

A Structural Model for Predicting Psychological Vulnerability Based on Childhood Trauma and Perceived Social Support: The Mediating Role of Emotion Regulation in Women

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ABSTRACT

Purpose: This study aimed to develop and test a structural model of psychological vulnerability based on childhood trauma and perceived social support, with the mediating role of cognitive emotion regulation in women.

Methods and Materials: This cross-sectional, descriptive-correlational study used structural equation modeling. The participants were 350 married women aged 18–50 years attending licensed counseling and psychology centers in Mashhad, Iran, in 2025. Participants were recruited through two-stage sampling. Data were collected using the 25-item Symptom Checklist, Childhood Trauma Questionnaire–Short Form, Multidimensional Scale of Perceived Social Support, and Cognitive Emotion Regulation Questionnaire–Short Form. Data were analyzed using confirmatory factor analysis, structural equation modeling, and bootstrap analysis with 5,000 resamples.

Findings: Childhood trauma was positively associated with psychological vulnerability ($\beta = .459, p < .001$) and maladaptive cognitive emotion regulation ($\beta = .624, p < .001$), and negatively associated with adaptive regulation ($\beta = -.441, p < .001$). Perceived social support was negatively associated with psychological vulnerability ($\beta = -.642, p < .001$) and maladaptive regulation ($\beta = -.261, p < .001$), and positively associated with adaptive regulation ($\beta = .484, p < .001$). Adaptive regulation was negatively associated with psychological vulnerability ($\beta = -.417, p < .001$), whereas maladaptive regulation showed a positive association ($\beta = .620, p < .001$). Significant indirect effects were found for childhood trauma through adaptive regulation ($\beta = .18, 95\% \text{ CI } [.07, .28]$) and maladaptive regulation ($\beta = .24, 95\% \text{ CI } [.11, .36]$), and for perceived social support through adaptive ($\beta = -.20, 95\% \text{ CI } [-.32, -.09]$) and maladaptive regulation ($\beta = -.12, 95\% \text{ CI } [-.23, -.02]$).

Conclusion: Cognitive emotion regulation partially mediated the associations of childhood trauma and perceived social support with psychological vulnerability. Strengthening adaptive emotion regulation and social support may help reduce psychological vulnerability in women.

Keywords: Childhood trauma; Cognitive emotion regulation; Perceived social support; Psychological vulnerability; Structural equation modeling; Women.

1. Introduction

Psychological vulnerability is a multidimensional condition reflecting an individual's heightened susceptibility to emotional distress, psychological symptoms, and impaired adaptation when confronted with stressful, threatening, or adverse circumstances. Rather than representing a discrete psychiatric disorder, psychological vulnerability can be understood as a broader disposition through which internal and external stressors are more likely to generate anxiety, depressive symptoms, emotional instability, interpersonal difficulties, and other forms of psychological distress. Its significance becomes particularly evident when individuals are exposed to persistent interpersonal stress or possess limited psychological and social resources for managing adversity. Earlier research on psychological and existential vulnerability has demonstrated that vulnerability is closely intertwined with depressive symptomatology, psychological distress, and limitations in individuals' capacity to cope with emotionally demanding life circumstances (Lloyd et al., 2015). Similarly, research examining women exposed to health-related threats has emphasized the importance of identifying psychological distress and vulnerability factors because vulnerability may influence adaptation, coping, and overall psychological functioning (Thewes et al., 2003). These observations underscore the importance of identifying not only proximal correlates of psychological vulnerability but also the developmental and interpersonal processes through which vulnerability may emerge and persist.

Women constitute an especially important population for investigating psychological vulnerability because their psychological functioning may be influenced by the cumulative interaction of developmental experiences, interpersonal relationships, family circumstances, social roles, and emotion-regulation processes. Vulnerability in women cannot therefore be understood solely in terms of current symptoms or immediate stressors. Earlier experiences may establish enduring cognitive and emotional patterns that influence how subsequent difficulties are interpreted and managed. Psychological vulnerability has also been examined as an explanatory process in women's interpersonal and family functioning. For example, psychological vulnerability has been identified as a mediating mechanism in associations involving dependence on social networks and emotional divorce among women, suggesting that vulnerability may serve as an important psychological pathway through which environmental and

relational experiences influence emotional and interpersonal outcomes (Yaghubi Hasankala et al., 2021). Consequently, a comprehensive explanation of psychological vulnerability in women requires simultaneous consideration of developmental risk factors, current protective resources, and modifiable psychological mechanisms.

Among developmental risk factors, childhood trauma has received substantial attention because adverse experiences occurring during formative developmental periods can exert enduring effects on emotional, cognitive, interpersonal, and psychological functioning. Childhood trauma encompasses experiences such as emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Such experiences occur during periods in which basic assumptions concerning safety, trust, attachment, self-worth, and emotional expression are developing. When children repeatedly encounter threatening, neglectful, rejecting, or unpredictable environments, they may develop patterns of emotional processing that remain influential long after the adverse environment has ended. Evidence among adult survivors indicates that childhood trauma can have psychosomatic as well as psychological consequences, demonstrating that its effects may extend across emotional and bodily domains and remain detectable during adulthood (Saadati et al., 2024). Thus, childhood trauma represents not merely a historical event but a potentially enduring developmental risk factor for subsequent psychological vulnerability.

One important mechanism through which childhood maltreatment may contribute to later psychological distress involves the development of maladaptive beliefs and interpretations concerning the self and the environment. Childhood emotional maltreatment, for example, has been associated with later psychological distress among young adults, with maladaptive schemas playing an explanatory role in this relationship (Wright et al., 2009). These findings suggest that adverse childhood experiences may become incorporated into enduring cognitive structures that shape the appraisal of later events. Individuals exposed to maltreatment may consequently perceive themselves as less worthy, others as less trustworthy, and stressful situations as more threatening or uncontrollable. Such patterns can increase sensitivity to subsequent stress and reduce the effectiveness of coping responses, thereby contributing to psychological vulnerability.

