




Explaining the Causal Relationships Between Childhood Maltreatment and Attachment Styles with Forgiveness in Betrayal Victims: The Mediating Role of Defensive Mechanisms

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ABSTRACT

Objective: The primary aim of the current research was to present a forgiveness model based on childhood maltreatment and attachment styles with the mediating role of defensive mechanisms in betrayal victims.

Methods and Materials: The method of this study was descriptive-correlational and of the structural equation modeling type. The population of this study consisted of individuals who were victims of betrayal and had sought counseling in Tehran in the year 2022, from whom 653 persons were selected through convenience sampling. The instruments used in this study were the Childhood Trauma Questionnaire by Bernstein et al. (2003), the Attachment Styles Questionnaire by Hazan and Shaver (1987), the Defense Mechanisms Questionnaire by Andrews et al. (1993), and the Forgiveness Questionnaire by Rey et al. (2001). Data were analyzed using SPSS-25 and AMOS-24 software.

Findings: The results indicated that there is a negative relationship between childhood maltreatment, insecure attachment styles, and undeveloped and neurotic defensive mechanisms with forgiveness ($P < 0.01$); whereas secure attachment style and developed defenses had a positive relationship with forgiveness ($P < 0.01$). Additionally, the results suggested that defensive mechanisms mediate the relationship between childhood maltreatment and attachment styles with forgiveness in betrayal victims.

Conclusion: Overall, the results demonstrated that the evaluated structural model has a satisfactory fit, and the findings could aid therapists and counselors in better understanding the forgiveness process in betrayal victims.

Keywords: Betrayal, Forgiveness, Childhood Maltreatment, Attachment Styles, Defensive Mechanisms.

1. Introduction

Betrayal is an experience in committed relationships that can cause significant problems for both parties. While many couples end their relationship after the revelation of betrayal, some choose to stay and forgive (Fife et al., 2023). It should be noted that betrayal does not have a universally agreed upon definition across all cultures, but perhaps the common aspect of all definitions is the secrecy of the relationship with another person. Generally, betrayal can be defined as an individual crossing the boundaries of the relationship by establishing a physical or emotional connection with someone else (Scheeren et al., 2018). Victims can choose to forgive and strive for relationship recovery and counseling, or opt for non-forgiveness and behaviors such as revenge and divorce (Ebrahimi et al., 2023). Given the high intensity of harm in betrayal, forgiveness of betrayal is undoubtedly a very difficult matter (Bendixen et al., 2018).

Over three decades of research on forgiveness have passed, yet there is still no unified definition of forgiveness. One of the most cited definitions of forgiveness is by McCullough and colleagues (2000), who consider it an internal and social change towards the offender (McCullough et al., 2000). Forgiveness leads to self-compassion and also self-actualization in the individual (Ebrahimi et al., 2023). Forgiveness is a concept considered both a social, religious, and philosophical phenomenon, influenced by various individual and social factors (Azimi & Bagher, 2020). Forbearance, leniency, patience, and optimism are among the individual factors that influence the forgiveness of betrayal victims (Ghasem Zadeh et al., 2019).

Moreover, when an individual harms their emotional partner, the victim's reaction is often influenced by their attachment style (Davison, 2023). Attachment theory helps to understand the interpersonal responses of individuals with different attachment styles. A sense of insecurity leads to communication disruptions and the creation of emotional disorders and psychological harm (Parsakia et al., 2023). Hazan and Shaver (1987), who presented the theory of adult

attachment, note that attachment styles cause individual differences in psychological and social dimensions and also in personal expectations regarding emotional relationships (Parsakia et al., 2023; Shadanloo et al., 2023). According to Bowlby, communicative patterns resulting from early experiences transfer ways of emotional regulation, expectations, beliefs, and fundamental attitudes to later stages of life. Individuals with insecure attachments enter into unsupportive relationships. Those with avoidant insecure attachment do not consider themselves worthy of care and do not see the ability to establish intimacy, adopting a method of isolation and avoidance in response to harms and problems. Individuals with anxious attachment, instead of building or repairing relationships, more often cause their dissolution (Bowlby, 1988; Davison, 2023; Hazan & Shaver, 1987). Some studies on the relationship between forgiveness and attachment styles (Stern et al., 2018) also indicate that attachment styles are related to forgiveness.

Defensive mechanisms are defined as psychological processes that protect the individual from awareness of internal and external dangers (Jun et al., 2015). Defensive mechanisms are unconscious and automatic processes that allow us to cope with stress and tension and play an important role in maintaining mental health. However, the use of some of them, especially maladaptive defenses that severely distort reality, can be associated with psychological problems (Einy et al., 2019). To understand why and how defenses are used, one must consider the long period of human dependency on their primary caregiver. The child must adapt to disappointments and maltreatments observed from the parents to maintain survival and attachment. These maltreatments cause unpleasant feelings such as anger towards primary attachment sources; hence, the child avoids any thoughts, feelings, and behaviors resulting from these disappointments because it may lead to the loss of this attachment and sense of security (Besharat et al., 2019; Brody & Carson, 2012).

