

The Mediating Role of Mentalization in the Relationship between Childhood Trauma and Attachment Security in Adulthood

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Abstract

Introduction: The present study aimed to determine the mediating role of mentalization in the relationship between childhood trauma and attachment security in adulthood.

Method: The statistical population of this descriptive-correlational study involved all individuals aged 18-60 years who had experienced childhood trauma, and the sample included 290 people who were selected by the convenience sampling method. The data collection period was from July to September 2020 and was conducted online. The participants answered the Questionnaire of Experiences in Close Relationships, Child Abuse, and Mentalization (reflective functioning) online. In addition, the statistical method of Structural Equation Modeling was used.

Results: Findings indicated that the subscales of physical, sexual, emotional, and neglect (childhood trauma) had a significant negative relationship with the subscale of certainty in mentalization and a significant positive relationship with the subscale of uncertainty in mentalization. Physical, sexual, emotional, and negligence subscales indicated a significant positive relationship with attachment anxiety and attachment avoidance subscales. The mentalization certainty subscale had a significant negative relationship with the attachment avoidance and attachment anxiety subscales while the mentalization uncertainty subscale had a significant positive relationship with the attachment avoidance and attachment anxiety subscales.

Conclusion: The mediating role of mentalization between childhood trauma and attachment anxiety, and attachment avoidance were confirmed. In general, the results of this study supported the mediating role of mentalization in relation with childhood trauma and attachment security and indicated that a part of the dispersion related to attachment security in adulthood can be explained through childhood trauma mediated by mentalization. These findings can be used for designing preventive and therapeutic interventions for trauma and attachment problems by improving mentalization (reflective functioning).

Keywords: Attachment Security, Childhood Trauma, Mentalization, Reflective Functioning

Introduction

Child abuse and all types of trauma are a problem for many children and families that occur in different societies. The effects of this problem on children of all races, colors, social classes, and religions are significant and involve all ages - before birth, infancy, childhood, adolescence, youth and adulthood [1]. Researchers have revealed that one in 43 American children is physically abused, especially those who have been neglected by their parents in the first week of life. Almost 500 American children in each age group received trauma from their parents [2]. Children establish a relatively stable emotional bond with the people they interact with and feel safe in their presence during their early years of life. Bowlby, who first called this emotional relationship attachment, believes that attachment in childhood plays a vital role in human life. Secure attachment relationships can play a facilitating role in future

interpersonal relationships. If this type of attachment is formed, it will lead to a positive value system and attitude and to oneself and others in a logical way. Attachment system is an organized structure which describes the complex set of emotions, behaviors, and cognitions which form to maintain comfort and a sense of security [3].

Childhood trauma influences attachment. Cloitre et al. [4] suggested that the potential negative effects of childhood trauma on the development of secure attachment can impair a child's learning of adaptive coping skills and self-definition [4]. The children who experience abuse are involved in a situation that Hess and Main [5] called a paradoxical situation [5]. When children are abused by their caregivers, they become afraid of someone they normally receive support and care from. Fonagy et al. [6] found a significant positive relationship between borderline personality disorder, low mentalization, and higher scores on unresolved grief in the adult clinical sample [6]. Mentalization refers to a significant social cognitive capacity which reflects the representation and understanding of inner mental states in oneself and others such as the ability to think about thoughts, feelings, desires, and needs in oneself and others, and the capacity to see mental states separately from behavior [7]. The concept of mentalization refers to mental processes in which one interprets the actions of others implicitly or explicitly based on the meaning of intentional mental states [8, 9]. New research findings revealed an interrelationship between attachment and mentalization so that mentalization is inhibited by increasing the activation of the attachment system [10]. Allen et al. [11] mentioned the theoretical model of the effect of attachment trauma on the regulation of emotions and mentalization capacities and focused on the dual responsibilities arising from adverse childhood experiences [11]. Mentalization theory provides findings similar to developmental psychology findings on the possible multifaceted effect of childhood injuries including brain development, emotion regulation attachment, and social and emotional-cognitive development [12-14]. Since childhood vulnerability persists, in addition to the early years, adulthood is one of the most significant as well as the most vulnerable periods of cognitive development, especially complex thinking, reasoning, problem solving, and risk-taking [15, 16]. Extensive studies indicated that attachment insecurity significantly predicts post-traumatic symptoms such as anxiety, depression, and post-traumatic stress disorder in those with a history of childhood neglect and abuse [17, 18]. In addition, the strength of the relationship between attachment insecurity and trauma symptoms was higher for people with a history of child sexual abuse than those who had not been abused [19, 20]. Such studies showed that childhood trauma plays an essential role in insecure attachment. Primary abuse may not only increase the risk of