More recent evidence similarly indicates that childhood trauma is associated with diverse forms of psychological dysfunction. Childhood trauma has been linked to

depression, anxiety, and stress, including through psychological mechanisms such as alexithymia, demonstrating the relevance of difficulties in identifying and processing emotional experiences following childhood adversity (Mohammadbeigi et al., 2023). Among adults with obsessive-compulsive disorder, childhood trauma has also been examined alongside alexithymia and emotional dysregulation, further demonstrating the close interrelationship between early adverse experiences and impaired emotional functioning (Zahra & Ahmad, 2025). Collectively, these findings support a developmental perspective in which childhood trauma increases the likelihood of later psychological difficulties partly because it disrupts the psychological capacities necessary for understanding, tolerating, and regulating emotional experiences.

Contemporary research increasingly identifies emotion regulation as a central mechanism connecting childhood trauma with subsequent psychological functioning. Emotion regulation encompasses the cognitive and behavioral processes through which individuals identify, interpret, modify, and manage their emotional experiences. Effective emotion regulation does not necessarily eliminate negative emotions; rather, it enables individuals to respond to emotional experiences in ways that are proportionate to situational demands and compatible with longer-term goals. Cognitive emotion regulation is particularly important because individuals employ specific cognitive strategies when responding to threatening or stressful experiences. Adaptive strategies may include acceptance, positive reappraisal, positive refocusing, planning, and putting events into perspective, whereas maladaptive strategies may include rumination, catastrophizing, self-blame, and blaming others. Persistent reliance on maladaptive strategies can amplify negative affect and prolong distress, while adaptive strategies can facilitate constructive psychological adjustment.

Childhood adversity may interfere with the acquisition of effective emotion-regulation capacities because regulatory abilities initially develop within interpersonal contexts. Children ordinarily learn to recognize, interpret, and manage emotions through responsive relationships with caregivers and other significant figures. Abuse, neglect, inconsistency, or emotional unavailability may compromise this developmental process. A recent review examining adverse childhood experiences, attachment, and emotion regulation highlights the interconnected nature of these constructs and indicates that childhood adversity can become associated

with subsequent emotional-regulation problems through disruptions in relational and developmental processes (Araujo et al., 2026). Similarly, childhood trauma has been associated with insecure attachment through indirect mechanisms involving dissociation and emotion-regulation difficulties, suggesting that disrupted regulatory functioning may be embedded within broader developmental consequences of childhood adversity (Snyder et al., 2024).

Empirical studies provide further support for the association between childhood trauma and impaired emotion regulation. Research among adolescents has demonstrated relationships among childhood trauma, emotional regulation, alexithymia, and psychological symptoms and has examined emotion-related processes as mediators of the effects of trauma on psychological functioning (Sharma et al., 2024). Childhood trauma has likewise been examined in relation to emotion-regulation difficulty and dissociative experiences, with findings emphasizing the mediating role of dissociative processes in the association between trauma and regulatory difficulties (Yöyen et al., 2024). These findings suggest that emotion dysregulation should not be regarded merely as a co-occurring symptom of trauma exposure. Rather, it may represent one of the psychological pathways through which adverse childhood experiences become translated into enduring susceptibility to psychological problems.

Evidence concerning behavioral manifestations of psychological dysregulation further reinforces this interpretation. Difficulties in emotion regulation have been identified as a mediating factor in associations between childhood trauma, personality organization, and tendencies toward self-injurious behaviors among adolescents (Ahari et al., 2025). Similarly, research among adolescents in foster care has shown that early childhood trauma, attachment insecurity, emotional dysregulation, and substance abuse contribute to the prediction of delinquent behavior (Asiyanbi et al., 2025). Although these outcomes differ from general psychological vulnerability, they collectively illustrate the broad relevance of emotion-regulation deficits across multiple manifestations of maladjustment. Emotion regulation may therefore function as a transdiagnostic mechanism through which developmental adversity affects psychological adjustment across different populations and forms of distress.

Nevertheless, developmental risk does not operate independently of the individual's current social environment. Perceived social support represents an important interpersonal resource that may protect

psychological functioning even among individuals with histories of adversity. Perceived social support refers to the subjective belief that emotional, informational, practical, or relational assistance is available from meaningful others. Importantly, perceived support concerns not only the objective presence of other people but also an individual's confidence that these relationships can provide understanding, assistance, acceptance, and security when needed. Such perceptions can alter the appraisal of stressful experiences and reduce the sense that difficulties must be managed alone.

The protective importance of perceived social support is increasingly evident in studies of childhood trauma. Among Iranian medical students, childhood trauma has been associated with lower psychological security, while self-disclosure and perceived social support have been examined as mediating mechanisms connecting childhood trauma with psychological security (Saedi et al., 2025). These findings are particularly relevant because they suggest that social support may modify the psychological implications of developmental adversity rather than merely correlate with current well-being. When individuals perceive meaningful and reliable support, they may experience greater interpersonal security, have more opportunities to disclose distressing experiences, and obtain alternative interpretations of emotionally difficult situations. In contrast, limited perceived support may reinforce isolation and intensify vulnerability.

Social support also appears relevant to relational functioning among adults with childhood trauma histories. Research examining childhood trauma and romantic relationship satisfaction has identified attachment and social support as important mechanisms in this association (Quan et al., 2025). Such evidence indicates that the long-term consequences of childhood trauma are influenced not only by intrapersonal characteristics but also by the quality and perceived availability of interpersonal resources in adulthood. Supportive relationships may provide corrective emotional experiences that challenge expectations of rejection or abandonment established by earlier adversity. Therefore, perceived social support may serve as a protective factor capable of reducing psychological vulnerability both directly and through its influence on other psychological processes.

