

Research Paper

Structural Modeling of the Relationship Quality Between Childhood Trauma and Psychological Distress Mediated by Psychological Adaptation



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ABSTRACT

Background: Negative childhood experiences and emotional distress can influence the quality of a relationship. The present study identifies these factors to explain the structural pattern of relationship quality based on childhood trauma and distress with the mediating role of psychological adaptation.

Methods: This is an applied study regarding objectives and a descriptive-correlational structural equation-type study regarding implementation. The statistical population includes men and women (aged 18-60 years) in Tehran City, Iran in 2020-2021, of which 444 people were selected using the convenience sampling method. Study instruments include the childhood trauma questionnaire, psychological distress, qualitative relationship quality, and personality assessment questionnaire for adults. The data were analyzed using the SPSS software, version 21, and Amos software, version 21 using structural equation modeling.

Results: Childhood trauma ($\beta=-0.135$), psychological distress ($\beta=-0.198$), and psychological adaptation ($\beta=-0.256$) have direct and negative effects ($P<0.01$) on relationship quality and childhood trauma ($\beta=-0.082$). Meanwhile, psychological distress ($\beta=-0.146$) has an indirect effect through psychological adaptation ($P<0.01$) which has a negative and significant impact on relationship quality. The fit indices of the structural model after minor modifications were all at an acceptable level and the model was assessed to show a good fit to the data.

Conclusion: Psychological adaptation mediates the relationship between childhood trauma psychological distress and relationship quality. Therefore, it is beneficial to develop interventions that regulate emotions, reduce the impact of trauma on children, and improve mental adaptation.

Keywords: Childhood trauma, Psychological distress, Psychological adaptation, Relationship quality

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Introduction

The quality of relationships plays a crucial role in the health of families and individuals, and society benefits from this strong bond [1]. Relationship quality includes positive and negative feelings about the relationship, and interpersonal relationships and interaction patterns are accordingly evaluated. The satisfying type greatly benefits health and well-being, while its stressful and controversial type is considered toxic [2]. Research shows that bonding with a partner can improve people's health through the activity and efficiency of the reward system in the brain [3]. Cordial people who have fewer stress-related symptoms are more satisfied with their marriage and less likely to get a divorce [4]. First interactions with significant people in life predict the extent of compatibility or incompatibility in interpersonal relationships in the future. Most theories that have been presented on family and interpersonal relationships emphasize the crucial and efficient role of interactions between family members in childhood and a person's behavior in adulthood and interpersonal relationships [5]; therefore, the quality of relationships and interactions in the main family can affect mental health [6], and how a person communicates with their partner in adulthood [7].

Childhood trauma and mental disorders are among the factors that can affect the quality of relationships in people. Childhood trauma refers to severe disruption in parenting and includes emotional abuse, sexual abuse, physical abuse, and emotional and physical neglect. Some have experienced just one of these traumas in their childhood, and others have suffered from all kinds of such abuses [8]. Research shows that all types of childhood trauma are associated with lower relationship quality between men and women [9, 10]. For example, emotional abuse leads to problems in emotional regulation, attachment, and symptoms of depression, leading to deterioration in a couple's relationship quality [11], or people with a history of sexual abuse cannot cope with intimate relationships or find it difficult to form such relationships as adults [12]. In addition, childhood physical abuse causes a range of communication problems, including ineffective communication, less intimacy, and less stable relationships between men and women in health centers [13]. The results of a study by Roberts et al. [14] show that childhood trauma can affect relationships between people, create sensitivity in interpersonal relationships, and reduce self-esteem.

On the other hand, psychological stress is another factor that can affect the quality of a relationship. Psychological distress is a specific discomfort and emotional state that individuals experience temporarily or permanently in response to specific stressful and traumatic demands [15] and includes the uncomfortable mental state of depression and anxiety with emotional and physiological symptoms [16]. Research shows that psychological stress can lead to poor relationship outcomes by disrupting family routines, limiting social activities, and limiting emotional responses to people's behavior [17]. Psychological stress can also lead to a decrease in marital satisfaction and the use of incompatible strategies to solve the problem [18]. Research shows that psychological stress can occur between couples and that a mutual relationship of psychological stress between intimate partners leads to the transmission of psychological stress from one partner to another [19]. Research data supports the connection between psychological stress and relationship quality. Studies [20] demonstrate a negative and significant connection between psychological stress and relationship quality.