Given the review, examining the theoretical foundations and previous research shows the relationship between variables such as childhood maltreatment, attachment styles,

and forgiveness, where defensive mechanisms, being influenced by these variables, can also affect forgiveness. However, despite the researcher's review, no study has been found that simultaneously examines the relationship of these individual variables with forgiveness in betrayal victims. Therefore, the main question of the current research was whether the initial hypothetical conceptual model, which depicts the mediating role of defensive mechanisms in the relationship between childhood maltreatment and attachment styles with forgiveness in betrayal victims, matches the empirically developed model. The primary aim of the current research was to present a forgiveness model based on childhood maltreatment and attachment styles with the mediating role of defensive mechanisms in betrayal victims.

2. Methods and Materials

2.1. Study Design and Participants

The method of this study was descriptive-correlational and of the structural equation modeling type. The population included all individuals who had faced real or virtual sexual or emotional betrayal by their spouse, fiancé, or friend, and had sought counseling at centers under the supervision of the Psychology Organization and Welfare Organization of Tehran in 2022 or participated in an online research call. The use of virtual questionnaires was due to the COVID-19 pandemic and also to facilitate anonymous participation, allowing individuals to participate without fear of judgment or identity disclosure. The criterion for entering the study was the participant's perception of the counterpart's behavior as betrayal; hence, even if the spouse or counterpart denied and did not accept the occurrence of betrayal, the individual could still participate in the study. The criterion for exclusion from the study was incomplete questionnaires, and individuals who did not respond to all questionnaires were removed from the sample. Sampling continued until the sample size reached adequacy and desirability. The sampling method was convenience sampling. Determining the sample size in structural equations cannot be done using the Cochran

formula or referring to Morgan's table, and it is very sensitive and significant in this method. Given the importance of sample size in structural equation results, several methods have been proposed for determining sample size. Generally, there is no unanimous agreement on how to determine sample size in structural equations. Some believe that the sample size should be based on the number of latent variables for confirmatory factor analysis and manifest variables for exploratory factor analysis. Others, citing experts, suggest a minimum sample size of 200.

With the cooperation of counseling centers, after emphasizing confidentiality and obtaining participants' consent, questionnaires were distributed among clients who had recently or previously visited counseling centers for betrayal issues. Additionally, a significant portion of data collection was conducted online through research calls in the virtual space, emphasizing confidentiality due to the sensitive nature of betrayal and restrictions related to the COVID-19 pandemic, which was well-received by participants. To maintain confidentiality, questionnaires stressed that there was no need to provide personal information such as identity, and individuals could complete the questionnaires using a pseudonym. To encourage participation and complete the required sample size, participants were promised that if they wished, the research results would be sent to them confidentially. Therefore, after scoring and interpreting the questionnaires, a general interpretation of each person's questionnaires was sent to approximately 200 participants in both audio and written form, a demanding and time-consuming task carried out as an ethical commitment to the participants. Additionally, in line with commitments made to participants, those interested in receiving individual or couple counseling were offered counseling at a special discount. A total of 1523 individuals participated in the study, of which 653 responded to all questions and questionnaires, while the rest were excluded due to incomplete responses.

2.2. Measures

2.2.1. Attachment Style

This scale, developed using the Attachment test items by Hazan and Shaver (1987) and normed by Besharat (2000) on University of Tehran students, is a 21-item test measuring three attachment styles: secure, avoidant, and ambivalent, on

a 5-point Likert scale ranging from "not at all" to "very much." To obtain the score related to each dimension, the sum of the scores of its questions is calculated, and then the percentage score for each dimension is calculated. Higher percentage scores in each dimension indicate the corresponding attachment style of the individual. Cronbach's alpha coefficients for the secure, avoidant, and ambivalent subscales on a student sample ($n=240$; Besharat, 2000) were 0.74, 0.72, and 0.72, respectively. The correlation coefficients between the scores of male and female subjects were 0.85 and 0.87, respectively. The test-retest reliability coefficient for the Adult Attachment Scale for a sample of 30 individuals over two sessions with a two-week interval for all subjects was 0.92 (Besharat et al., 2019; Hazan & Shaver, 1987).

2.2.2. *Childhood Trauma*

This questionnaire was developed by Bernstein et al. (2003) to assess damages and trauma during childhood. It is a screening tool for identifying individuals with experiences of abuse and neglect in childhood, usable for both adults and adolescents. The questionnaire assesses five types of childhood maltreatment: sexual abuse, physical abuse, emotional abuse, emotional neglect, and physical neglect, with 28 questions, 25 of which are used to measure the main components of the questionnaire, and 3 to identify individuals who deny their childhood problems. A total score above 12 on these questions likely indicates that the person's responses are invalid. In the study by Bernstein et al. (2003), Cronbach's alpha coefficients for the dimensions of emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect were respectively 0.87, 0.86, 0.95, 0.89, and 0.78. Concurrent validity with therapists' ratings of childhood traumas ranged from 0.59 to 0.78. In Iran, researchers reported Cronbach's alpha for the five components ranging from 0.81 to 0.98. Before scoring the components of the questionnaire, the scoring of questions 5, 7, 13, 19, 28, 2, and 26 should be reversed. Higher scores indicate more trauma or damage, and lower scores indicate less childhood trauma or damage. The score range for each

subscale is 5 to 25, and for the entire questionnaire is 25 to 125 (Bernstein et al., 2003; Sahraee Darian et al., 2017).