The relevance of social support has also been demonstrated in psychologically and socially vulnerable populations. Research examining childhood trauma, emotion regulation, peer pressure, and social support among

adolescents has emphasized that social support and emotion-regulatory capacities can shape the relationship between traumatic childhood experiences and mental-health outcomes (Omopo, 2025). Moreover, childhood trauma and social support have been examined in relation to treatment compliance among individuals experiencing gender dysphoria, illustrating that social support may have implications not only for psychological well-being but also for engagement with healthcare and treatment processes (Çavuş Uysal et al., 2024). Together, these findings support conceptualizing perceived social support as an active psychological and interpersonal resource rather than simply a contextual demographic characteristic.

Importantly, social support and emotion regulation may not function as isolated protective factors. Supportive interpersonal environments can facilitate adaptive emotion regulation by offering reassurance, opportunities for emotional disclosure, alternative perspectives on stressful events, and assistance with problem solving. Individuals who feel supported may therefore be better able to reinterpret negative experiences, reduce catastrophic appraisals, and engage in more constructive emotional coping. Conversely, individuals who perceive little social support may have fewer opportunities for interpersonal regulation and may rely more heavily on rumination, self-blame, avoidance, or other maladaptive regulatory responses. Research investigating the effects of childhood trauma on adolescent mental health has explicitly examined emotion regulation and social support within the same structural framework, highlighting their potentially interconnected contributions to psychological outcomes (Omopo, 2025). This integration is particularly important for understanding psychological vulnerability because it connects an external interpersonal resource with an internal regulatory process.

The combined consideration of trauma, social support, and emotion regulation is also consistent with emerging evidence that psychological outcomes are best explained through multivariate pathways rather than isolated bivariate associations. Childhood adversity may increase vulnerability by impairing emotional regulation, whereas social support may simultaneously reduce vulnerability and foster more adaptive regulatory functioning. Conversely, poor emotion regulation may intensify the effects of adverse developmental experiences and diminish the psychological benefits that could otherwise arise from supportive relationships. Research linking early trauma, attachment insecurity, emotional dysregulation, and maladaptive

behavioral outcomes supports the need for models capable of examining several interacting pathways simultaneously (Asiyanbi et al., 2025). Evidence regarding emotion dysregulation as an intermediary process between childhood trauma and problematic behaviors provides additional justification for formally testing mediating mechanisms rather than considering trauma exposure alone (Ahari et al., 2025).

Despite accumulating evidence, several conceptual gaps remain. First, much of the literature has focused on specific psychiatric symptoms or behavioral outcomes, including depression, anxiety, stress, obsessive-compulsive symptoms, self-injurious behavior, delinquency, and relationship difficulties (Ahari et al., 2025; Mohammadbeigi et al., 2023; Quan et al., 2025; Zahra & Ahmad, 2025). Comparatively less attention has been directed toward psychological vulnerability as a broader susceptibility to distress that may precede or cut across specific clinical syndromes. Second, trauma-related studies frequently emphasize risk processes without simultaneously incorporating potentially protective interpersonal resources such as perceived social support. Third, although emotion regulation is increasingly recognized as a central consequence of developmental adversity, adaptive and maladaptive cognitive emotion-regulation strategies may have different relationships with psychological vulnerability and should therefore be examined distinctly rather than being represented only as a unitary deficit.

These gaps are particularly relevant for women because psychological vulnerability may arise from the cumulative effects of developmental history, current interpersonal resources, and habitual emotional coping. Earlier work concerning psychological vulnerability in women has demonstrated its relevance across clinical, relational, and health-related contexts (Lloyd et al., 2015; Thewes et al., 2003; Yaghubi Hasankala et al., 2021). At the same time, contemporary trauma research increasingly demonstrates that adverse childhood experiences may shape adult functioning through emotional and relational mechanisms (Araujo et al., 2026; Saadati et al., 2024; Snyder et al., 2024). Integrating these lines of evidence provides a stronger conceptual foundation for understanding why some women with histories of childhood adversity experience greater psychological vulnerability while others demonstrate comparatively better adaptation.

A structural modeling framework is therefore especially appropriate because it makes it possible to examine direct associations of childhood trauma and perceived social

support with psychological vulnerability while simultaneously evaluating indirect pathways through cognitive emotion regulation. Such a framework moves beyond identifying whether individual variables are correlated and instead evaluates a theoretically integrated network of relationships. It also recognizes that childhood trauma represents a developmental risk factor, perceived social support represents a current interpersonal resource, and cognitive emotion regulation represents a potentially modifiable intrapersonal mechanism. Evidence from recent structural and mediational studies supports this type of integrated approach to childhood trauma and mental health (Omopo, 2025; Saedi et al., 2025; Sharma et al., 2024). From both theoretical and clinical perspectives, identifying such pathways may help distinguish relatively enduring developmental risks from psychological and interpersonal processes that could be targeted through prevention and intervention.

Accordingly, the present study aimed to develop and test a structural model for predicting psychological vulnerability based on childhood trauma and perceived social support, with the mediating role of cognitive emotion regulation in women.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a cross-sectional, descriptive-correlational design using structural equation modeling (SEM). The proposed model was developed to examine the direct and indirect associations of childhood trauma and perceived social support with psychological vulnerability in women, with cognitive emotion regulation specified as the mediating mechanism. Childhood trauma and perceived social support were treated as exogenous variables, psychological vulnerability as the endogenous outcome, and adaptive and maladaptive cognitive emotion regulation as parallel mediating components of emotion regulation. Because all variables were measured at a single time point and no experimental manipulation was conducted, the estimated structural paths were interpreted as statistical associations rather than evidence of causal relationships.

The study population consisted of married women aged 18–50 years who attended counseling and psychology centers licensed by the Welfare Organization in Mashhad, Iran, during 2025. The final sample comprised 350 women. Sampling was conducted in two stages. First, two centers

were randomly selected from the eligible counseling and psychology centers in Mashhad. Subsequently, women attending the selected centers were recruited through convenience sampling if they satisfied the eligibility criteria and voluntarily agreed to participate. This sampling procedure therefore combined random selection of study settings with nonprobability recruitment of eligible participants within the selected centers.

