

Investigating the Mediating role of Emotion Regulation Difficulty in the Relationship between Traumatic Childhood Experiences and Self-Criticism in Adulthood

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Abstract

Introduction: This study aimed to investigate the mediating role of emotion regulation difficulty in the relationship between traumatic childhood experiences and self-criticism in adulthood.

Method: The design of the present study was descriptive-correlational and structural equation modeling. The statistical population of this study included Iranian adults who lived in Mashhad in 2021. Among them, 331 individuals were selected as the research sample through the convenient sampling method. Data were collected online using the Levels of Self Criticism Scale by Thompson and Zarov in 2004 (LOCS), the Childhood Trauma Questionnaire by Bernstein et al. in 2003 (CTQ), and the Gratz and Roemer Difficulties in Emotion Regulation Scale by Gratz and Roemer in 2004 (DERS). Data analysis was performed with the Pearson correlation method and structural equation.

Results: Findings showed that there was a significant correlation ($P < 0.01$) between traumatic childhood experiences and emotion regulation difficulty with self-criticism. Also, the results of structural equation modeling showed that the model of the present study had a good fit and the mediating role of emotion regulation difficulty in the relationship between traumatic childhood experiences and self-criticism ($\chi^2/df \leq 3$ and significance level of 0.001) was significant.

Conclusion: According to the findings of this study, traumatic childhood experiences can predict and influence self-criticism by interacting with the emotion regulation difficulty.

Keywords: Traumatic Childhood Experiences, Emotion Regulation Difficulty, Self-criticism

Introduction

Self-criticism refers to a set of behaviors in which a person considers his or her flaws and shortcomings to be very noticeable and constantly blames himself or herself. Self-criticism targets a variety of human characteristics, including physical features, behavioral traits, inner thoughts and feelings, and personality and thinking traits. When the person is unable to achieve the necessary success in situations in which he or she has invested a lot of mental energy, whether in a relationship, in school, or in professional and daily life, he or she points the finger of blame at himself or herself and begins to hurt his or her mental organization [1]. This process is very painful and causes deep damage to the psyche. These experiences target and destroy the core of the individual's self-knowledge and motivation to progress [2]. High levels of self-criticism are associated with a variety of psychological disorders that can lead to anger, anxiety, social avoidance, delinquency, personality disorders, interpersonal problems, and ultimately social incompatibility [3].

A variety of factors, including biological and psychological factors, are involved in the

development of self-criticism. From a psychological perspective, factors such as the type of upbringing by parents, family dynamics, the formation of early maladaptive schemas, and traumatic childhood experiences have been considered [4]. Traumatic childhood experiences refer to any type of neglect or physical, mental, sexual, or social abuse that endangers the child's safety and health. During childhood, when a person is most vulnerable, these experiences can cause neurobiological changes in the person and increase the likelihood of developing problems such as self-criticism in adulthood [5, 6]. In this context, Daly and Willoughby's study showed that traumatic childhood experiences, particularly parental neglect or criticism, predicted a very high frequency of self-criticism in adulthood [7]. Similarly, in Naismith et al.'s study, results showed that childhood abuse and discrediting were significantly related to decreases in feelings of self-compassion and also to increases in feelings of shame and self-criticism [4].

On the other hand, the role of emotion regulation in the development and maintenance of many psychological problems, including self-criticism, is now well established. Emotion regulation means the ability to monitor, understand, and adjust to emotional situations [8]. Properly applied, these strategies mean that people can avoid negative or undesirable experiences and better control their emotions, even when the stimuli are intense [9]. Numerous studies have examined the relationship between emotion regulation and self-criticism. A 2021 study by Gadassi Polack et al. found that difficulties in emotion regulation and self-criticism are related and weaken interpersonal relationships [10]. The results of a 2021 study by Martínez-Sanchis et al. also showed that difficulty in emotion regulation may predict psychological injury through the mediating role of self-criticism [11].