2.2.3. *Forgiveness*

This questionnaire was created by Ray et al. (2001) and consists of 15 items and two subscales: absence of negative feeling (10 questions) and presence of positive feeling (5 questions), designed to assess forgiveness in individuals. The scoring is based on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree," with scores of 1, 2, 3, 4, and 5, respectively. Items 1, 3, 4, 5, 7, 9, and 10 are reverse scored. A higher score indicates more forgiveness among couples. Ray et al. (2001) found the reliability of this scale using Cronbach's alpha to be 0.87 for the entire scale, 0.86 for the subscale measuring the absence of negative feeling, and 0.85 for the subscale measuring the presence of positive feeling, indicating satisfactory reliability. Zandi Pour, Azadi, and Nahid Pour (2011) also reported the reliability of this scale using Cronbach's alpha as 0.79 and split-half reliability as 0.81 in their study (Zandipour et al., 2011).

2.2.4. *Defensive Mechanisms*

The Defensive Style Questionnaire by Andrews et al. (1993) is a 40-item tool rated on a 9-point Likert scale (from "strongly agree" to "strongly disagree") that measures twenty defensive mechanisms according to three defensive styles: mature (including sublimation, humor, anticipation, and suppression); neurotic (including undoing, pseudo-altruism, idealization, and reaction formation); and immature (including projection, passive aggression, acting out, isolation, devaluation, autistic fantasy, denial, displacement, splitting, rationalization, and somatization). The psychometric properties of the Persian version of the Defensive Style Questionnaire have been investigated and confirmed in several studies, in both clinical and normal samples. Cronbach's alpha coefficients for the items of each subscale of the questionnaire for mature style ranged from 0.83 to 0.94, for immature style from 0.81 to 0.92, and for neurotic style from 0.79 to 0.91. These coefficients confirm

the internal consistency of the subscales of the Defensive Style Questionnaire. The test-retest reliability of the questionnaire for clinical and normal samples over intervals of 2 to 6 weeks for mature style ranged from 0.73 to 0.87, for immature style from 0.71 to 0.84, and for neurotic style from 0.69 to 0.78. All these coefficients are significant at $P < 0.001$. Confirmatory factor analysis results also validated the construct validity of the Persian version of the Defensive Style Questionnaire by identifying three factors (three defensive styles: mature, neurotic, and immature) (Besharat et al., 2019).

2.3. Data analysis

This research utilized descriptive statistics to analyze demographic information, including mean, standard deviation, and Cronbach's alpha, and assumptions of analysis such as univariate normality. Structural equation modeling analysis was performed using SPSS-25 and AMOS-24 software.

3. Findings and Results

In the current study, 541 women and 112 men who had experienced betrayal participated, with 8 participants (1.2%)

under 18 years, 173 participants (26.5%) aged 19 to 28 years, 298 participants (45.7%) aged 29 to 38 years, and 174 participants (26.6%) aged 38 years and above. Regarding education levels, 33 participants (5.1%) had below high school diploma, 143 participants (21.9%) had a high school diploma, 52 participants (8%) had an associate degree, 270 participants (41.3%) had a bachelor's degree, 127 participants (19.4%) had a master's degree, and 28 participants (4.3%) had a PhD. Among the participants, 317 (48.5%) were betrayed by a spouse, 33 (5.1%) by a fiancé/legal partner, and 303 (46.4%) by a friend or lover. Additionally, 108 participants (16.5%) had been in a relationship with the betrayer for less than 6 months, 73 participants (12.2%) for 6 months to a year, 158 participants (24.2%) for 1 to 3 years, 75 participants (11.5%) for 3 to 5 years, and 239 participants (36.6%) for more than 5 years before the betrayal. The type of betrayal experienced was sexual and emotional for 123 participants (18.8%), emotional for 219 participants (33.5%), and through virtual space for 311 participants (47.6%). At the time of responding to the questionnaires, 54 participants (8.3%) became aware of the betrayal less than 1 month ago, 107 participants (16.4%) from 1 to 6 months ago, 83 participants (12.7%) from 6 to 12 months ago, and 409 participants (62.6%) more than a year ago. The Table 1 shows the mean, standard deviation, and correlation coefficients between the research variables.