For the past three decades, researchers have studied the intrinsic and extrinsic effects of psychological distress on couple relationships, and the results of these studies show that the psychological arousal associated with psychological stress explains the use of ineffective communication behaviors [21]. Psychological adaptation plays a crucial role in clinical situations, and people's emotional, cognitive, perceptual, and motivational tendencies are determined in response to different life situations. Therefore, it can be caused by real behavior that can be observed when responding to the same situations [22]. Also, psychological adaptation refers to the personality characteristics of people, which can be considered a crucial factor in reducing interpersonal conflicts [23]. From the point of view of Rohner and Khaleque [24], humans have evolved biologically based on the emotional need to receive a positive response from parents and other attachment figures. If this need is not fulfilled, the perception of rejection arises and leads to the formation of seven personality traits, including anger (passive, aggressive), dependence or defensive independence, dependence on the frequency, time, intensity, and form of rejection, impaired self-efficacy, a lack of self-efficacy, a lack of emotional reaction, emotional instability, and negative worldview. These features are considered a general indicator of psychological inadaptability. According to this theory, childhood problems impair psychological functioning, lead to an inability to regulate emotions and cause trouble in interpersonal relationships. Numerous studies in different cultures show that a sense of parental

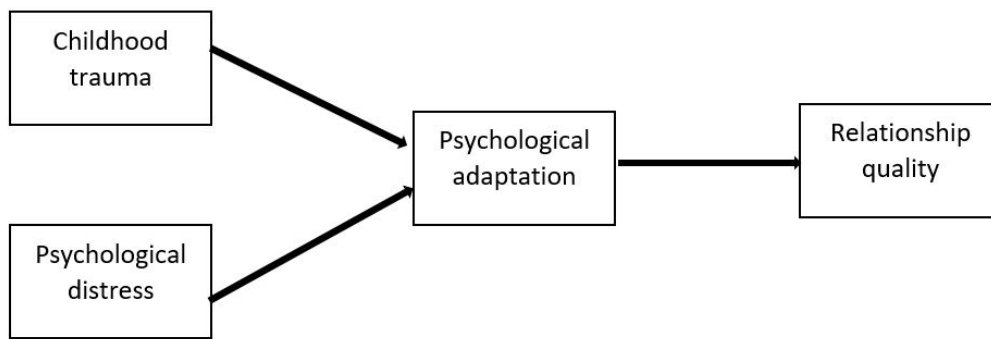


Figure 1. Research model

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acceptance and warmth increases trust between parents and children and is also associated with positive peer relationships during adolescence and overall mental health in adulthood [25-27]. A study by Ibrahim et al. [26] shows that childhood emotional trauma and parental rejection are strong predictors of psychological maladjustment in adulthood. Meanwhile, studies have examined the indirect link between psychological compromise and relationship quality. A study suggests that psychological compromise can indirectly lead to adults feeling lonely and developing a fear of intimacy [27].

Parallel to the direct relationship between the variables of childhood trauma and psychological distress with relationship quality, there is also an indirect relationship between them. Most of the research on the indirect role of psychological adaptation focuses only on emotional traumas.

No research has investigated the structural relationships between the variables of the current research in the form of a conceptual model, and the lack of research in this field reveals the importance of doing it.

Therefore, this study addresses the question of whether the nature of relationship quality corresponds to a specific structural model and whether it is possible to explain the quality of relationships based on the constructs of childhood trauma, psychological distress, and psychological adaptation.

Hence, the present study determines the structural associations between childhood trauma and psychological stress with relationship quality through psychological adaptation. Accordingly, the research hypotheses are depicted in Figure 1.