A very important point is the role of traumatic childhood experiences in the development of self-criticism and emotion regulation problems. Traumatic childhood experiences lead to enormous difficulties in understanding one's own identity. These problems include limited awareness of one's inner experience (e.g., feelings, desires, needs, and values) and the experience that allows one to develop an understanding of oneself as separate from others. More specifically, this problem leads to identity confusion and identity fragmentation, feelings of guilt as well as self-blame for the child's mistreatment by others, and ultimately a pervasive perception of oneself as worthless, powerless, and victimized [12]. These problems represent a central set of underlying aspects responsible for regulating self-esteem through skills such as emotion regulation, tolerance of loneliness, tolerance of criticism, self-soothing, and an understanding of personal agency [13].

As mentioned earlier, according to the literature of the present study, traumatic childhood experiences play an important role in the development of the emotion regulation difficulty and self-criticism components. Moreover, difficulties in emotion regulation may play a crucial role in the development and maintenance of self-criticism.

On the other hand, it should be noted that the relationship between variables may be affected by the presence of a third variable as a mediating variable; for this reason, regression analysis is no longer the answer to such relationships, and Structural Equation Modeling (SEM) should be used. The SEM is a comprehensive statistical approach for testing hypotheses about the direct and indirect effects of observed and latent variables.

The research conducted by the researchers of the present study shows that the interactive effect of traumatic experiences in childhood and the difficulty of emotion regulation in self-criticism has not been investigated in any research, so these variables have been combined in the present study. Therefore, the main objective of this study was to investigate the mediating role of emotion regulation difficulty in the relationship between self-criticism and traumatic experiences in childhood through SEM. The sub-objectives of the current research are to answer the following questions: Can traumatic childhood experiences predict the difficulty of emotion regulation and self-criticism? And can difficulty of emotion regulation also be a predictor of self-criticism?

Considering the great importance of the self-criticism variable and accurately identifying the factors that influence its emergence and continuity, as well as examining the contribution and effect of each variable and the overt and covert relationships between them, the results of this study may be useful to better understand the factors that affect the emergence and persistence of self-criticism and also to prevent it by educating parents and families.

Method

The design of the present study was descriptive-correlational and SEM. The statistical population of this study included all Iranian adults aged 18 to 50 years (Residents of Mashhad) in 2021 who had good access to the Internet and cyberspace at the time of sampling. Based on the type of statistical method used in the study, the calculation of 25% drop, the effect size of 0.15, and the test power of 0.95 by G-power software, the minimum sample size was 280 individuals. However, to increase the similarity of the present sample to the target population, improve the test power, and increase the generalizability of the results, 331 individuals were selected as the sample by the convenient sampling method.

To investigate the intervening variables, the variables that could be involved in self-criticism were first identified and were considered as important variables of traumatic experiences in childhood and difficulties in emotion regulation in the study. Furthermore, it was not possible to fully control some variables such as education and gender, however, efforts were made to select the desired sample as much as possible from among the same age and both genders. To reduce the possibility of bias, efforts were made to select the participants from students.

Because this study was conducted at the time of the coronavirus outbreak and in-person access to individuals was not possible, sampling was conducted via an online

questionnaire. Research data were collected from all adults who were interested and volunteered to participate in the study. This was done via an online questionnaire (Google Form between September and October 2021) that was shared on Instagram, Telegram, and WhatsApp. The criteria for inclusion in the study based on the individual's self-report included at least a middle school diploma, no acute medical or psychiatric problems, and willingness to participate in the study. The exclusion criteria included incomplete completion of questionnaires. Therefore, the research link was distributed nationwide and was then sent to individuals who expressed interest and also met the necessary criteria for participation in the research to complete the questionnaire whenever they had the opportunity to do so. To maintain the principle of confidentiality and protect the identity of the subjects, the information obtained from the questionnaires was collected without names and addresses and was made available only to those involved in this research. Other considerations made in this study included gaining the subjects' trust to participate in the research and freedom to answer the questionnaires. Structural equation analysis was used to analyze the research data. The data were analyzed using SPSS software version 26 and AMOS version 24. Also, the analysis of the missing data, after identifying them, was done through the "replace with mean" option.