generalizing childhood attachment insecurity to adult attachment through long-term effects, but may also disrupt the mentalization ability to think and interpret the actions of oneself and others in the form of intentional mental states [21, 22].

Child Maltreatment (CM) has serious and long-term consequences for mental health [23, 24]. In the long term, CM is related to depressive symptoms [25, 26] and disorder post-traumatic stress [27, 28]. Such studies will be useful in designing future clinical trials which address these mechanisms to reduce the negative effects of child abuse and disrupt their intergenerational transmission. Although there have been a lot of studies on the role of trauma in creating attachment style and attachment security, the underlying mechanisms of this relationship have been less studied. Fiske et al. [29] found that activating insecure attachment representations significantly reduces the ability to mentalize, being manifested as difficulty in recognizing emotion in others [29]. In the context of interpersonal problems or trauma, a recent study by Hayden et al. [30] indicated that mentalization completely mediates the relationship between adult attachment insecurity and interpersonal anxiety, suggesting that attachment insecurity has a negative effect on mentalization and is more involved with anxiety [30]. To fill the gap, this study aimed to investigate the role of mentalization capacity in the relationship between childhood trauma and attachment security in adulthood. Given the existence of a research gap in the proposed model, the aim of the present study is to investigate the relationship between childhood trauma and attachment security in adulthood with the mediating role of mentalization.

Method

The present study was a correlational study in which the statistical method of path analysis was used. The statistical population included all people at the age range of 18-60 years who had experienced childhood trauma. The data collection period was from July to September 2020 and was conducted online. For this purpose, 290 participants were considered as the sample. The criterion for participants' inclusion in the research was the presence of at least one type of childhood trauma, age range of 18 to 60 years, informed consent form confirmation, and the criterion for exclusion was the absence of these criteria. Structural Equation Modeling method was used to evaluate the relationships between the variables. In addition, SPSS 26 and AMOS 26 statistical software were used to analyze the data. Furthermore, the codes of ethics with ID "IR.SBU.REC.1399.016" was received from the ethics committee of Shahid Beheshti University for conducting the study.

The tools used in this study were as follows:

Experiences in Close Relationships Questionnaire

(ECR-R): The revised form of the Personal Experience Questionnaire (ECR-R) was used to evaluate adult attachment. This scale was developed by Fraley et al. [31] measuring 36 items of secure attachment, anxiety, and avoidance using 36 items on a 7-point Likert scale [31]. In

addition, 18 items of this questionnaire measure attachment avoidance while 18 items measure attachment anxiety. This questionnaire has been used in various cultures and languages. The Cronbach's alpha coefficient for the secure attachment group was 0.85 while it was 0.82 for the avoidance attachment group, and 0.89 for the anxious attachment group. [32]. Fraley et al. [33] reported the reliability of the Adult Attachment Style Questionnaire by test-retest method in an 8-week interval as higher than 0.70, and its validity for anxiety and avoidance scales was more than 0.90 [33, 34]. Waters et al. [35] showed the subscale reliability of anxiety and avoidance at intervals of 6-8 months [35]. In addition, they obtained Cronbach's alpha for each subscale that was 0.85 in the secure attachment group, 0.82 in the avoidance attachment group, and 0.89 in the anxiety group in a sample of 183 participants.