Table 1

Descriptive Statistics and Correlation Results

| Variable | Childhood Maltreatment | Secure Attachment Style | Avoidant Attachment Style | Ambivalent Attachment Style | Mature Defensive Mechanisms | Neurotic Defensive Mechanisms | Immature Defensive Mechanisms | Forgiveness |
|--------------------|------------------------|-------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------|
| Mean | 56.30 | 25.49 | 18.79 | 20.26 | 20.98 | 23.44 | 69.02 | 43.10 |
| Standard Deviation | 11.61 | 6.00 | 5.36 | 4.02 | 5.82 | 7.28 | 10.41 | 8.74 |
| Skewness | 0.46 | -1.25 | 0.10 | -0.33 | 0.62 | 1.56 | -1.25 | 0.07 |
| Kurtosis | -0.62 | 1.67 | 0.04 | 0.49 | 0.61 | 0.47 | 1.67 | -0.59 |
| Tolerance | 0.61 | 0.82 | 0.72 | 0.73 | 0.52 | 0.57 | 0.65 | - |

| | | | | | | | | |
|--------------|--------|------|--------|--------|--------|--------|--------|--------|
| Variance | 1.64 | 1.22 | 1.40 | 1.37 | 1.92 | 1.75 | 1.53 | - |
| Inflation | | | | | | | | |
| Correlation | | | | | | | | |
| Coefficients | | | | | | | | |
| Secure | 0.38** | - | 0.69** | 0.42** | 0.08 | 0.57** | 0.35** | 0.51** |
| Attachment | | | | | | | | |
| Style | | | | | | | | |
| Avoidant | 0.41** | | - | 0.54** | 0.12 | 0.49** | 0.41** | 0.45** |
| Attachment | | | | | | | | |
| Style | | | | | | | | |
| Ambivalent | 0.32** | | | - | 0.20** | 0.38** | 0.34** | 0.36** |
| Attachment | | | | | | | | |
| Style | | | | | | | | |
| Mature | 0.11 | | | | - | 0.22** | 0.47** | 0.32** |
| Defensive | | | | | | | | |
| Mechanisms | | | | | | | | |
| Neurotic | 0.34** | | | | | - | 0.39** | 0.42** |
| Defensive | | | | | | | | |
| Mechanisms | | | | | | | | |
| Immature | 0.30** | | | | | | - | 0.54** |
| Defensive | | | | | | | | |
| Mechanisms | | | | | | | | |
| Forgiveness | 0.47** | | | | | | | - |

** P < 0.01, * P < 0.05

Table 1 shows the correlation coefficients between variables, indicating that the direction of correlations between variables was consistent with expectations and aligned with theories in the research field. In this study, to evaluate the assumption of normal distribution of univariate data, skewness and kurtosis of each variable were examined, and to assess the assumption of multicollinearity, the variance inflation factor and tolerance coefficient were investigated, with results presented in Table 1. According to table 1, skewness and kurtosis values of all variables were within the ± 2 range, indicating that the assumption of normal distribution of univariate data was met (Kline, 2023). Additionally, Table 1 shows that the assumption of multicollinearity was met in the present research data because the tolerance coefficient values of the predictor variables were greater than 0.1 and the variance inflation factor values of each were less than 10. According to Mirza and colleagues (2006), a tolerance coefficient less than 0.1

and a variance inflation factor value greater than 10 indicate a violation of the multicollinearity assumption.

To evaluate the assumption of the normal distribution of multivariate data, "Mahalanobis distance" analysis was used. The skewness and kurtosis values for Mahalanobis distance data were 1.82 and 4.36, respectively, indicating that the kurtosis value was outside the ± 2 range, suggesting a violation of the normal distribution assumption for multivariate data. Consequently, a box plot for Mahalanobis distance data was drawn, revealing that data from 9 participants formed multivariate outliers. After removing data from these participants, skewness and kurtosis values for Mahalanobis distance data were reduced to 1.12 and 1.29, respectively, indicating the assumption of normal distribution for multivariate data was met. It's worth mentioning that to evaluate the assumption of homogeneity of variances, the scatter plot of standardized error variances

was examined, and results indicated that this assumption was met across the data.

The model fit was evaluated using path analysis with AMOS software version 26 and Maximum Likelihood (ML) estimation. Table 2 presents the model fit indices.

Table 2

Fit Indices

| Model Fit Indices | Model | Cut-off Point |
|---|-------|-------------------|
| Chi-Squared (χ^2) | 6.78 | - |
| Degrees of Freedom (df) | 3 | - |
| χ^2/df | 2.26 | Less than 3 |
| Goodness of Fit Index (GFI) | 0.994 | Greater than 0.90 |
| Adjusted Goodness of Fit Index (AGFI) | 0.968 | Greater than 0.85 |
| Comparative Fit Index (CFI) | 0.997 | Greater than 0.90 |
| Root Mean Square Error of Approximation (RMSEA) | 0.044 | Less than 0.08 |

Table 2 indicates that all fit indices from the analysis support an acceptable model fit with the collected data ($\chi^2/df=2.26$, CFI=0.997, GFI=0.994, AGFI=0.968,

RMSEA=0.044). Table 3 shows the path coefficients in the structural model.