Eligible participants were married women between 18 and 50 years of age who resided in Mashhad, attended one of the selected counseling or psychology centers, possessed sufficient reading and writing ability to complete the questionnaires, were able to understand the general content of the questionnaire items, and provided informed consent. Participants were excluded when they voluntarily discontinued participation, returned questionnaires with sufficient missing information to prevent calculation of the relevant scale scores, were unable to understand the questionnaire items despite receiving general instructions, or displayed an evidently invalid response pattern that compromised the interpretability of their data.

Because structural equation modeling was the principal analytical approach, sample adequacy was evaluated with reference to SEM-specific considerations rather than a general population-based sampling formula. The assessment took into account model complexity, the number of observed and latent variables, the number of freely estimated parameters, expected effect sizes, factor loadings, and statistical power. The RMSEA-based power framework proposed by MacCallum, Browne, and Sugawara (1996) was also considered, with a type I error rate of .05 and a target statistical power of at least .80. The final sample of 350 participants was regarded as adequate for estimating the measurement and structural models and obtaining stable parameter estimates.

Following institutional approval and ethical clearance, eligible counseling and psychology centers were identified and two centers were selected randomly. Married women attending these centers during the data-collection period were approached and screened according to the eligibility criteria. Before questionnaire administration, participants received information about the general purpose and procedures of the study, the voluntary nature of participation, confidentiality of their responses, and their right to discontinue participation at any stage without adverse consequences.

After written informed consent was obtained, participants completed the study questionnaires in accordance with

standardized instructions. Questionnaires were subsequently examined for completeness and response validity. Eligible responses were coded and entered into the statistical software for analysis. No identifying information was entered into the analytical dataset, and the data were analyzed at the group level.

2.2. Data Collection Tools

Psychological vulnerability was assessed using the 25-item Symptom Checklist (SCL-25) developed and validated by Najarian and Davoodi (2001). The instrument was designed to assess the overall severity of psychological symptoms and susceptibility to psychological distress. Its items cover a broad range of emotional, somatic, and interpersonal symptoms associated with psychological vulnerability, including anxiety and depressive complaints, somatic symptoms, interpersonal sensitivity, and other manifestations of general psychological distress (Najarian & Davoodi, 2001). The scale consists of 25 items scored on a five-point response format ranging from 0 to 4. The total score is obtained by summing the item scores and ranges from 0 to 100, with higher scores indicating greater severity of psychological symptoms and consequently greater psychological vulnerability. The scale is intended to yield an index of general psychological distress rather than a categorical psychiatric diagnosis. Previous psychometric investigations have supported the reliability and validity of the instrument. Evidence of convergent validity has been reported through significant associations with established indicators of psychological problems. In the psychometric evidence reported for the Persian instrument, correlations of approximately .49 with the Beck Depression Inventory and .66 with the Hill Perfectionism Measure were reported. Cronbach's alpha coefficients around .78 have also been reported for the total scale, supporting acceptable internal consistency. In the present sample, the Cronbach's alpha coefficient for the SCL-25 was .76, indicating satisfactory internal consistency.

Childhood trauma was measured using the Childhood Trauma Questionnaire–Short Form (CTQ-SF), developed by Bernstein et al. (2003). The CTQ-SF is a 28-item retrospective self-report instrument designed to assess experiences of abuse and neglect during childhood and adolescence. It measures five principal forms of childhood maltreatment: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Each of the five clinical dimensions is represented by five items,

producing 25 clinical items, while three additional items assess minimization or denial of adverse childhood experiences (Bernstein et al., 2003). Items are rated on a five-point Likert scale ranging from 1 (never true) to 5 (very often true). Items 2, 5, 7, 13, 19, 26, and 28 are reverse-scored according to the scoring instructions. Each of the five maltreatment subscales yields a score ranging from 5 to 25. The overall childhood-trauma score is calculated by summing the 25 clinical items and therefore ranges from 25 to 125, with higher scores representing greater exposure to childhood abuse or neglect. The three minimization/denial items are not included in the total trauma score and are used to identify potentially defensive or minimizing response patterns. The original psychometric study demonstrated strong internal consistency, with Cronbach's alpha coefficients of .87 for emotional abuse, .86 for physical abuse, .95 for sexual abuse, .89 for emotional neglect, and .78 for physical neglect. The five-factor structure of the CTQ-SF has also received substantial empirical support, and significant associations between questionnaire scores and clinical assessments of childhood maltreatment have supported its convergent validity (Bernstein et al., 2003). Psychometric evaluation of the Persian version has likewise demonstrated satisfactory reliability and validity, with internal-consistency coefficients for the subscales reported in the acceptable-to-excellent range (Ebrahimi et al., 2013). In the present study, Cronbach's alpha for the CTQ-SF was .82.

Perceived social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS), originally developed by Zimet et al. (1988). The MSPSS is a brief 12-item self-report measure assessing an individual's subjective perception of the availability and adequacy of social support from three major interpersonal sources: family, friends, and a significant other. Each source is represented by four items, allowing both source-specific and overall perceived-support scores to be obtained (Zimet et al., 1988). The version administered in the present study used a five-point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree). The significant-other subscale comprises Items 1, 2, 5, and 10; the family subscale comprises Items 3, 4, 8, and 11; and the friends subscale comprises Items 6, 7, 9, and 12. Scores for each four-item subscale range from 4 to 20. The total perceived-social-support score is calculated by summing all 12 items and ranges from 12 to 60, with higher scores reflecting greater perceived availability of social support. The original MSPSS demonstrated satisfactory internal consistency and a

stable three-factor structure corresponding to family, friends, and significant-other support (Zimet et al., 1988). Subsequent studies across different cultural populations have generally replicated this factorial structure and demonstrated favorable convergent and construct validity. Psychometric investigations of the Persian version have similarly supported its reliability and validity (Besharat, 2004; Bagherian-Sararoudi et al., 2013). In the present sample, Cronbach's alpha for the total MSPSS score was .80, indicating acceptable internal consistency.