Childhood Abuse Self-Report Scale: The Childhood Abuse Scale was developed by Muhammadkhani et al. [36] to measure child abuse and children's perceptions of child abuse and adults around the child during childhood. Its scoring is based on the Likert scale from 0 = never to 3 = always [36]. The Child Abuse Questionnaire evaluates the four dimensions of neglect, sexual abuse, physical abuse, and emotional abuse. This tool included 54 questions at the beginning, and Muhammadkhani et al. [37] conducted factor analysis and obtained 38 items from the 54 items of the above-mentioned scale which had the highest correlation with the measured variables. Muhammadkhani et al. [37] obtained the correlation coefficient of the test-retest for the subscales of emotional harassment, neglect, and physical and sexual harassment from 0.79 to 0.89 [37].

Mentalization Questionnaire (reflective functioning):

The Reflective Functioning Questionnaire [38] is a self-report scale which consists of eight items that was developed by Fonagy et al. [38].

This questionnaire measures reflective action in two dimensions of certainty and uncertainty about mental states. Fonagy et al. [38] reported that the internal correlation of this tool is favorable and that Cronbach's alpha reported two subscales of uncertainty about mental states and certainty about mental states as 0.77 and 0.65, respectively [38]. The Persian version of this questionnaire was translated by Seyed Mousavi et al. [39] using the translation-reverse translation method and a sample of 369 non-clinical adolescents in Tehran was to validate it [39]. Participants rank their responses to the items on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7) [39]. The internal correlation of this instrument is deemed desirable, with Cronbach's alpha coefficients of 0.77 for the subscale of uncertainty about mental states and 0.65 for the subscale of certainty about mental states [38]. Confirmatory factor analysis confirmed the factor structure of the questionnaire, and internal consistency was reported as 0.70 in the Persian version for the subscale of certainty for mental states and 0.62 for the subscale of uncertainty for mental states.

Results

The results indicated that 7.4% of the statistical sample were women, 60.3% were single, 55.8% were students, and most of them (42.4 %) had a Master's degree. In addition, the average age of the participants was 30 years. Table 1 indicates the mean and standard deviation of the main variables of research: mentalization (RFQ), childhood trauma, and attachment in this study. The ratio of missing data to complete data in each variable was studied separately and it was found that there was no missing data. In this study, the values of skewness and Kurtosis of the data were obtained between +2 and -2, and the use of scatter chart confirmed the assumption of linearity.

Table 1. Descriptive Indicators of the Main Research Variables

Variable	Number	Mean	Standard Deviation
Mentalization (RFQ)	Certainty	290	0.88
	Uncertainty	290	0.80
Childhood trauma	Childhood trauma	290	29.30
	Physical abuse	290	5.71
	Sexual abuse	290	4.37
	Emotional abuse	290	9.58
	Neglect	290	9.63
Attachment	Attachment Avoidance	290	63.23
	Attachment anxiety	290	61.7

Table 2. Correlation Matrix Subscales of Childhood Trauma, Mentalization (RFQ) and Attachment

	1	2	3	4	5	6	7	8
1. Physical abuse	1							
2. Sexual abuse	0.76**	1						
3. Emotional abuse	0.85**	0.82**	1					
4. Neglect	0.84**	0.80**	0.89**	1				
5. Avoidance	0.44**	0.37**	0.39**	0.41**	1			
6. Anxiety	0.47**	0.36**	0.42**	0.41**	0.87**	1		
7. Certainty	-0.19**	-0.17**	-0.20**	-0.19**	-0.37**	-0.42**	1	
8. Uncertainty	0.31**	0.18**	0.24**	0.28**	0.42**	0.47**	-0.60**	1

Note. ** p<0. 01.