The tools used in this study were as follows:

Demographic Information Form: In this section, personal information including gender, age, level of education, marital status, and a way to reconnect to send research findings were obtained from participants.

Levels of Self Criticism Scale (LOCS): This questionnaire was designed and validated by Thompson and Zarov in 2004 to measure the level of self-criticism of individuals. It measures two levels of internalized self-criticism and comparative self-criticism in individuals. The scale includes 22 items and is scored on a 7-point Likert scale from 1 to 7, so the range of scores obtained for each person in this questionnaire is from 22 to 154. Higher scores on this scale indicate a higher level of self-criticism in the individual [14]. The validity and reliability of this questionnaire were investigated by Thompson and Zarov on a sample of 144 individuals. The Cronbach's alpha obtained for the two subscales of comparative self-criticism and internalized self-criticism was reported to be 0.78 and 0.84, respectively. Moreover, the correlation between the two subscales and the self-esteem scale was -0.66 and -0.52, respectively [14]. The results of Yamaguchi and Kim's 2014 study also showed that the reliability coefficients for the comparative and internalized self-critical components and the total test based on Cronbach's alpha were 0.70, 0.82, and 0.90, respectively [15]. In Iran, the reliability of this scale in the 2006 study by Mousavi and Ghorbani using the Cronbach's alpha method for the internalized self-criticism, comparative self-criticism, and the total test was 0.87, 0.55, and 0.83, respectively. The relationship between the components of the Self-Criticism Scale and the subscales of the Interpersonal Problems Questionnaire was also positive

and significant [16]. In the present study, the Cronbach's Alpha was 0.74 to 0.83 for the components.

Childhood Trauma Questionnaire (CTQ): This scale has been designed and developed by Bernstein et al. in 2003 to measure childhood injury and trauma. The questionnaire is a screening tool to identify individuals with experiences of childhood abuse and neglect and measures five types of childhood abuse (sexual abuse, physical abuse, emotional abuse, and emotional and physical neglect). The Childhood Trauma Scale includes 28 questions, 25 of which are used to assess the main components of the questionnaire and three of which are used to identify individuals who are in denial about their childhood problems [17]. The questionnaire is scored on a five-point Likert scale from 1 to 5. Therefore, the range of the total score that each person receives in the questionnaire is between 25 and 125. High scores on the questionnaire indicate more trauma or injury, and lower scores indicate less injury or childhood trauma. In Bernstein et al.'s study, the Cronbach's alpha coefficient of the questionnaire for a group of adolescents was 0.87, 0.86, 0.95, 0.89, and 0.78 for the dimensions of emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect, respectively. In addition, its simultaneous validity with therapists' assessment of childhood trauma was reported to range from 0.59 to 0.78. In Iran, Ebrahimi et al. reported a Cronbach's alpha of 0.81 to 0.98 for the five components of this questionnaire, and the retest validity was also 0.94 [18]. In the present study, the Cronbach's Alpha was 0.79 to 0.94 for the five components.

Gratz and Roemer Difficulties in Emotion Regulation Scale (DERS): The Difficulties in Emotion Regulation Scale was designed and validated in 2004 by Gratz and Roemer [19]. The original version of this questionnaire consists of 41 items developed to assess difficulties in emotion regulation. This questionnaire contains 36 closed-response questions based on a five-point Likert scale. Each item has five options and the respondent must select one of the phrases that best describes them. This questionnaire consists of six components: 1- Non-acceptance of emotional responses, 2- Difficulty engaging in goal-directed behavior, 3- Impulse control difficulties, 4- Lack of emotional awareness, 5- Limited access to emotion regulation strategies, and 6- Lack of emotional clarity. Factor analysis revealed the existence of six factors. The results show that this scale has a high internal consistency of 0.93 and all six scales have a Cronbach's alpha greater than 0.80 [19]. In a study by Besharat and Bazzazian, Cronbach's alpha coefficients for the components of this questionnaire were reported to be in a range from 0.73 to 0.92, and the retest reliability of this questionnaire was also reported to be between 0.69 to 0.87 [20]. The validity and reliability of the test results were also reported to be favorable and above 0.93 using factor analysis and internal consistency coefficient [19]. Based on Azizi et al.'s report, the Cronbach's alpha of this questionnaire was estimated to be 0.93, indicating good reliability [21]. In the present study, the Cronbach's Alpha was 0.71 to 0.89 for the six components.