Methods

In this descriptive-correlation study, path analysis was conducted to determine the associations of research vari-

ables. The statistical population included all married men and women in Tehran City, Iran, in 2022. The initial sample size was estimated using the study variables ($n=380$) [28]. The sample size was calculated by considering the attrition rate of 444 people who were selected online. This study included 237 women (53.4%) and 207 men (46.6%) selected via the convenience sampling.

The inclusion criteria were married people over 18 years of age who had been married for at least one year, and the conditions for the divorce applicant's departure were considered. The research methodology was as follows. The link to the questionnaires was made available to the participants, mainly via Telegram and WhatsApp groups, which included housewives, employees, and students, as well as married men. After obtaining informed consent, the participants were asked to answer the research questionnaires. The participants were assured that their data would remain confidential. Moreover, if the participants were unwilling to continue the study, they could stop answering. In this research, the following tools were used. All the questions were answered completely, and no question was left unanswered.

Childhood trauma questionnaire

The childhood trauma questionnaire was published by Bernstein et al. in 2003. This tool comprises 28 questions in five areas as follows: Emotional abuse, physical abuse, sexual abuse, mental neglect, and physical neglect. In this questionnaire, each question is rated based on a 5-point Likert scale. Questions 5, 7, 13, 19, 28, 2, and 26 are scored inversely. Scores ranged from 5 to 25 and for the questionnaire from 25 to 125, with a higher score showing a greater exposure to child abuse. The Cronbach α coefficient of the youth group questionnaire on the parameters emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect is 0.87, 0.86, 0.95, 0.89, and 0.78, respectively. Also, its concurrent validity with the evaluators' rating of the amount of childhood traumas has been reported in the range of

0.59 to 0.78 [29]. In a study by Shahab et al. [10], the reliability of the scale using the Cronbach α coefficient was obtained at 0.92. In another study [30], the reliability of the questionnaire was obtained by calculating the Cronbach α coefficient at 0.95. In the present study, the Cronbach α coefficient for each of its five components was high and between 0.70 and 0.80, which indicates the appropriate reliability of the tool.

Kessler psychological distress scale

The Kessler psychological distress scale is arranged as 10 questions for psychological distress. Responses are scored based on a 5-point Likert scale (all the time=4, most of the time=3, sometimes=2, rarely=1, and never=0). The range of its scores is between 0 and 40, and higher scores indicate more distress [31]. Studies have reported the reliability coefficient of the questionnaire using the Cronbach α method at 0.83 and the reliability coefficient of Dunimeh and Spearman-Brown was 0.91 [32]. In a study by Zhang et al. [33], reliability was reported using the Cronbach α method at 0.89. Meanwhile, its construct validity was also obtained using other structural models at about 0.53. In this research, reliability was obtained using the Cronbach α method at 0.95.

Quality of relationships inventory

The quality of relationship inventory questionnaire has three subscales and 25 items as follows: Perceived social support (7 items), interpersonal conflict (12 items), and relationship depth (6 items). Scores are measured based on a 4-point Likert scale (none=1, low=2, medium=3, and high=4). A score between 25 and 50 indicates low relationship quality, a score between 50 and 62 indicates average relationship quality and a score above 62 indicates high relationship quality. Internal consistency coefficients using the Cronbach α coefficient for each subscale of the original sample were reported at 0.85, 0.91, and 0.84, respectively [34]. In their study, they reported the reliability of this questionnaire using the Cronbach α method at 0.92 [35]. In another study, the Cronbach α coefficient ranged from 0.733 to 0.826 [36]. In this research, reliability was obtained by the Cronbach α method for each of the subscales between 0.80 and 0.90.

Personality assessment questionnaire

The personality assessment was created by Rohner and Khaleque in 2005 to measure psychological compatibility. It has 63 items and 7 subscales as follows: Aggression/hostile behavior, dependence, damaged self-respect, emotional instability, damaged self-efficacy, lack

of emotional response, and negative view of the world. It is graded based on a 4-point Likert scale (1=almost never to 4=almost always). The range of scores is between the minimum score of 63 and the maximum score of 252. A high score on the scale indicates psychological incompatibility. In the main sample, to check the validity of the test using the Cronbach α method, an internal consistency of 0.85 was obtained, and the validity of the test was calculated using the test re-test method ($R=0.97$) [24]. In another study [37], the test re-test reliability coefficient was 0.82 with an interval of 3 months. In the present study, reliability was obtained by the Cronbach α method for all subscales between 0.71 and 0.92.