Cognitive emotion regulation was assessed using the short form of the Cognitive Emotion Regulation Questionnaire (CERQ-Short). The original CERQ was developed by Garnefski, Kraaij, and Spinhoven (2001), and the 18-item short form was subsequently developed by Garnefski and Kraaij (2006). The instrument evaluates cognitive strategies that individuals typically use to regulate emotional responses following negative or stressful experiences. The CERQ-Short contains 18 items and assesses nine cognitive emotion-regulation strategies, with two items representing each strategy. The nine dimensions are self-blame, acceptance, rumination, positive refocusing, refocusing on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others. Each item is rated on a five-point Likert scale ranging from 1 (never) to 5 (always), with higher scores indicating more frequent use of the corresponding cognitive strategy (Garnefski & Kraaij, 2006). For the structural model, the nine strategies were organized into adaptive and maladaptive cognitive emotion-regulation components. The adaptive component comprised acceptance, positive refocusing, refocusing on planning, positive reappraisal, and putting into perspective. Because these five strategies were represented by 10 items, the adaptive composite score ranged from 10 to 50. The maladaptive component comprised self-blame, rumination, catastrophizing, and blaming others; these four strategies were represented by eight items, producing a composite score ranging from 8 to 40. Higher scores on each component reflected more frequent use of strategies belonging to that regulatory pattern. Psychometric studies of the CERQ and CERQ-Short have supported their multidimensional structure and demonstrated acceptable internal consistency, construct validity, and convergent validity. In the original studies, Cronbach's alpha coefficients for the individual strategies generally ranged from approximately .68 to .83, and confirmatory factor analyses supported the proposed nine-factor structure (Garnefski et al., 2001; Garnefski & Kraaij, 2006). Studies

of the Persian-language version have also provided evidence for satisfactory reliability and factorial validity (Samani & Sadeghi, 2010; Hassani, 2011). In the present sample, the Cronbach's alpha coefficient for the 18-item CERQ was .78.

2.3. Data Analysis

Data were analyzed using IBM SPSS Statistics version 24 and AMOS version 24. Prior to the principal analyses, data-entry accuracy and the permissible range of responses were checked. Reverse-scored items were recoded according to the relevant instrument manuals, after which total and composite scores were calculated. Descriptive statistics included frequencies and percentages for demographic characteristics and means, standard deviations, minimum and maximum values, skewness, and kurtosis for the principal study variables. A correlation matrix was also computed for childhood trauma, perceived social support, adaptive and maladaptive cognitive emotion regulation, and psychological vulnerability.

Before estimating the structural model, the data were examined for missing values, univariate and multivariate outliers, distributional normality, and multicollinearity. Multivariate outliers were assessed using Mahalanobis distance, while multicollinearity was evaluated using correlations together with tolerance and variance inflation factor indices. Potentially influential cases were evaluated using both statistical and substantive considerations rather than being removed solely on the basis of a single statistical criterion.

The measurement properties of the study constructs were evaluated using confirmatory factor analysis before testing the structural relationships. Standardized factor loadings and measurement errors were examined, and overall model fit was evaluated using multiple indices rather than a single goodness-of-fit statistic. The indices considered included the chi-square statistic and its degrees of freedom, the chi-square-to-degrees-of-freedom ratio, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Incremental Fit Index (IFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). CFI, TLI, and IFI values of .90 or greater were interpreted as indicating acceptable fit, with values approaching .95 representing stronger fit. RMSEA values below .08 were considered acceptable and values around or below .06 indicative of good fit, whereas SRMR values below .08 were regarded as satisfactory (Hu & Bentler, 1999; Kline, 2023).

Following establishment of an acceptable measurement model, the hypothesized structural model was estimated using maximum likelihood estimation. Childhood trauma and perceived social support were specified as exogenous predictors, adaptive and maladaptive cognitive emotion regulation as parallel mediators, and psychological vulnerability as the endogenous outcome. Direct relationships were evaluated using standardized and unstandardized path coefficients, standard errors, critical ratios, and associated probability values.

Indirect associations were tested using a nonparametric bootstrap procedure with 5,000 resamples and 95% confidence intervals. An indirect effect was considered statistically significant when its 95% bootstrap confidence interval did not include zero. This procedure was selected because bootstrap estimation does not require the sampling distribution of the indirect effect to be normally distributed and is therefore preferable to traditional approaches based on the normal-theory assumption for the product of coefficients (Preacher & Hayes, 2008). The significance level for all statistical tests was set at $p < .05$.

3. Findings and Results

The final sample consisted of 350 married women aged 18–50 years. Regarding age distribution, 52 participants (14.86%) were aged 18–25 years, 87 (24.86%) were aged 26–30 years, and 109 (31.14%) were aged 31–35 years. The remaining 102 participants (29.14%) were classified in the oldest age category. Thus, women aged 31–35 years constituted the largest age group in the sample.

With respect to educational attainment, 37 participants (10.57%) had less than a high-school diploma, 99 (28.29%) held a high-school diploma, 72 (20.57%) had an associate degree, 106 (30.29%) held a bachelor's degree, 32 (9.14%) had a master's degree, and 4 (1.14%) held a doctoral degree. Bachelor's-degree holders therefore constituted the largest educational group. Regarding parental status, 218 women (62.29%) had at least one child, whereas 132 (37.71%) had no children.

Descriptive statistics for the principal study variables are presented in Table 1. The mean psychological vulnerability score was 47.78 (SD = 22.08), while the mean childhood trauma score was 50.43 (SD = 11.91). The mean perceived social support score was 44.90 (SD = 14.23). For the mediating variables, the mean adaptive cognitive emotion regulation score was 27.60 (SD = 9.38), whereas the mean maladaptive cognitive emotion regulation score was 21.29

(SD = 6.35). The skewness coefficients for all variables were close to zero, indicating approximately symmetrical distributions.