Descriptive statistics including mean, frequency, standard deviation, and Pearson correlation were used to analyze research data, and SEM was used to analyze research hypotheses. The data were analyzed using SPSS Version 26 and AMOS software version 24.

Results

The number of participants was 331 and the final analysis was performed on this sample. Among the 331 samples, 68 (20.5%) were male and 263

(79.5%) were female. The age of the subjects ranged from 18 to 50 years, with a mean and standard deviation of 28.75 and 7.73 years, respectively. Furthermore, 41 (12.4%) had a high school degree, 12 (3.6%) had an associate degree, 111 (33.5%) had a bachelor's degree, and 167 (50.5%) had a master's degree or higher. In addition, 219 (66.2%) were single and 112 (33.8%) were married. The matrix of the correlation coefficient of research variables has been presented in Table 1.

Table 1. Correlation Coefficient Matrix between Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
Difficulties in Emotion Regulation													
Non-acceptance of emotional responses	1												
Difficulty engaging in goal-directed behavior	0.57***	1											
Impulse control difficulties	0.67***	0.81***	1										
Lack of emotional awareness	0.40***	0.34***	0.39***	1									
Limited access to emotion regulation strategies	0.78***	0.75***	0.79***	0.37***	1								
Lack of emotional clarity	0.55***	0.50***	0.55***	0.69***	0.53***	1							
Childhood Trauma													
Physical abuse	0.22***	0.22***	0.29***	0.22***	0.23***	0.32***	1						
Sexual abuse	0.20***	0.13*	0.20***	0.13*	0.15***	0.22***	0.47***	1					
Emotional abuse	0.31***	0.24***	0.28***	0.20***	0.29***	0.34***	0.67***	0.39***	1				
Physical neglect	0.31***	0.25**	0.30***	0.24**	0.29***	0.34***	0.60***	0.37***	0.71***	1			
Emotional neglect	0.34***	0.28***	0.29***	0.26***	0.33***	0.31***	0.48***	0.28***	0.70***	0.69***	1		
Levels of Self-Criticism													
Comparative Self-Criticism	0.59***	0.56***	0.57***	0.42***	0.64***	0.57***	0.29***	0.15***	0.38***	0.46***	0.43***	1	
Internalized Self-Criticism	0.55***	0.57***	0.55***	0.25***	0.63***	0.43***	0.14***	0.05	0.27***	0.21***	0.32***	0.59***	1

*** P < 0.01 ** P < 0.05

As Table 1 shows, there was a significant positive correlation between difficulties in emotion regulation and childhood trauma subscales with levels of self-criticism (p<0.05). There was also a significant relationship between difficulties in emotion regulation and childhood trauma subscales (p<0.05).

The SEM was used to analyze the descriptive findings. Before presenting the results of SEM, assumptions were examined. Box plot and Q-Q plot were used to evaluate the univariate perturbation data and Mahalanobis was used to evaluate the multidimensional Perturbation Value in the dependent variable. The results showed that there was no univariate and multivariate perturbation data. To examine the independence of the residues, the Durbin – Watson statistic was used, the value of which was 1.15, which indicates that the default was observed. The value of the Durbin – Watson statistic tests the null hypothesis that the residual values are not correlated. Actually, its value can be between zero to four.