Data analysis

The Pearson correlation coefficient was used to analyze the relationships between variables, and structural equation modeling was employed using the SPSS software, version 21, and AMOS software, version 21, to evaluate the proposed model. Skewness and kurtosis tests were used to check the normality of univariate distribution, and tolerance statistics and variance inflation factors were used to check the assumption of co-linearity of variables. According to Klein's view [38], the values of skewness and elongation of all components were in the range of ± 2 . This finding indicates that the assumption of normality of univariate data distribution among the data is valid. Also, the assumption of collinearity between the data from the current research is justified since the values of the tolerance coefficient of the predictor variables are greater than 0.1 and the variance inflation factor values of each of them are smaller than 10. According to Myers et al. [39], a tolerance coefficient less than 0.1 and a variance inflation factor value higher than 10 indicate failure to establish the assumption of collinearity. Also, to evaluate the establishment or non-establishment, the assumption of normality of the multivariate data distribution was explored by analyzing information related to the Mahalanobis distance. The Mahalanobis distance value was 34.35 compared to the critical value of 34.35, which shows that the data are normally distributed. There were no outliers and removed data in this model. In addition, the assumption of homogeneity of variances was tested using a scatterplot of standardized error variances, and the assumption of homogeneity of variances was retained in the study data. In the analysis of structural equations, the values of model fit indices are based on the cut points listed in Table 1 based on Klein's point of view [38].

Table 2. Pearson correlation matrix and Mean±SD of research variables

Variables	Mean±SD	1	2	3	4
Psychological distress	22.87±9.42	1			
Childhood trauma	47.73±14.82	0.54	1		
Psychological adaptation	149.59±31.31	0.726	0.578	1	
Relationship quality	65.92±11.06	-0.607	-0.490	-0.584	1

M: Mean; SD: Standard deviation.



Results

The sample included 237(53.4%) women and 207(46.6%) men, with different age groups and educational levels.

The results in [Table 2](#) showed that the relationship between childhood trauma, psychological distress, and psychological adjustment was significant with negative relationship quality.

According to the values obtained in [Table 1](#), the value of the normalized chi-square is less than 3, the value of the comparative index of fit is greater than 0.90, and the value of the index of the standard error of approximation is less than 0.08, indicating that the associations of variables in the research measurement model are significant and the measurement model fitting is favorable. A value of 1 represents a perfect fit and a value ≥ 0.9 indicates a reasonable fit. Meanwhile, a value of ≥ 0.95 is considered an excellent fit. The goodness of fit index (GFI) is a measure of fit between the hypothesized model and the observed covariance matrix. The adjusted goodness of fit index (AGFI) corrects the GFI, which is affected by the number of indicators of each latent variable.

Also, after ensuring the optimal fit of the measurement model with the collected data, the fit indices of the structural model were checked following the assumptions. Accordingly, the proposed model's path coefficients and

fit can be evaluated based on the fit criteria. A combination of model fit indices was used for the adequacy of the proposed model with the observed data. [Table 3](#) shows the fit indices of the hypothetical model. The values of the fit indices include the chi-square ratio to the degree of freedom ($df/2.52=2.52$), the goodness of fit (GFI=0.865), comparative fit index (AGFI=0.866), comparative goodness of fit index (CFI=0.925) and root mean square error of approximation (RMSEA=0.062).

According to the values obtained in [Table 3](#), the original model did not have a good fit on some measures of fit. The indices of fit were re-estimated, and the final modified model fits well across all indices of fit. [Figure 2](#) shows the normalized coefficients in the modified model.