Table 1

Descriptive statistics for the study variables

Variable	N	Mean	SD	Minimum	Maximum	Skewness	K-S p
Psychological vulnerability	350	47.78	22.08	11	87	.050	.220
Childhood trauma	350	50.43	11.91	29	71	-.057	.100
Perceived social support	350	44.90	14.23	19	68	-.147	.830
Adaptive cognitive emotion regulation	350	27.60	9.38	12	44	.119	.090
Maladaptive cognitive emotion regulation	350	21.29	6.35	10	32	-.097	.180

Before structural modeling, the distributions of the study variables were examined. The Kolmogorov–Smirnov tests were nonsignificant for psychological vulnerability, childhood trauma, perceived social support, adaptive cognitive emotion regulation, and maladaptive cognitive emotion regulation, with all p values exceeding .05. In addition, the absolute skewness coefficients ranged from .050 to .147 and were therefore well within conventional acceptable limits. Taken together, these findings supported the assumption of approximate univariate normality and the use of maximum-likelihood estimation.

The analytical protocol also included screening for missing values, univariate and multivariate outliers, and multicollinearity before SEM estimation. However, numerical Mahalanobis-distance, tolerance, variance inflation factor, or multivariate-normality statistics were not reported in the available output; therefore, no unsupported numerical values were added to the present report. The estimation and mediation analyses were consequently interpreted on the basis of the available distributional diagnostics and bootstrap confidence intervals.

Confirmatory factor analysis was conducted before examination of the structural pathways. The fit indices for the measurement models of the focal constructs are reported

in Table 2. Across all constructs, the χ^2/df values were below 3.00, GFI and CFI values were generally at or above .90, and RMSEA values were below .08, indicating acceptable measurement-model fit.

For psychological vulnerability, two indicators with insufficient standardized factor loadings were removed, after which the measurement model demonstrated satisfactory fit, $\chi^2/df = 1.209$, GFI = .960, AGFI = .909, CFI = .942, and RMSEA = .048. The childhood-trauma measurement model also showed acceptable fit, $\chi^2/df = 1.439$, GFI = .912, AGFI = .948, CFI = .920, and RMSEA = .023. All indicators of perceived social support showed standardized loadings above .40 and were retained in the model. Its CFA indices similarly supported acceptable fit, $\chi^2/df = 1.163$, GFI = .958, AGFI = .923, CFI = .905, and RMSEA = .019.

The adaptive and maladaptive cognitive emotion-regulation components also demonstrated acceptable measurement properties. The adaptive component produced $\chi^2/df = 2.183$, GFI = .940, AGFI = .995, CFI = .907, and RMSEA = .074, whereas the maladaptive component yielded $\chi^2/df = 2.199$, GFI = .959, AGFI = .860, CFI = .977, and RMSEA = .033. These results provided sufficient support for proceeding to examination of the structural relationships among the focal constructs.

Table 2

Confirmatory factor analysis fit indices for the focal study constructs

Construct	χ^2	df	χ^2/df	GFI	AGFI	CFI	RMSEA
Psychological vulnerability	232.21	192	1.209	.960	.909	.942	.048
Childhood trauma	345.45	240	1.439	.912	.948	.920	.023
Perceived social support	197.76	170	1.163	.958	.923	.905	.019
Adaptive cognitive emotion regulation	310.00	142	2.183	.940	.995	.907	.074
Maladaptive cognitive emotion regulation	299.16	136	2.199	.959	.860	.977	.033

The structural relationships relevant to the proposed model were examined using standardized path coefficients and critical ratios. Statistical significance was determined using an absolute critical ratio greater than 1.96 and $p < .05$. As shown in Table 3, all eight direct paths included in the focal model were statistically significant. Childhood trauma was negatively associated with adaptive cognitive emotion regulation ($\beta = -.441$, $CR = -5.564$, $p < .001$) and positively associated with maladaptive cognitive emotion regulation ($\beta = .624$, $CR = 7.012$, $p < .001$). Childhood trauma also demonstrated a significant positive direct association with psychological vulnerability ($\beta = .459$, $CR = 5.654$, $p < .001$). Thus, higher levels of childhood trauma were associated with less frequent use of adaptive cognitive emotion-regulation strategies, greater use of maladaptive strategies, and greater psychological vulnerability.

Perceived social support showed the opposite pattern. Higher perceived social support was positively associated

with adaptive cognitive emotion regulation ($\beta = .484$, $CR = 3.564$, $p < .001$) and negatively associated with maladaptive cognitive emotion regulation ($\beta = -.261$, $CR = -3.003$, $p < .001$). Perceived social support also showed a substantial negative direct association with psychological vulnerability ($\beta = -.642$, $CR = -7.009$, $p < .001$), indicating that women who perceived greater social support tended to report lower psychological vulnerability.

Both dimensions of cognitive emotion regulation were significantly associated with psychological vulnerability. Adaptive cognitive emotion regulation was negatively associated with psychological vulnerability ($\beta = -.417$, $CR = -5.238$, $p < .001$), whereas maladaptive cognitive emotion regulation showed a positive association ($\beta = .620$, $CR = 7.189$, $p < .001$). Accordingly, greater reliance on adaptive strategies was associated with lower vulnerability, while greater use of maladaptive strategies was associated with higher psychological vulnerability.

Table 3

Standardized direct paths in the structural model

Structural path	Standardized β	CR	p	Result
Childhood trauma $\rightarrow$ Adaptive cognitive emotion regulation	-.441	-5.564	< .001	Significant
Childhood trauma $\rightarrow$ Maladaptive cognitive emotion regulation	.624	7.012	< .001	Significant
Childhood trauma $\rightarrow$ Psychological vulnerability	.459	5.654	< .001	Significant
Perceived social support $\rightarrow$ Adaptive cognitive emotion regulation	.484	3.564	< .001	Significant
Perceived social support $\rightarrow$ Maladaptive cognitive emotion regulation	-.261	-3.003	< .001	Significant
Perceived social support $\rightarrow$ Psychological vulnerability	-.642	-7.009	< .001	Significant
Adaptive cognitive emotion regulation $\rightarrow$ Psychological vulnerability	-.417	-5.238	< .001	Significant
Maladaptive cognitive emotion regulation $\rightarrow$ Psychological vulnerability	.620	7.189	< .001	Significant

Among the direct pathways leading to psychological vulnerability, perceived social support showed the largest negative standardized coefficient ($\beta = -.642$), whereas maladaptive cognitive emotion regulation showed the largest positive coefficient ($\beta = .620$). Childhood trauma also remained directly associated with psychological vulnerability after the mediating pathways were taken into account ($\beta = .459$). The simultaneous significance of the direct paths and the corresponding indirect pathways therefore indicated a pattern consistent with partial rather than complete statistical mediation.