Table 2 indicates the relationship between childhood trauma subscales and mentalization subscales. According to the obtained results, physical, sexual, emotional, and neglect had a significant negative relationship with the subscale of certainty ($P < 0.01$) but had a significant positive relationship with the subscale of uncertainty ($P < 0.01$). The obtained results indicated that physical, sexual, emotional, and neglect had a significant positive relationship with anxiety and attachment avoidances ($P <$

0.01). In addition, mentalization certainty had a significant negative relationship with avoidance and attachment anxiety ($P < 0.01$) while mentalization uncertainty had a significant positive relationship with avoidance and anxiety ($P < 0.01$). In order to evaluate the mediating role of the subscale of mentalization uncertainty between childhood trauma, anxiety, and attachment avoidance, the standardized and non-standardized direct and indirect effects were examined (Table 3).

Table 3. Standardized and Non-standardized Direct and Indirect Effects

	Criterion variable	Independent variable	Direct effect	Mediating variable	Indirect effect	Total effect
Standardized	Attachment anxiety	Childhood trauma	0.38	Certainty	0.07	0.45
	Attachment avoidance		0.37		0.06	0.43
Non-standardized	Attachment anxiety	Childhood trauma	1.38	Certainty	0.26	1.64
	Attachment avoidance		1.13		0.18	1.31

Table 4. Final Indices of the Final Model Subscale of Certainty (RFQ)

Index	Value
CMIN/DF	1.42
CFI	0.99
IFI	0.99
NFI	0.99
RMSEA	0.059
GFI	0.98
AGFI	0.96

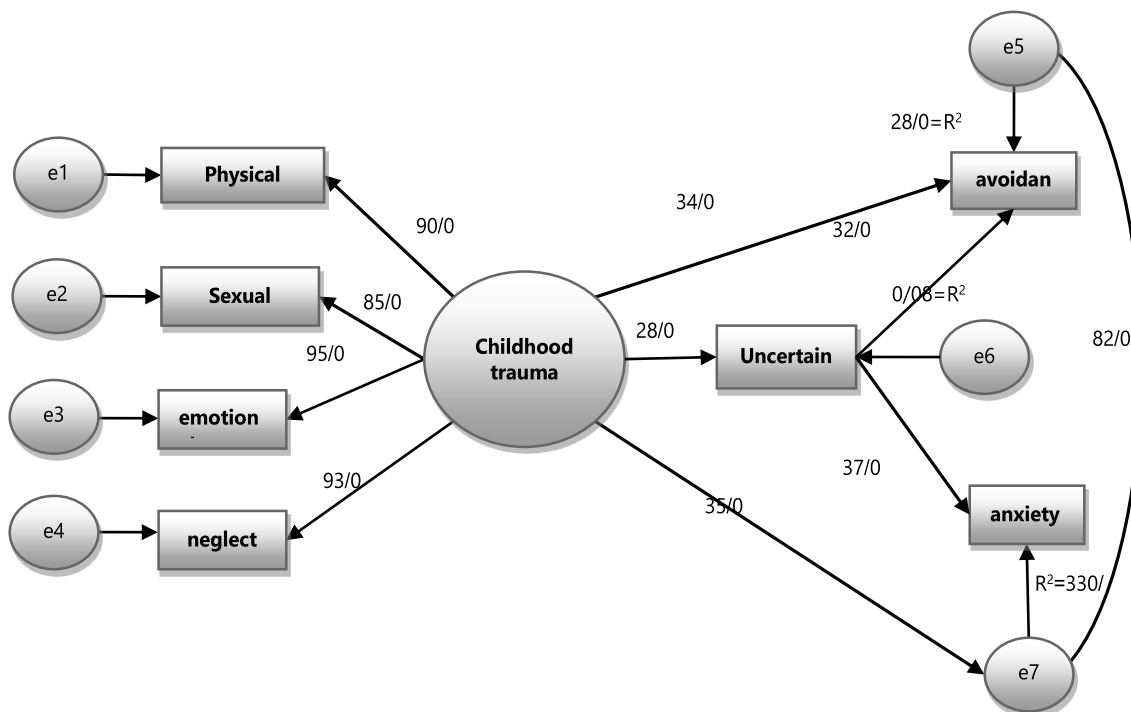


Figure 1. The hypothetical model with mediation, mentalization uncertainty dimension.