Table 3

Direct and Indirect Results

| Path | b | S.E. | β | p |
|---|--------|-------|---------|-------|
| Direct Paths | | | | |
| Childhood Maltreatment → Immature Defense | 0.172 | 0.019 | 0.376 | 0.001 |
| Childhood Maltreatment → Mature Defense | -0.022 | 0.012 | -0.079 | 0.054 |
| Childhood Maltreatment → Neurotic Defense | 0.084 | 0.015 | 0.238 | 0.001 |
| Childhood Maltreatment → Forgiveness | -0.010 | 0.023 | -0.018 | 0.682 |
| Ambivalent Attachment → Immature Defense | -0.114 | 0.105 | -0.048 | 0.274 |
| Ambivalent Attachment → Mature Defense | -0.357 | 0.071 | -0.247 | 0.001 |
| Ambivalent Attachment → Neurotic Defense | 0.513 | 0.077 | 0.281 | 0.001 |
| Ambivalent Attachment → Forgiveness | -0.224 | 0.132 | -0.081 | 0.074 |
| Secure Attachment → Immature Defense | -0.128 | 0.082 | -0.054 | 0.107 |
| Secure Attachment → Mature Defense | 0.261 | 0.067 | 0.179 | 0.001 |
| Secure Attachment → Neurotic Defense | -0.225 | 0.079 | -0.123 | 0.004 |
| Secure Attachment → Forgiveness | -0.066 | 0.094 | -0.041 | 0.484 |
| Avoidant Attachment → Immature Defense | 0.421 | 0.091 | 0.239 | 0.001 |
| Avoidant Attachment → Mature Defense | -0.199 | 0.054 | -0.184 | 0.001 |
| Avoidant Attachment → Neurotic Defense | 0.201 | 0.061 | 0.147 | 0.001 |
| Avoidant Attachment → Forgiveness | -0.145 | 0.101 | -0.070 | 0.159 |
| Indirect Paths | | | | |
| Childhood Maltreatment → Forgiveness | -0.069 | 0.013 | -0.128 | 0.001 |

| | | | | |
|--------------------------------------|--------|-------|--------|-------|
| Ambivalent Attachment → Forgiveness | -0.327 | 0.066 | -0.118 | 0.001 |
| Secure Attachment → Forgiveness | 0.210 | 0.051 | 0.076 | 0.001 |
| Avoidant Attachment → Forgiveness | -0.221 | 0.041 | -0.107 | 0.001 |
| Total Paths | | | | |
| Childhood Maltreatment → Forgiveness | -0.078 | 0.022 | -0.146 | 0.001 |
| Ambivalent Attachment → Forgiveness | -0.551 | 0.130 | -0.199 | 0.001 |
| Secure Attachment → Forgiveness | 0.208 | 0.103 | 0.091 | 0.044 |
| Avoidant Attachment → Forgiveness | -0.365 | 0.111 | -0.177 | 0.002 |

Table 3 indicates that the total path coefficient between childhood maltreatment and forgiveness ($P=0.001$, $\beta=-0.146$) is negative and significant. The total path coefficient between secure attachment style and forgiveness ($P=0.044$, $\beta=0.091$) is positive, and the total path coefficients between ambivalent ($P=0.001$, $\beta=-0.199$) on one hand, and avoidant attachment styles ($P=0.002$, $\beta=-0.177$) on the other hand with forgiveness are negative and significant. Table 4 shows that the path coefficient between mature defensive mechanisms and forgiveness ($P=0.001$, $\beta=0.199$) is positive, and the path coefficients between immature ($P=0.002$, $\beta=-0.129$) on one hand, and neurotic defensive mechanisms ($P=0.001$, $\beta=-0.270$) on the other hand with forgiveness are negative and significant. The indirect path coefficient between secure attachment style ($P=0.001$, $\beta=0.076$) with forgiveness is positive, and the indirect path coefficients between ambivalent ($P=0.001$, $\beta=-0.118$) and avoidant

($P=0.001$, $\beta=-0.107$) attachment styles similar to childhood maltreatment ($P=0.001$, $\beta=-0.128$) with forgiveness are negative and significant. This finding indicates that defensive mechanisms significantly mediate the relationship between attachment styles and childhood maltreatment with forgiveness. However, the unique role of each mediator variable (mature, neurotic, and immature defensive mechanisms) in these relationships was not determined. To this end, the formula proposed by Baron and Kenny (1986) was employed to determine the unique role of each mediator variable in the relationship between attachment styles and childhood maltreatment with forgiveness. Table 4 shows the significance of the mediating role of each defensive mechanism in explaining the relationships between attachment styles and childhood maltreatment with forgiveness.

Table 4

Mediating Role

| Path | a*b | SEab | β | p |
|---|--------|-------|---------|-------|
| Childhood Maltreatment → Mature Defense → Forgiveness | -0.008 | 0.012 | -0.016 | 0.509 |
| Childhood Maltreatment → Immature Defense → Forgiveness | -0.026 | 0.011 | -0.049 | 0.018 |
| Childhood Maltreatment → Neurotic Defense → Forgiveness | -0.033 | 0.013 | -0.065 | 0.010 |
| Secure Attachment → Mature Defense → Forgiveness | 0.099 | 0.049 | 0.036 | 0.043 |
| Secure Attachment → Immature Defense → Forgiveness | 0.035 | 0.051 | 0.007 | 0.495 |
| Secure Attachment → Neurotic Defense → Forgiveness | 0.094 | 0.049 | 0.032 | 0.055 |
| Avoidant Attachment → Mature Defense → Forgiveness | -0.076 | 0.037 | -0.036 | 0.041 |
| Avoidant Attachment → Immature Defense → Forgiveness | -0.063 | 0.041 | -0.031 | 0.126 |
| Avoidant Attachment → Neurotic Defense → Forgiveness | -0.082 | 0.038 | -0.041 | 0.032 |
| Ambivalent Attachment → Mature Defense → Forgiveness | -0.137 | 0.050 | -0.053 | 0.006 |
| Ambivalent Attachment → Immature Defense → Forgiveness | 0.017 | 0.021 | 0.007 | 0.418 |
| Ambivalent Attachment → Neurotic Defense → Forgiveness | -0.045 | 0.014 | -0.076 | 0.001 |

