huh and co-workers reported self-harm as one of the factors related to borderline personality. Moreover, it has been suggested that 15% of self-harm behaviors are the consequence of BPD (34). In patients suffering from borderline disorder, self-harm behaviors may stem from experiencing negative emotions, such as anger, stress, anxiety, and self-blame.

Moreover, due to the internalization of impaired object relations and the vulnerability of the individuals' emotional system, the experience of negative emotions causes them not to have proper problem-solving methods to reduce interpersonal tensions or effective strategies to deal with and regulate their emotions. This is why some consider self-harm as a dysfunctional way

to moderate and relieve one's emotions (17).

This study faced certain limitations, which indicates that its findings should be generalized to similar communities with caution. Some of these limitations include the large number of questions of the questionnaires, gender limitation of the research community (females only), limitation of the data collection tool (questionnaire), and the COVID-19 pandemic.

5. Conclusion

It can be concluded that ECA harms the individual's object relations and emotional system, thereby causing the internalization of dysfunctional patterns. Borderline personality was also found to be influential on self-harm both directly and through object relations.

Ethical Approval

The present study is in line with the Helsinki Declaration. Furthermore, conducting this research, the ethical instructions of Medical and Health Research of the Ministry of Health, Treatment, and Medical Education and the Ministry of Science, Research, and Technology of Iran have been observed. Prior to conducting the current work, the researchers obtained the approval of the Ethics Review Committee of Zanzan University of Medical Sciences with the code of IR.IAU.Z.REC.1399.029. The researchers herein complied with all the current Iranian laws and regulations. Also, all the subjects in this study expressed their informed consent in writing before participation.

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References

1. Dubovsky AN, Kiefer MM. Borderline personality disorder in the primary care setting. *Med Clin North Am.* 2014;98(5):1049-64. doi: 10.1016/j.mcna.2014.06.005. PubMed PMID: 25134872.
2. Blum K, Gold M, Demetrovics Z, Archer T, Thanos PK, Baron D, et al. Substance use disorder a bio-directional subset of reward deficiency syndrome. *Front Biosci.* 2017;22(9):1534-48. doi: 10.2741/4557. PubMed PMID: 28410131.
3. Kapur N, Cooper J, O'Connor RC, Hawton K. Non-suicidal self-injury v. attempted suicide: new diagnosis or false dichotomy? *Br J Psychiatry.* 2013;202(5):326-8. doi: 10.1192/bjp.bp.112.116111. PubMed PMID: 23637107.
4. Bentley KH, Nock MK, Barlow DH. The Four-Function Model of Nonsocial Self-harm: Key Directions for Future Research. *Clinical Psychological Science.* 2014;2(5):638-56.
5. Hawton K, Bergen H, Kapur N, Cooper J, Steeg S, Ness J, et al. Repetition of self-harm and suicide following self-harm in children and adolescents: Findings from the Multicentre Study of Self-harm in England. *J Child Psychol Psychiatry.* 2012;53(12):1212-9. doi: 10.1111/j.1469-7610.2012.02559.x. PubMed PMID: 22537181.
6. Murphy CM, Hoover SA. Measuring emotional abuse in dating relationships as a multifactorial construct. *Violence Vict.* 1999;14(1):39-53. PubMed PMID: 10397625.
7. Ngai F-W, Chan SW-C. Learned resourcefulness, social support, and perinatal depression in Chinese mothers. *Nurs Res.* 2012;61(2):78-85. doi: 10.1097/NNR.0b013e318240dd3f. PubMed PMID: 22307141.
8. McEvoy PM, Nathan P, Norton PJ. Efficacy of transdiagnostic treatments: A review of published outcome studies and future research directions. *Journal of Cognitive Psychotherapy.* 2009;23(1):20-33. doi: 10.1891/0889-8391.23.1.20.
9. Mesgarian F, Azad Fallah P, Farahani H, Ghorbani N. Object Relations and defense mechanisms in social anxiety. 2017;14(53):3-14. Persian.
10. Handelzalts JE, Fisher S, Naot R. Object relations and real life relationships: A cross method assessment. *Scand J Psychol.* 2014;55(2):160-7. doi: 10.1111/sjop.12102. PubMed PMID: 24506278.
11. Metzger JA. Adaptive defense mechanisms: function and transcendence. *J Clin Psychol.* 2014;70(5):478-88. doi: 10.1002/jclp.22091. PubMed PMID: 24677248.
12. PourHosein R, Ezzati N, Gholamali Lavasani M. Study of the efficacy of "self-review method" of suicidal thoughts and anger on female delinquent adolescents. *Journal of Psychological Science.* 2016;15(57):6-19. Persian.
13. Sansone RA, Gaither GA, Songer DA. The relationships among childhood abuse, borderline personality, and self-harm behavior in psychiatric inpatients. *Violence Vict.* 2002;17(1):49-55. doi: 10.1891/vivi.17.1.49.33636. PubMed PMID: 11991156.
14. Bernstein DP, Stein JA, Newcomb MD, Walker E, Pogge D, Ahluvalia T, et al. Development and validation of a brief screening version of the Childhood Trauma