As shown in Figure 1, the relationship between childhood trauma and uncertainty was significant in this model and the path coefficient was 0.28. Childhood trauma had a direct effect on avoidance and attachment anxiety and

their path coefficients were 0.34 and 0.35, respectively. In addition, uncertainty had a direct relationship with avoidance and attachment anxiety while path coefficients were 0.32 and 0.37, respectively. The obtained results

from direct effects indicated that childhood trauma had a significant positive direct effect on attachment anxiety ($P < 0.001$) and childhood trauma had a significant positive direct effect on attachment avoidance ($P < 0.001$). Childhood trauma had a significant positive direct effect on the dimension of mentalization uncertainty ($P < 0.001$). By evaluating indirect coefficients, the results revealed that childhood trauma could have a significant indirect

effect on anxiety and attachment avoidance ($P < 0.001$). In other words, childhood trauma could predict anxiety and attachment avoidance through the dimension of mental uncertainty. In order to investigate the mediating role of mentalization certainty between childhood trauma and attachment anxiety, as well as attachment avoidance, the standardized and non-standardized direct and indirect effects were evaluated (Table 6).

Table 5. Standardized and Non-standardized Direct and Indirect Effects

Indicator	Value
CMIN/DF	2.105
CFI	0.99
IFI	0.99
NFI	0.99
RMSEA	0.062
GFI	0.98
AGFI	0.94

Table 6. Standardized and Non-standardized Direct and Indirect Effects

	Criterion Variable	Independent Variable	Direct Effect	Mediating Variable	Indirect Effect	Total Effect
Standardized	Attachment anxiety	Childhood trauma	0.34	Uncertainty	0.11	0.45
	Attachment avoidance		0.35		0.09	0.43
Non-standardized	Attachment anxiety	Childhood trauma	1.26	Uncertainty	0.38	1.64
	Attachment avoidance		1.04		0.27	1.31