According to Table 4, using Baron and Kenny's formula showed that the indirect path coefficient between childhood maltreatment and forgiveness through neurotic ($P=0.010$, $\beta=-0.065$) and immature ($P=0.018$, $\beta=-0.049$) defensive mechanisms is negative and significant. Based on the results

of table 5, using Baron and Kenny's formula showed that the indirect path coefficients between ambivalent attachment style with forgiveness through mature ($P=0.006$, $\beta=-0.053$) and neurotic ($P=0.032$, $\beta=-0.076$) defensive mechanisms on one hand, and the indirect path coefficients between

avoidant attachment style with forgiveness through mature (P=0.041, β =-0.036) and neurotic (P=0.032, β =-0.041) defensive mechanisms on the other hand are negative and significant. Additionally, the indirect path coefficient between secure attachment style with forgiveness through mature defensive mechanisms (P=0.043, β =0.036) is positive and significant. It's notable that the indirect path coefficients between childhood maltreatment and forgiveness through mature defensive mechanisms on one hand, and the indirect path coefficients of all three attachment styles with forgiveness through immature defensive mechanisms were not significant. Furthermore, the indirect path coefficient between secure attachment style with forgiveness through neurotic defensive mechanisms

was not significant. Therefore, the results of the current study showed that immature and neurotic defensive mechanisms significantly negatively mediate the relationship between childhood maltreatment and forgiveness in betrayal victims. Also, mature defensive mechanisms significantly positively mediate the relationship between secure attachment style and forgiveness. Finally, neurotic and mature defensive mechanisms significantly negatively mediate the relationship between both ambivalent and avoidant attachment styles with forgiveness. Figure 1 shows the structural model of the research in explaining the causal relationships between attachment styles and childhood maltreatment with forgiveness in betrayal victims based on the mediating role of defensive mechanisms.