According to [Figure 2](#), childhood trauma, psychological stress, and psychological adjustment account for 27.9% of the variation in relationship quality at the level ($P<0.01$) in married people. To measure the mediating role of psychological adaptation in the association, between childhood trauma and psychological stress with relationship quality, the bootstrap command in the Amos software was used. Based on this data, the lowest and highest indirect effect of the psychological adjustment variables regarding childhood trauma and psychological stress on the quality of relationships was determined in 2000 samples and a 90% confidence interval.

Table 1. Goodness of fit index for the research model

Fit Index	χ^2	df	df/ χ^2	GFI	AGFI	CFI	RMSEA
Proposed model	632.604	87	7.271	0.842	0.837	0.868	0.119
Modified model	238.309	83	2.87	0.970	0.923	0.902	0.059
Cut points	-	-	3>	0.90<	0.850<	0.90<	0.08>



Abbreviations: GFI: Goodness-of-fit index; AGFI: Adjusted goodness-of-fit index; CFI: Comparative fit index; RMSEA: Root-mean-square error of approximation.

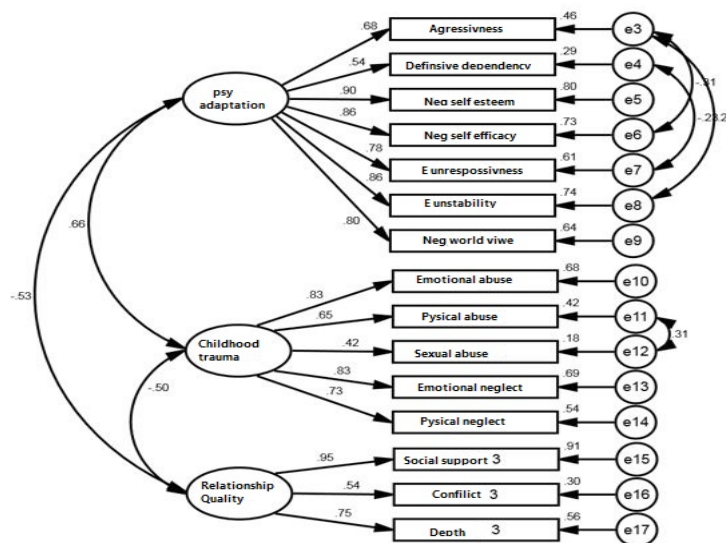


Figure 2. Standard parameters in the research structural model



Abbreviations: Psy adap: Psychological adaptation; C trauma: Childhood trauma; R quality: Relationship quality.

According to Figure 2, the direct effects results show that all direct paths matter in the final model. Based on this, the direct path coefficient ($\beta=-0.135$, $P<0.01$) and the total path coefficient ($\beta=-0.216$, $P<0.01$) are significant between childhood trauma and relationship quality at the level of 0.01. Between psychological distress and the quality of negative relationships, the direct path coefficient ($P<0.01$, $\beta=-0.198$) and the total path coefficient ($P<0.01$, $\beta=-0.344$) are significant at the level of 0.01. Also, the coefficients of the indirect path show that psychological adjustment mediates the relationship between childhood trauma and the quality of relationships in a negative and significant way ($P<0.01$, $\beta=0.082$). Psychological adjustment mediates the relationship between distress and relationship quality in a negative and significant way ($P<0.01$, $\beta=0.146$).

Discussion

This study determined the moderating role of psychological distress in the relationship between childhood

trauma and relationship quality in men and women. The results showed a negative and significant relationship between childhood trauma and psychological distress with the quality of interpersonal relationships. Mediation represents the consideration of how a third variable affects the relation between two other variables. Although the consideration of a third variable may appear simple, three-variable systems can be complicated, and there are many alternative explanations of observed relations other than mediation. This finding is consistent with the results of previous research [8, 9, 20, 40, 41]. The interpersonal nature of childhood abuse provides a strong conceptual basis for suggesting that adults who were abused as children may have difficulty establishing and maintaining intimate relationships into adulthood. If a child has been abused by caregivers, usually by someone whom the child trusts, these traumas may occur, and the expectation may be formed in him that his partner will treat him in the same way. Harmful behavior leads to internalization of feelings, such as shame, guilt, helplessness, distrust, and insecure attachment [42]. If these