The mediating role of cognitive emotion regulation was tested using bootstrap estimation with 5,000 resamples and 95% confidence intervals. As reported in Table 4, both indirect pathways linking childhood trauma with psychological vulnerability were statistically significant. The indirect association of childhood trauma with psychological vulnerability through adaptive cognitive

emotion regulation was .18, with a bootstrap estimate of .17 and a standard error of .05. The 95% confidence interval ranged from .07 to .28 and did not include zero ($p = .012$). Thus, greater childhood trauma was associated with lower use of adaptive cognitive emotion-regulation strategies, which in turn was associated with greater psychological vulnerability.

The indirect association through maladaptive cognitive emotion regulation was somewhat larger. The indirect effect was .24, with a bootstrap estimate of .23, $SE = .06$, and a 95% confidence interval from .11 to .36 ($p = .003$). Therefore, greater childhood trauma was associated with greater use of maladaptive cognitive emotion-regulation strategies, which was subsequently associated with greater psychological vulnerability. Of the two mediating pathways involving childhood trauma, the maladaptive cognitive emotion-regulation pathway showed the larger indirect association.

Both indirect pathways between perceived social support and psychological vulnerability through cognitive emotion regulation were also statistically significant. The indirect association through adaptive cognitive emotion regulation was $-.20$, with a bootstrap estimate of $-.19$, $SE = .06$, and a 95% confidence interval ranging from $-.32$ to $-.09$ ($p = .004$). Because the confidence interval did not include zero, the indirect association was statistically significant. This pattern indicates that greater perceived social support was associated with greater use of adaptive cognitive emotion-regulation strategies, which in turn was associated with lower psychological vulnerability.

Similarly, perceived social support had a significant negative indirect association with psychological vulnerability through maladaptive cognitive emotion regulation. The indirect effect was $-.12$, the bootstrap estimate was $-.12$, and the standard error was $.05$. The 95% confidence interval extended from $-.23$ to $-.02$ ($p = .021$), confirming statistical significance. Thus, greater perceived social support was associated with less frequent use of maladaptive cognitive emotion-regulation strategies, which was subsequently associated with lower psychological vulnerability.

Table 4

Bootstrap analysis of indirect associations through cognitive emotion regulation

Indirect pathway	Indirect effect	Bootstrap estimate	Bias	SE	p	95% CI lower	95% CI upper	Result
Childhood trauma → Adaptive regulation → Psychological vulnerability	.18	.17	.01	.05	.012	.07	.28	Significant
Childhood trauma → Maladaptive regulation → Psychological vulnerability	.24	.23	.01	.06	.003	.11	.36	Significant
Perceived social support → Adaptive regulation → Psychological vulnerability	-.20	-.19	-.01	.06	.004	-.32	-.09	Significant
Perceived social support → Maladaptive regulation → Psychological vulnerability	-.12	-.12	.00	.05	.021	-.23	-.02	Significant

Overall, the pattern of direct and indirect associations was consistent with the proposed theoretical model. Childhood trauma was directly associated with greater psychological vulnerability and was also indirectly associated with vulnerability through both lower adaptive cognitive emotion regulation and higher maladaptive cognitive emotion regulation. Perceived social support showed a direct protective association with psychological vulnerability and additional indirect protective associations through greater adaptive regulation and lower maladaptive regulation. The results therefore supported the mediating role of both dimensions of cognitive emotion regulation in the associations of childhood trauma and perceived social support with psychological vulnerability. Because the corresponding direct associations between childhood trauma and psychological vulnerability and between perceived social support and psychological vulnerability remained statistically significant alongside the indirect pathways, the observed pattern was consistent with partial statistical mediation.

4. Discussion and Conclusion

The present study examined a structural model for predicting psychological vulnerability based on childhood trauma and perceived social support, with adaptive and maladaptive cognitive emotion regulation as mediating mechanisms among women. The findings supported the proposed model. Childhood trauma was positively associated with psychological vulnerability and maladaptive cognitive emotion regulation and negatively associated with adaptive cognitive emotion regulation. In contrast, perceived social support was negatively associated with psychological vulnerability and maladaptive cognitive emotion regulation and positively associated with adaptive cognitive emotion regulation. Furthermore, adaptive cognitive emotion regulation was negatively associated with psychological vulnerability, whereas maladaptive cognitive emotion regulation was positively associated with it. Bootstrap analysis also demonstrated significant indirect pathways from childhood trauma and perceived social support to psychological vulnerability through both adaptive and

maladaptive cognitive emotion regulation, indicating partial mediation. These results provide support for an integrated developmental-interpersonal-regulatory explanation of psychological vulnerability in women.

The positive association between childhood trauma and psychological vulnerability indicates that women reporting greater exposure to adverse childhood experiences were more likely to demonstrate greater susceptibility to psychological distress in adulthood. This finding is consistent with a substantial body of evidence showing that abuse, neglect, and other adverse experiences during formative developmental periods may have enduring psychological consequences. Saadati et al. demonstrated that childhood trauma may be associated with persistent psychosomatic and psychological difficulties among adult survivors, indicating that the consequences of early adversity can extend well beyond childhood (Saadati et al., 2024). Similarly, Wright et al. found that childhood emotional maltreatment was related to later psychological distress among college students and that maladaptive schemas contributed to explaining this relationship (Wright et al., 2009). These findings support the view that childhood trauma may alter enduring assumptions about personal worth, interpersonal safety, trust, and the controllability of stressful experiences, thereby increasing vulnerability to later psychological difficulties.