Figure 1

Final Model

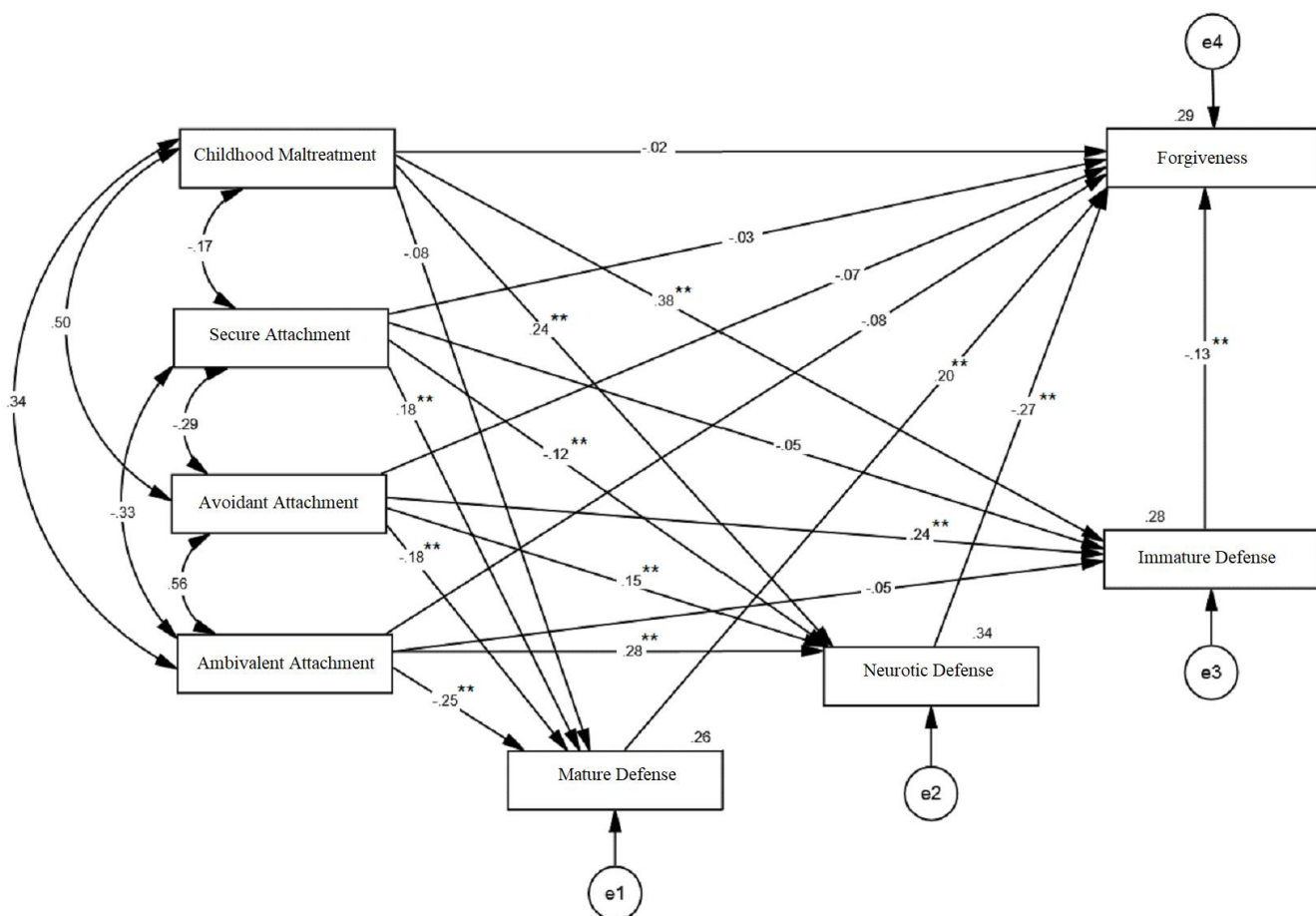


Figure 1 indicates that the total squared multiple correlations (R^2) for the forgiveness variable is 0.29. This indicates that attachment styles, childhood maltreatment,

and defensive mechanisms explain 29% of the variance in forgiveness among betrayal victims.

4. Discussion and Conclusion

The primary objective of the present research was to propose a forgiveness model based on childhood maltreatment and attachment styles, with the mediating role of defensive mechanisms in betrayal victims. The findings regarding the mediating role of defensive mechanisms in the relationship between childhood maltreatment and forgiveness in betrayal victims indicate that neurotic and immature defensive mechanisms mediate this relationship negatively; whereas mature defensive mechanisms do not play a mediating role, which is entirely in line with the theoretical foundations. This result can be explained by understanding that defenses are cognitive, emotional, and behavioral strategies for protecting the individual's psyche against anxiety caused by internal or external threats, and these defenses are functions of the ego (Blackman, 2004). According to some views (Cramer, 2002), defenses develop in line with individual growth. Therefore, experiencing childhood maltreatment, when the ego is less mature and developed, leads to the development of more primitive and immature defenses, which gradually become relatively stable mental and behavioral patterns that are involuntarily and automatically applied in the future (Besharat et al., 2019; Einy et al., 2019). As a result, in adulthood, when faced with stress or pressure such as betrayal, individuals are more likely to use more primitive and inefficient defenses, such as neurotic and immature ones, which distort or deny reality, causing further confusion, problem-solving failure, and consequently, a decrease in forgiveness levels.

Additionally, childhood maltreatment could lead to decreased mental health and an increase in psychological problems in adulthood (Goulter et al., 2019), and lower mental health is associated with the use of lower-level, neurotic, and immature defenses. This means that as mental health decreases due to childhood maltreatment, the use of lower-level defenses increases, and according to previous research findings, an increase in the use of these defenses leads to a decrease in forgiveness.

The mediating role of defensive mechanisms in the relationship between attachment styles and forgiveness in betrayal victims shows that for secure attachment style, mature and neurotic defensive mechanisms play a positive mediating role, and immature defenses do not mediate forgiveness, aligning with previous research (Besharat et al., 2019). Based on attachment theory, infants have a need and desire to maintain attachment and will do whatever is emotionally, cognitively, and behaviorally necessary to preserve the relationship. Using such strategies leads to the formation of fixed defensive and attachment emotion regulation patterns, determining access to thoughts, feelings, and memories related to attachment when facing attachment threats like betrayal. Individuals with secure attachment, by distancing feelings without distorting reality (Ainsworth et al., 2011) and using more mature and developed defenses due to ego development (Ammari et al., 2023; Dehghani et al., 2019), are better able to go through the forgiveness process. In summary, according to previous research findings and prior studies, individuals with secure attachment use more mature defenses, and the increased use of these defenses leads to a higher level of forgiveness in the victim, thus mediating the relationship between secure attachment and forgiveness.

Also, all individuals use defensive mechanisms to some extent to enhance their adaptation and harmony with internal and external anxiety-provoking conditions. Even if a victim with secure attachment uses neurotic defenses, according to Ainsworth's (1987) view, the internal state regulation system of the attachment system tries to approach the attachment source by regulating internal cognitive and emotional states when the attachment source is not available (Besharat et al., 2019). Although long-term use of neurotic defenses can cause relationship issues, their temporary use during anxiety and pressure situations like the revelation of betrayal helps the victim manage without denying the threat and reality but slightly distorting reality to change perception and emotions, thus better navigating the forgiveness process. In essence, based on previous research findings, an individual with secure attachment uses fewer neurotic defenses, and since

the relationship of these defenses with forgiveness is inverse, the more secure the attachment, the less neurotic defenses are used, increasing the level of forgiveness, hence playing a positive mediating role in this relationship (Farias et al., 2020). Conversely, immature defenses, often maladaptive and reality-denying, lead to disruptions in reality assessment and proper decision-making. However, individuals with secure attachment, due to appropriate self-regulation, do not use these defenses even during severe harm and stress like betrayal, so these defenses do not play a significant mediating role in the relationship between secure attachment style and forgiveness in betrayal victims.