- Questionnaire. *Child Abuse Negl.* 2003;27(2):169-90. doi: 10.1016/s0145-2134(02)00541-0. PubMed PMID: 12615092.
15. Bell MD. *Bell Object Relations and Reality Testing Inventory: BORRTI*: Western Psychological Services; 2007.
 16. Leichsenring F. Development and first results of the *Borderline Personality Inventory*: A self-report instrument for assessing borderline personality organization. *J Pers Assess.* 1999;73(1):45-63. doi: 10.1207/S15327752JPA730104. PubMed PMID: 10497801.
 17. Klonsky ED, Glenn CR. Assessing the functions of non-suicidal self-injury: Psychometric properties of the *Inventory of Statements About Self-injury (ISAS)*. *J Psychopathol Behav Assess.* 2009;31(3):215-219. doi: 10.1007/s10862-008-9107-z. PubMed PMID: 29269992; PubMed Central PMCID: PMC5736316.
 18. Pourshahriar H, Alizade H, Rajaeinia K. Childhood Emotional Abuse and Borderline Personality Disorder Features: The Mediating Roles of Attachment Style and Emotion Regulation. *IJPCP.* 2018;24(2):148-63. Persian.
 19. C Chegeni M, Haghdoost A, Shahrababaki ME, Shahrababaki PM, Nakhaee N. Validity and reliability of the Persian version of the *Adverse Childhood Experiences Abuse Short Form*. *J Educ Health Promot.* 2020;9:140. doi: 10.4103/jehp.jehp_15_20. PubMed PMID: 32766325; PubMed Central PMCID: PMC7377151.
 20. Mikaeili N, Zamanloo Kh. A Study Of The Prevalence Of Child Abuse And Its Prediction From Parents' Depression And Anxiety, Attachment Styles And Mental Health Of Their Adolescent Boys. *Psychology of Exceptional Individuals.* 2012;2(5):145-66. Persian.
 21. Enayat N, Yaghoubi Doust M. Relationship Between Marital Conflict And Domestic Violence Against Girls. *Sociology of Women.* 2012;3(11):1-29. Persian.
 22. Mesgarian F, Azadfallah P, Farahani H, Ghorbani N. Psychometric properties of *Bell object relations inventory (BORI)*. *Clinical Psychology and Personality.* 2020;15(2):193-204. doi: 10.22070/cpap.2020.2828. Persian.
 23. Robenzadeh SH, Rasoolzadeh Tabatabaei K, Ghorbani N, Abedin AR. Investigation of the Role of Self-Knowledge, Commitment, and Object Relations in Adolescents' Identity Formation. *Sadra Medical Sciences.* 2016;4(4):267-76. Persian.
 24. Ahmadi F, Sarafraz MR, Rezaei AK. The Diagnostic Role of Object Relations and Defensive Mechanisms in Patients with Opioid abuse, Stimulant Users and Normal Individuals. *etiadpajohi.* 2020;14(55):169-92. Persian.
 25. Levy KN. The implications of attachment theory and research for understanding borderline personality disorder. *Dev Psychopathol.* 2005;17(4):959-86. doi: 10.1017/s0954579405050455. PubMed PMID: 16613426.
 26. Shadara Z, Dehghani M, Heidari M, Mahmoud Aliloo M. Distress Tolerance, Impulsivity and Aggression: the Role of Emotional Dysregulation and Reward Sensitivity in Individuals with Borderline Personality Disorder Features. *PCP.* 2021;9(1):37-50. doi: 10.32598/jpcp.9.1.727.1.
 27. Ataei J, Shamshirgaran SM, Iranparvar M, Safaeian A, Malek A. Reliability and validity of the Persian version of the *Kessler psychological distress scale* among patients with type 2 diabetes. *J Anal Res Clin Med.* 2015;3(2):99-106. doi: 10.15171/jarcm.2015.015.
 28. Saffarinia M, Nikoogoftar M, Damavandian A. The Effectiveness of Dialectical Behavior Therapy (DBT) on Reducing Self-Harming Behaviors in Juvenile Offenders in Tehran's Juvenile Correction and Rehabilitation Centre. *Clinical Psychology Studies.* 2014;4(15):141-58. Persian.
 29. Peymannia B, Hamid N, Mehrabizadeh honarmand M, Mahmoudalilu M. The Effectiveness of Dialectic Behavioral Therapy-Family and child Skills Training (DBT-FST) on Impulsivity and quality of life in girls with self-harm behaviors. *Iranian Journal of Rehabilitation Research.* 2018;4(3):8-17. Persian.
 30. Khanipour H, Borjali A, Falsafinejad MR. Non-suicidal Self-injury in delinquent adolescents and adolescents with history of childhood maltreatment: motivation and suicide probability. *Psychology of Exceptional Individuals.* 2016;6(21):59-79. Persian.
 31. Zaki LF, Coifman KG, Rafaei E, Berenson KR, Downey G. Emotion differentiation as a protective factor against nonsuicidal self-injury in borderline personality disorder. *Behav Ther.* 2013;44(3):529-40. doi: 10.1016/j.beth.2013.04.008. PubMed PMID: 23768678.
 32. Mahmoud Alilou M, Hashemi T, Bairami M, Bakhshipour A, Sharifi MA. Investigating the Relationship between Childhood Abuse, Primary Loss and Separation, and Emotional Disorder with Borderline Personality Disorder. *Journal of Psychological Achievements.* 2014;21(2):65-88. Persian.
 33. Stern BL, Caligor E, Hörz-Sagstetter S, Clarkin JF. An Object-Relations Based Model for the Assessment of Borderline Psychopathology. *Psychiatr Clin North Am.* 2018;41(4):595-611. doi: 10.1016/j.psc.2018.07.007. PubMed PMID: 30447727.
 34. Huh HJ, Kim KH, Lee H-K, Chae J-H. The relationship between childhood trauma and the severity of adulthood depression and anxiety symptoms in a clinical sample: The mediating role of cognitive emotion regulation strategies. *J Affect Disord.* 2017;213:44-50. doi: 10.1016/j.jad.2017.02.009. PubMed PMID: 28189964.
 35. Mojahed A, Rajabi M, Khanjani S, Basharpour S.