The multicollinearity of variables was examined using tolerance statistics and variance inflation factor. Examination of tolerance statistics (less than 0.1) and variance inflation index (more than 10) showed that the tolerance values obtained for the variables were above 0.10 and the value of the variance inflation index obtained for the variables was smaller. They were actually 10 which shows that there was no multicollinearity between the variables. Therefore, SEM was used to examine the relationship between difficulties in emotion regulation childhood trauma and self-criticism. Figure 1 shows the diagram of the model and Table 3 shows the fit indices of the model in the sample.

The model of the research is presented in Figure 1. As shown, all paths were standard coefficients and significant. The path of childhood trauma to difficulties in emotion regulation, and difficulties in emotion regulation to self-criticism were significant.

Table 2. Descriptive Analysis and Normality of Variables

Variables	Mean	SD	Skewness	Kurtosis	Tolerance statistics	Variance inflation factor
Difficulties in Emotion Regulation						
Non-acceptance of emotional responses	11.76	5.44	1.05	0.30	0.33	2.98
Difficulty engaging in goal-directed behavior	14.02	5.01	0.20	-0.70	0.29	3.43
Impulse control difficulties	13.59	5.13	0.61	-0.26	0.23	4.20
Lack of emotional awareness	15.08	4.79	0.28	-0.48	0.51	1.95
Limited access to emotion regulation strategies	18.22	7.39	0.77	-0.11	0.22	4.51
Lack of emotional clarity	9.96	3.88	0.78	-0.15	0.38	2.57
Childhood Trauma						
Physical abuse	7.57	3.19	1.22	0.20	0.45	2.20
Emotional abuse	9.46	4.08	0.87	-0.11	0.32	3.05
Emotional neglect	11.87	4.85	0.50	-0.43	0.40	2.44
Sexual abuse	7.37	3.20	1.29	0.38	0.74	1.33
Physical neglect	11.87	4.85	0.50	-0.43	0.38	2.44
Levels of Self-Criticism						
Comparative Self-Criticism	40.29	10.93	0.27	-0.07	-	-
Internalized Self-Criticism	44.01	12.80	-0.28	0.13	-	-

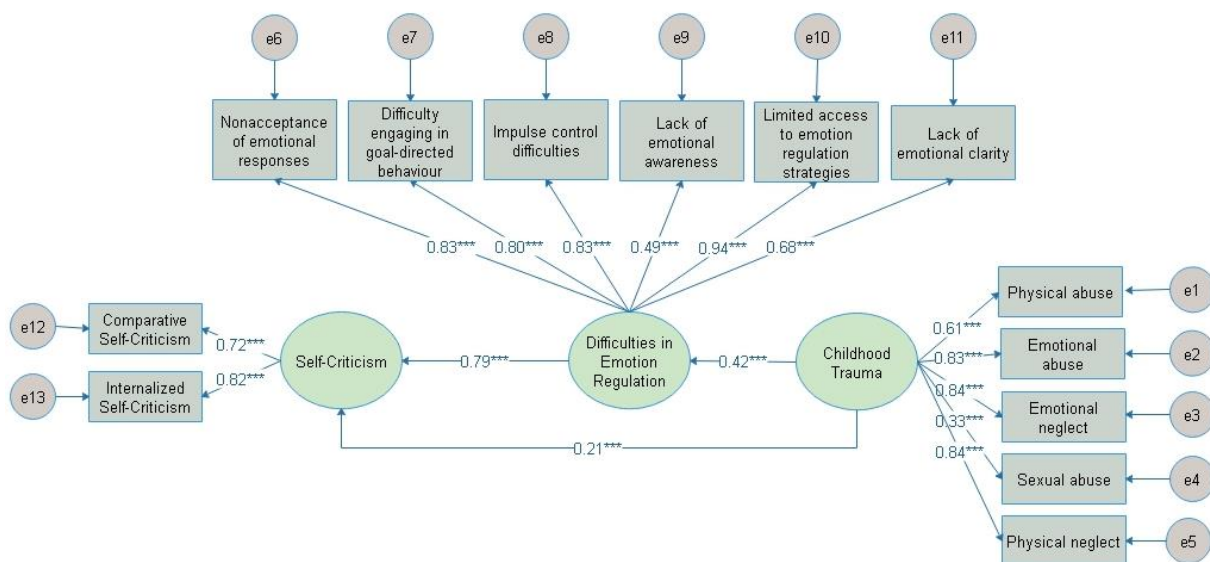


Figure 1. The mediating role of difficulties in emotion regulation in the relationship between childhood trauma with self-criticism; N = 331, *** p<0.001.