Furthermore, the research findings indicate that in the relationship between avoidant attachment style and forgiveness, neurotic and immature defensive mechanisms significantly negatively mediate, while mature defenses do not play a mediating role in this relationship. This finding can also be explained by previous research results, showing a positive relationship between the use of neurotic and immature defensive mechanisms in individuals with avoidant attachment style, increasing with more avoidant attachment. Since the relationship of these defenses with forgiveness is negative, these defenses lead to a further decrease in forgiveness and enhance the negative relationship between avoidant attachment and forgiveness.

In essence, based on attachment theory, these defenses disrupt the emotional and cognitive processing of individuals with avoidant attachment, exacerbating their avoidance of connection and mistrust, affecting forgiveness in avoidant individuals. These individuals are characterized by lack of self-disclosure, non-expression of emotions, problem-solving incapability, and lack of emotional support and help, and neurotic and immature defenses exacerbate such traits, likely resulting in a further decrease in forgiveness (Nakhoul et al., 2020; Oldmeadow et al., 2013).

Regarding the mediating role of defenses in the relationship between anxious/ambivalent attachment style and forgiveness in betrayal victims, the results indicate a negative mediating role for mature and neurotic defenses, and no mediation for immature defenses. Explaining the

mediating role of mature and neurotic defenses, based on the research findings mentioned, the relationship between anxious/ambivalent attachment style and neurotic defenses is positive and direct, increasing the use of neurotic defenses with more anxious attachment. Therefore, an increase in the use of neurotic defenses leads to a further decrease in forgiveness. Similarly, mature defenses also play a similar mediating role as neurotic defenses in the relationship between anxious/ambivalent attachment style and forgiveness; because anxious/ambivalent attachment inversely relates to mature defenses, decreasing their use with an increase in this attachment style. Since the relationship of mature defenses with forgiveness is direct, a decrease in the use of these defenses leads to a decrease in forgiveness.

This research aimed to investigate the mediating role of early maladaptive schemas and defensive mechanisms in the relationship between attachment styles and forgiveness. Overall, the results indicate a direct effect of predictor variables, childhood maltreatment, and attachment styles on forgiveness, consistent with previous findings and the theoretical foundations of the research. Considering the obtained results regarding the mediating role of early maladaptive schemas, it can be concluded that early maladaptive schemas play a mediating role concerning both the variable of childhood maltreatment and attachment styles, but caution should be exercised in interpreting this result; because schemas have various and contrasting coping styles and responses that can affect the relationship between childhood maltreatment, attachment styles, and forgiveness. The same applies to the mediating role of defensive mechanisms in the relationship between attachment styles and forgiveness, as defenses have the capacity to play either a positive or negative mediating role in this relationship.

5. Limitations & Suggestions

Based on the research findings, 82.8% of participants were women, and since gender can influence responses to betrayal (Sudani et al., 2012; Wohl et al., 2006), the results might have been affected by the moderating variable of

gender, making generalization to men challenging. The large number of questions, resulting from five standard questionnaires and several demographic questions, meant that out of 1523 participants, who were difficult to find, only 653 completed all questions. While this sample size was sufficient for the research method, collecting such a sample size was very challenging and time-consuming. Therefore, participants might not have answered the final questions accurately due to fatigue, although incentives were considered to encourage participants to respond to all questions thoroughly. Additionally, participants could pause and continue answering questions in multiple sessions if tired, using the same previous link to re-enter the site and complete the remaining questions. Overall, due to the large number of questions and the Forgiveness Questionnaire being the last to be completed, the results could have been influenced by participant fatigue. One of the fundamental limitations of this research, like all studies examining early maladaptive schemas, is that schemas are cognitive, emotional, and behavioral patterns that should not be assessed solely through questionnaires. In fact, questionnaires only evaluate the cognitive dimension of schemas, which can be biased, and accurate and correct assessment of individuals' schemas requires interviews and the use of experimental techniques such as imagery, which was not feasible due to the large sample size and the sensitive topic of betrayal, and like other domestic and international quantitative studies, questionnaire results were relied upon. Therefore, the results related to early maladaptive schemas should be generalized with greater caution.

It is suggested that similar research be conducted separately among individuals seeking divorce in courts or individuals seeking relationship reconstruction in counseling centers. Future research should also specifically target married individuals or unmarried individuals who have been victims of betrayal to compare the results. It is recommended that such research be conducted exclusively among men, but since sample collection can be challenging due to cultural issues among men, qualitative research requiring fewer participants should be used. Another research suggestion is to not solely rely on questionnaires for assessing schemas and to conduct qualitative research specifically examining the role of early maladaptive schemas in forgiveness or non-forgiveness in betrayal victims, as no qualitative research examining the role of early maladaptive schemas was found in the literature review.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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