Table 3. Measuring model fit

Fit index	χ^2	df	df/ χ^2	GFI	AGFI	CFI	RMSEA
Proposed model	578.712	95	6.092	0.852	0.807	0.895	0.107
Modified model	231.959	92	2.52	0.905	0.866	0.925	0.062
Cut points	-	-	3>	0.90<	0.850<	0.90<	0.08>



Abbreviations: GFI: Goodness-of-fit index; AGFI: Adjusted goodness-of-fit index; CFI: Comparative fit index; RMSEA: Root-mean-square error of approximation.

feelings are not resolved, feelings of shame, fear, and worthlessness are carried over into the marital relationship [8]. This may be due to the poor quality of the marriage and increased infidelity and instability in the relationship, including threats to end the relationship. These individuals encounter difficulties in communicating effectively. In their relationships, they exhibit a greater inclination towards arguments and reduced friendliness [43]. Despite having less trust in their partner, they fail to resolve conflicts and lack supportive behavior. These factors may explain the decline in relationship quality in humans and show a significant association between childhood trauma and relationship quality.

On the other hand, people with psychological distress due to negative emotional states, symptoms of anxiety and depression, and being stuck in this situation have a kind of psychological inflexibility that prevents them from coping with these feelings. Based on this, it can be explained that the most crucial feature of psychological distress is unpleasant feelings and states, such as depression, anxiety, and tension, which affect people's daily performance and cognitive functions [44]. This trait is often seen in people who are stressed. When struggling with and overcoming stress, they are unable to find solutions to their problems and resort to ineffective coping strategies such as self-blame and self-destruction [45]. This problem has caused people to get stuck in a cycle of negative emotions, and a lack of control over emotions causes Disruption in relationships or limits social activities and leads to poor consequences in relationships.

In another explanation, men are trying to control their distress with destructive behaviors, such as substance abuse or anger and aggression [46], which is an inconsistent strategy for solving problems. They tend to ignore their responsibility for problems and instead of addressing them engage in destructive behaviors that damage the relationship. On the other hand, women cannot establish a sincere relationship and provide emotional support to their husbands when faced with distress because the overwhelming feeling of sadness, disappointment, anxiety, and depression cause dissatisfaction with life [47]. Meanwhile, physiological arousal caused by emotional distress disrupts the quality of relationships due to excessive violence, withdrawal, avoidance of intimacy, and aggressive behaviors. These behaviors prevent the other partner's need for security and disrupt the quality of interpersonal relationships [19]. Therefore, in such a situation, spouses are incapable of empathy and calm when faced with suffering and create negative emotional reactions on the other side. This unhealthy cycle increases the intensity of tension and conflict, causing each couple

to pay more attention to their spouse's negative qualities and view the problems as catastrophic, which drastically reduces the quality of the relationship. This study suggests that psychological compatibility has a significant negative association with relationship quality in both men and women. According to the topics discussed, childhood trauma, and psychological stress may play a role in deteriorating relationship quality. These relationships can be directly or indirectly related to the quality [11]. In confirmation of this finding, following Rohner Khaleque's theory of rejection and acceptance [27], failure to meet deep emotional needs and psychological damage caused by rejection during growth lead to the formation of different personality traits. These traits include a negative worldview, low self-esteem, emotional instability, emotional retardation, defensive independence or dependence, negative self-efficacy, anger, and aggression. These constructive components constitute a psychological incompatibility. When people bring their personal and psychological history into married life, that history can affect the type of relationship one person has with another person. In adulthood, when a person faces the same conditions as a child, each of these features manifests itself as an incompatible strategy in the situation, affecting the quality of interpersonal relationships.