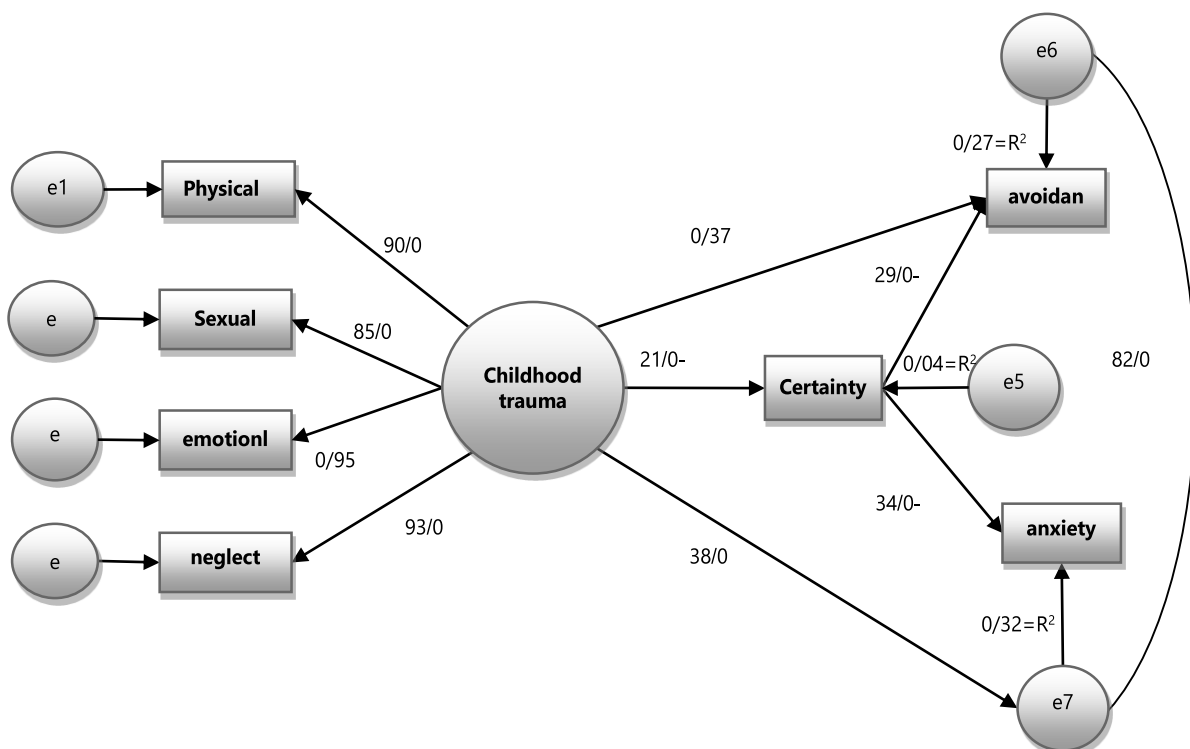


Figure 2. The hypothetical model with mediation, mentalization uncertainty dimension.

As shown in Figure 2, childhood trauma had a significant direct relationship with certainty in this model, and the path coefficient was -0.21. Childhood trauma had a direct effect on avoidance and attachment anxiety while their path coefficients were 0.37 and 0.38, respectively. In

addition, certainty had a direct relationship with avoidance and attachment anxiety while path coefficients were -0.29 and -0.34, respectively. The results obtained from direct effects indicated that childhood trauma had a significant positive direct effect on attachment anxiety (P

< 0.001). In addition, childhood trauma had a significant positive direct effect on attachment avoidance ($P < 0.001$). Childhood trauma had a significant negative direct effect on mentalization certainty ($P < 0.001$). By evaluating the indirect coefficients, the results revealed that childhood trauma could have a significant indirect effect on anxiety and attachment avoidance ($P < 0.001$). In other words, childhood trauma could predict anxiety and attachment avoidance through mentalization certainty.

Discussion

The aim of the present study was to investigate the relationship between childhood trauma and attachment security in adulthood with the mediating role of mentalization. Findings revealed that the hypothesized model of mentalization mediation in relation to childhood trauma and attachment security in adulthood had an acceptable fit with the data. In other words, the results of the present study revealed that a part of the scatter in the values of childhood trauma and attachment security in adulthood was the product of differentiation in the values attributed to mentalization. On the other hand, the results of the present study revealed that the conceptual framework of mentalization had an inalienable interpretive role in linking the two conceptual frameworks of childhood trauma and attachment security in adulthood. In confirming the relationship between childhood trauma and mentalization, it was indicated that CM disrupts the development of mentalization during childhood through different pathways [40]. For instance, the parents who show maltreatment often fail to consider their child's opinion and are highly likely to discourage him/her from experiencing emotions and do not allow the child to discover his/her inner feelings safely [8, 9, 41]. Even when parents are not abusive, leading to mentalization in families experiencing childhood trauma seems impossible. Recent evidence showed that mothers who were sexually abused at childhood have less parental mentalization compared to the mothers who were not sexually abused during their own childhood [42]. In addition, the adults who develop good mentalization abilities despite exposure to life-threatening events may be more resilient [42]. A recent study showed that deficits in mentalization among the adolescents who experienced traumatic childhood experiences were related to a regulatory distortion which predicts psychological pathology [43].

Attachment theorists have hypothesized that early childhood relationship experiences can directly influence the organization of the attachment system and provide the working models in which subsequent relationships will expand [21, 44]. Exposure to insensitive care, abuse, or neglect can influence a child's sense of security and safety, which is required for the development of secure attachment [45]. In such areas, the child can perceive the caregiver, the primary form of attachment, as a potential source of distress [46]. Therefore, attachment working models generally remain constant over time, affecting the representations of attachment later in adulthood. Numerous studies indicated that attachment insecurity