- Prediction of self-injury behavior in men with borderline personality disorder based on their symptoms of borderline personality and Alexithymia. *Int J High Risk Behav Addict*. 2018;7(3):e67693. doi: 10.5812/ijhrba.67693.
36. Tang X, Tang S, Ren Z, Wong DFK. Prevalence of depressive symptoms among adolescents in secondary school in mainland China: A systematic review and meta-analysis. *J Affect Disord*. 2019;245:498-507. doi: 10.1016/j.jad.2018.11.043. PubMed PMID: 30439677.
37. Griffin DW, Bartholomew K. Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology*. 1994;67(3):430-445. doi: 10.1037/0022-3514.67.3.430.
38. Goldstein CP. Suicide attempts in traumatized children and adolescents: An implicit investigation of affect regulation and object relations: Adelphi University; 2016.
39. Zarrati I, Bermas H, Sabet M. Correlation between Childhood Trauma and Suicidal Ideation by Mediation of Mental Pain and Object Relations. *Journal of Health Promotion Management*. 2020;9(3):34-48. Persian.
40. Stead VE, Boylan K, Schmidt LA. Longitudinal associations between non-suicidal self-injury and borderline personality disorder in adolescents: A literature review. *Borderline Personality Disorder and Emotion Dysregulation*. 2019;6(1):1-12.