The interaction of factors, such as childhood traumas, psychological distress, and psychological adaptation in explaining the quality of relationships is in line with the results obtained from the present study. Accordingly, childhood traumas and psychological distress have a significant indirect relationship with the quality of relationships through psychological adjustment. These findings were implicitly consistent with previous studies [4, 27, 48, 49]. Psychological adaptability as a personality trait resulting from childhood emotional trauma plays a major role in interpersonal relationships. Therefore, since personality traits are relatively stable and stable, the components of psychological adaptation can affect Aphra's interactive patterns at any time [4]. Based on the results of a significant association between psychological adjustment and the quality of relationships, and considering the role of childhood trauma, psychological adjustment acts as a mediating factor between these variables. As a result, in the present study, the structural model between childhood trauma and psychological stress was confirmed with the relationship quality and provided with a test of the mediating role of psychological adaptation.

Childhood experiences of trauma and adversity as some of the genetic and environmental factors can lead to personality changes in a person. Trauma institutionalizes a person's sense of inferiority and low self-esteem and subsequently creates a type of defect in emotion regulation that leads to sensitivity in interpersonal relationships [14]. Therefore, childhood trauma can directly affect the quality of relationships. However, trauma can affect the quality of interactions indirectly through the elements of psychological adjustment previously caused by that trauma. In other words, trauma is the cause that precedes the formation of intolerance, which is the result of abuse, rejection, and humiliation in the child during the growth period, which depends on the severity and duration of the trauma's effects. Because child abuse affects a child's ability to correct internal patterns, the internal patterning of children with a history of trauma leads to inflexibility in the way they perceive themselves and their relationships with others [50]. The experience of rejection, cold environments, and the experience of not being loved by caregivers make it difficult to establish intimate interaction. Experience of a risky and unsafe environment in childhood influences people's expectations of the world, whereby such attitudes influence the development of communication strategies that meet those expectations [51]. The sum of these factors can lead to psychological incompatibility. People with psychological distress experience unpleasant feelings due to a defect in emotion regulation. These feelings also influence the negative attitudes that are components of psychological compromises, such that reduced self-efficacy leads to people becoming demotivated and frustrated and failing in the face of family problems and problems. This increases marital conflict, and since self-efficacy is linked to a belief in personal control, the sense of personal control plays an important role in people's adaptation to stressors and thus impacts relationship quality.

Conclusion

This study found that unhappy childhood experiences and mental disorders can indirectly affect the quality of relationships in marriage through psychological adjustment. In other words, people who experience childhood trauma and psychological distress report lower-quality relationships if the level of psychological incompatibility is high. Negative past experiences, emotional dysregulation, and unhealthy interaction patterns are associated with low self-esteem, a negative worldview, low self-esteem, and inefficiency. Each of these factors can affect the level of adjustment, psychological compatibility, and ultimately the quality of relationships. Therefore,

it makes sense to use interventions to reduce the impact of these traumas and emotional regulation to improve psychological adaptation.

Study limitations

The current research has faced limitations in its work process. The research design was correlational; therefore, it was not possible to examine the causal relationships between the variables. Also, data collection was done only using self-reporting tools, which may be accompanied by biases and limits the possibility of generalizing the results. Another limitation of this research was the high number of questions in the questionnaires, which may cause mental fatigue and affect the way of answering. It is suggested to solve the limitations of the research use longitudinal studies to examine temporal relationships between variables and collect data using other tools such as interviews. In addition, it is better to use short-form questionnaires that have appropriate validity and reliability. Additionally, limitations in the online implementation of the questionnaire and problems in monitoring subject performance were other limitations of this study. Also, according to research results and the key role of factors such as childhood trauma, psychological stress, and psychological adaptation to the quality of interpersonal relationships, it is necessary to pay attention to these factors in prevention programs and therapeutic interventions to increase individual performance in interpersonal relationships.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of [Islamic Azad University, Karaj Branch](#), (Code: IR.IAU.K.REC.1401.033).

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Authors' contributions

Study design and statistical analysis: Elham Orujeni and Nahid Havassi Soumar; Data collection: Elham Orujeni; Writing the original draft: Elham Orujeni; Review and editing: Elham Orujeni; Conceptualization and final approval: All authors.

Conflict of interest

The authors declared no conflict of interest.

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