significantly predicts post-traumatic symptoms such as anxiety, depression, and post-traumatic stress disorder in the individuals with a history of childhood neglect and abuse [17, 47]. In confirming the relationship between attachment and mentalization, Slade et al. [44] argued that parents' mentalization abilities could facilitate child attachment by helping them consider complicated mental states according to their own reactions and child's inner world [44]. Reflective functioning and mentalization are mainly used in order to refer to the capacity to think about oneself and others and also consider basic mental states and motivations while interpreting behaviors in attachment contexts [48]. Fonagy et al. [6] revealed that prenatal mentalization predicts infant attachment classification at the age of one [6]. Then, Slade et al. [44] developed a method for evaluating parental mentality about the child and indicated that parents' mentalization mediates the attachment transfer [44]. The results of the present study is consistent with a study by Meins et al. [49]. Findings indicated that mothers' mentalization in interaction with their children predicts the attachment security. In addition, Greenberger et al. [50] indicated that the relationship between parents' mentalization and infants' disturbed attachment can be mediated by unusual parental behaviors when interacting with their infants [50]. [51]. Huang et al. [51] studied the relationship between attachment and mentalization and realized that this relationship is two-way [51]. However, previous studies indicated that attachment insecurity plays a role in mentalization [30, 52].

Regarding the mediation of mentalization in the relationship between childhood trauma and adult attachment, it can be stated that the threat (trauma) disrupts mentalization. Thus, the coping strategies that individuals have obtained through the transformation of attachment are destroyed, all leading to the lack of understanding of the minds of others [9]. According to Berthelot et al. [53], post-traumatic stress disorder was similarly related to hyper-mentalization and hypo-mentalization [53]. The people who are highly sensitive to social cues during interactions are more likely to interpret ambiguous situations as threats which may react the previous experiences of interpersonal trauma and disrupt emotion regulation, but provoke post-traumatic stress disorder [54]. In the absence of mentalization, the individual acts at the psychic equivalence mode in which mental states are perceived as corresponding to external reality [6]. Thus, when a person experiences the thoughts, feelings, and emotions related to trauma, such mental states are not connected to their source but are perceived as a real and active threat [53]. In confirming the mediation of mentalization, according to Huang et al. [51], the insecurity of adult attachment with impaired mental ability mediates the relationship between childhood neglect, abuse, and the symptoms of post-traumatic stress disorder [51]. This finding shows that attachment insecurity may be a risk factor for post-traumatic stress disorder in people with childhood trauma, it is not the only risk factor for post-traumatic stress disorder though. The findings are consistent with the cognitive-social

model of Sharp et al. [54], proposing that the individuals with early traumatic experiences with their caregivers may develop maladaptive attachment schemas about themselves and others. Adults with a history of abuse talk about such traumatic experiences as they slip into monitoring the reasoning or discourse, probably because of the activation of dissociative memory systems and unusual absorption of trauma memories [55-58]. Good mentalization capacity is regarded as the core of resilience processes after child abuse and neglect [8, 21, 40]. In the present study, the sample according to the research conducted during the corona epidemic was selected as a non-clinical sample using online convenience sampling method. It is suggested to use clinical samples and sampling in more valid methods in future studies. In addition, the use of tools measuring scripted attachment, such as Secure Base Script (SBS), can be a useful complement in future studies. Finally, all educational, research, clinical institutions, and generally psychological service providers whose field of work is related to adults, especially those with a history of trauma are recommended to design preventive and therapeutic interventions for attachment disorders and promote reflective functioning and mentalization.

Conclusion

The present study was conducted to examine the mediating role of mentalization in the relationship between childhood trauma and attachment security in adulthood. Overall, the results of the study demonstrated that the hypothesized model fit the data reasonably well. In other words, the findings of the study indicated that a portion of the variability in the levels of childhood trauma and attachment security in adulthood is accounted for by differentiation in the levels of mentalization. Furthermore, the results of the study suggest that the conceptual loop of mentalization plays an undeniable interpretive role in linking the two conceptual loops of childhood trauma and attachment security in adulthood.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

This article has been extracted from a master's thesis, with the first author being the researcher. The study was conducted under the supervision of the Research Ethics Committee at Shahid Beheshti University, following all ethical principles, with the ethical code IR.SBU.REC.1399.016. The researchers informed the participants about the study's objectives and assured them that their information would remain confidential.

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