Table 3. Fitness Indicators of Final Model

Fit indices	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	IFI	TLI	CFI	NFI
Acceptable Fit			≤ 3	≤ 0.08	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9
Model Estimation value	101.52	46	2.20	0.06	0.95	0.91	0.98	0.96	0.98	0.96

* P<0.05

Table 3 shows that the fit indices of the final model include chi-square /degree of freedom (Chi-sq / df = 2.20), and the Goodness of Fit- Index (GFI = 0.95), Adjusted Goodness of Fit Index (AGFI = 0.91), Comparative Fit Index (CFI = 0.98), Incremental Fit Index (IFI = 0.98), Tucker-Lewis Index (TLI = 0.96) and The Root Mean Square of Error Approximation (RMSEA = 0.06) indicates the optimal fit of the final model. All paths were significant. Tables 4 presents the direct, indirect and total

effect of the model paths.

As it can be seen in Table 4, the standard coefficient of Childhood Trauma to Difficulties in emotion regulation (0.42), childhood trauma to self-criticism (0.21), and difficulties in emotion regulation to self-criticism (0.79) was significant. Indirect path of childhood trauma to self-criticism through the difficulties in emotion regulation (0.33) was significant. Therefore, the mediating role of difficulties in emotion regulation was approved.

Table 4. Parameters Measuring Direct, Indirect and Total Effects in Model

Paths	Direct effect	Indirect effect	Total effect	Non-standard estimate	Standard estimate	t-statistics	P
Childhood Trauma → Difficulties in emotion regulation	0.42***	-	0.42***	0.204	0.333	8.68	0.001
Childhood Trauma → Self-Criticism	0.21***	0.33***	0.55***	0.211	0.296	8.89	0.001
Difficulties in emotion regulation → Self-Criticism	0.79***	-	0.79***	0.199	0.289	7.41	0.001

*** p<0.001

Discussion

The purpose of this study was to determine the mediating role of emotion regulation difficulties in the relationship between traumatic childhood experiences and self-criticism. As the results in Table 4 show, this model has a good fit. On the other hand, the results in Table 5 show that the variables of traumatic childhood experiences and emotion regulation difficulties were able to directly predict self-criticism. Also the results in Table 5 show that the indirect effect of traumatic childhood experiences on self-criticism through the mediating role of emotion regulation difficulty was significant.

According to the results, traumatic childhood experiences are significantly related to and may predict self-criticism. This result is consistent with the results of previous studies [4, 7]. To explain this result from the research, it can be said that self-criticism causes a person to be constantly preoccupied with negative evaluations of him/herself and also to be afraid of not being accepted by others and losing their approval. Traumatic childhood experiences are never over for survivors; rather, survivors deal with these injuries with a hostile introspection. This introspection is then shown in the form of blame and self-criticism. Self-criticism is the opposite of self-compassion and is rooted in insecure attachments and childhood injuries [22]. People with a history of traumatic childhood experiences refuse to have empathy and compassion for themselves. This is because the childhood injuries cause the person to develop a negative attitude toward him/herself and to criticize and blame him/herself instead of showing compassion. This person is very vulnerable to threats and negative emotions and blames him/herself for every problem [23].

On the other hand, the results showed that the difficulty of emotion regulation has a significant relationship with and predicts self-criticism. This finding is consistent with the results of Gadassi Polack et al. [10] and Martínez-Sanchis et al. [11]. To explain this research finding, it can be said that emotion regulation difficulty results in a person's inability to avoid negative or undesirable experiences in different situations and makes them unable to manage their emotions more effectively, even when they are very intense. Since this can lead to academic, professional, or social disruption [24], the person tries to compensate by setting unrealistic criteria for himself or herself. Still, these are so high that they can never be met. So the only thing that remains is deep anger and guilt towards themselves that results from not meeting those criteria. Over time, this person becomes more vulnerable

to threats and negative emotions, blaming himself/herself for every problem [25, 26].

Another finding of this study is the significant relationship between traumatic childhood experiences and difficulties in emotion regulation. This finding is consistent with the findings of Kim et al. [12] and Kouvelis and Kangas [13]. To explain this research finding, it can be said that traumatic childhood experiences such as experiencing rejection, disapproval, and social deprivation violate a part of the individual's identity, and self-organization experiences a vacuum due to non-acceptance and disapproval [27]. This feeling of rejection causes the person to refrain from entering these situations in future interactions for fear of being rejected again by others; for they cannot adjust their feelings to the situation in which they find themselves. As a result, they may feel more and more isolated and lonely. In this situation, they find themselves in a vicious circle. Since they cannot regulate their emotions, they become more and more lonely and isolated, and this loneliness leads to them having problems in future situations and not being able to regulate and control their emotions [28].

However, the most important finding of the present study was the mediating role of emotion regulation difficulties in the relationship between traumatic childhood experiences and self-criticism, which was also consistent with the hypothesis of the present study. To explain this research finding, it can be said that in childhood, as the human personality is not yet properly and fully formed, the child is very vulnerable to the events in his/her environment. Traumatic childhood experiences usually occur unexpectedly and cause psychological trauma by triggering panic. This scar remains on the mental organization and endangers life. The occurrence of traumatic childhood experiences also causes a person to lose their inner self-esteem, because in the face of the aggressor they have no power to control the situation, and all their beliefs suddenly collapse. The loss of this credibility leads to the formation of an inner vacuum that prevents the person from being aware of his or her emotions in the face of various situations, and also from being able to apply appropriate strategies [29]. Over time, this person feels that the problem lies within himself/herself because he or she cannot perform as he/she should. Thus, they begin to criticize themselves and hurt themselves from within. As the person grows older, he/she assumes that he/she will make mistakes again, equating mistakes with the repetition of painful experiences because similar feelings are evoked;

therefore, this level of self-criticism increases in them day by day [30, 31].

Conclusion

The current research, which is considered as a cross-sectional research, investigated the influencing factors in self-criticism. The obtained results showed that childhood traumatic experiences and the difficulty of emotion regulation play a very important role in self-criticism and can actually predict it. The present study also predicts self-criticism by demonstrating the mediating role of emotion regulation difficulties in the effect size of traumatic childhood experiences. Therefore, interventions such as introducing the necessary precautions in parenting styles and the importance of childhood in reducing children's traumatic experiences have positive outcomes and can be considered as prevention and treatment programs for people to reduce self-criticism and self-blame and improve self-confidence.

This study has some limitations that should be considered when interpreting the results. For example, one of the limitations of this study was that due to the prevalence of coronavirus and social distance, the research sample was an online questionnaire, so individuals who did not have access to cyberspace and the Internet were not included in this study. Other limitations of this study include the convenient sampling method and the lack of evaluation of the psychiatric history of the subjects. Another important point is that most of the participants in the current study were from the educated class of the society. Despite the large sample size of this research, it is very important to consider all the above points and take them into account when generalizing the research results. Therefore, it is suggested that future research attempt to address these limitations.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

All of the methods used to collect the data of the questionnaires are under the ethical standards of the Helsinki Declaration (1964) and subsequent amendments or ethical standards. All data were collected anonymously and there was no relationship between the questionnaires and the participants. All participants were informed about the goals, methods, potential benefits, and potential risks of this research before participating.

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