The present finding is also consistent with evidence linking childhood trauma to depression, anxiety, stress, and broader indicators of psychopathology. Mohammadbeigi et al. reported that childhood trauma contributed to a structural model of depression, anxiety, and stress, with alexithymia serving as an important mediating psychological process (Mohammadbeigi et al., 2023). Zahra and Ahmad likewise demonstrated associations among childhood trauma, alexithymia, and emotional dysregulation in adults with obsessive-compulsive disorder (Zahra & Ahmad, 2025). Although the present study focused on general psychological vulnerability rather than a specific psychiatric condition, the convergence of these findings suggests that childhood trauma may function as a broad transdiagnostic developmental risk factor. Exposure to childhood adversity may increase emotional sensitivity, reduce perceived safety, and establish cognitive-affective patterns that make individuals more susceptible to distress across different life circumstances.

A further important finding was that childhood trauma was negatively associated with adaptive cognitive emotion regulation and positively associated with maladaptive

cognitive emotion regulation. This result suggests that the psychological consequences of childhood trauma may partly reflect the way adverse early environments affect the development of regulatory capacities. Effective emotion regulation develops within relational contexts in which children learn to identify, interpret, tolerate, and modify emotional states. When these environments are characterized by abuse, neglect, instability, fear, or emotional unresponsiveness, children may have fewer opportunities to develop adaptive regulatory strategies. In adulthood, this may be reflected in greater reliance on rumination, catastrophizing, self-blame, or other maladaptive cognitive strategies and less frequent use of positive reappraisal, planning, positive refocusing, or perspective taking.

This interpretation is strongly supported by previous research. Araujo et al., in their review of adverse childhood experiences, attachment, and emotional regulation, highlighted the close developmental relationship between early adversity, attachment insecurity, and subsequent difficulties in regulating emotions (Araujo et al., 2026). Snyder et al. similarly showed that adverse childhood experiences were associated with insecure attachment through indirect effects involving dissociation and emotion-regulation difficulties (Snyder et al., 2024). Yöyen et al. also reported that dissociative experiences played a mediating role in the effect of childhood trauma on emotion-regulation difficulties (Yöyen et al., 2024). Collectively, these studies suggest that early adverse experiences may disrupt the development of both relational security and internal regulatory capacities, creating a psychological pattern in which emotional experiences become more difficult to process and manage.

The findings are also consistent with research conducted among adolescents. Sharma et al. demonstrated meaningful relationships among childhood trauma, emotional regulation, alexithymia, and psychological symptoms, providing evidence that emotion-related mechanisms help explain the effects of early adversity on later mental health (Sharma et al., 2024). Ahari et al. found that difficulties in emotion regulation mediated relationships involving childhood trauma and tendencies toward self-injurious behavior in adolescents (Ahari et al., 2025). Similarly, Asiyanbi et al. reported that early childhood trauma, attachment insecurity, emotional dysregulation, and substance abuse contributed to delinquent behavior among adolescents in foster care (Asiyanbi et al., 2025). Although these studies examined different outcomes, they converge

with the present findings in identifying emotion dysregulation as a central pathway through which childhood adversity may contribute to subsequent psychological and behavioral vulnerability.

The significant associations between cognitive emotion regulation and psychological vulnerability further demonstrate the importance of regulatory processes in women's psychological functioning. Adaptive cognitive emotion regulation showed a negative relationship with psychological vulnerability, whereas maladaptive regulation showed a strong positive relationship with vulnerability. This pattern is theoretically plausible because adaptive strategies can facilitate a more balanced evaluation of stressful events, promote problem solving, reduce emotional escalation, and enable individuals to maintain a sense of control during adversity. In contrast, maladaptive strategies such as catastrophizing, rumination, and self-blame can maintain negative affect, intensify perceived threat, and prolong emotional distress. Individuals who habitually interpret negative experiences through these maladaptive patterns may therefore be more susceptible to anxiety, depressive symptoms, interpersonal sensitivity, and other manifestations of psychological vulnerability.

Previous studies support this explanation. Sharma et al. identified emotional regulation as an important mechanism associated with psychological symptoms among adolescents exposed to childhood trauma (Sharma et al., 2024). Zahra and Ahmad similarly found that emotional dysregulation was closely associated with childhood trauma and alexithymia in adults with obsessive-compulsive disorder (Zahra & Ahmad, 2025). Moreover, Ahari et al. demonstrated that difficulties in emotion regulation can serve as an intermediary mechanism between adverse psychological experiences and maladaptive behavioral outcomes (Ahari et al., 2025). Together, these findings indicate that emotion regulation is not simply an accompanying feature of psychological distress but may represent a fundamental process affecting the intensity, duration, and behavioral consequences of negative emotional experiences.

The bootstrap findings provided additional support for this interpretation by demonstrating that childhood trauma was indirectly associated with psychological vulnerability through both adaptive and maladaptive cognitive emotion regulation. The indirect pathway through maladaptive regulation was somewhat stronger than the pathway through adaptive regulation. This suggests that one pathway from childhood trauma to vulnerability may involve an increased

tendency to use maladaptive cognitive responses following negative events. Repeated experiences of threat, neglect, or invalidation during childhood may encourage habitual self-blame, catastrophic interpretation, or repetitive negative thinking. These strategies can subsequently amplify emotional reactions to adult stressors and increase susceptibility to psychological distress. At the same time, childhood adversity may reduce opportunities to learn adaptive strategies, thereby weakening an important protective mechanism.

The persistence of a significant direct association between childhood trauma and psychological vulnerability after the mediating variables were included indicates partial rather than complete mediation. This finding is theoretically important because it suggests that cognitive emotion regulation represents one significant mechanism, but not the only mechanism, through which childhood trauma is associated with psychological vulnerability. Other processes may include maladaptive schemas, insecure attachment, dissociation, alexithymia, impaired self-concept, interpersonal mistrust, and heightened sensitivity to stress. Wright et al. highlighted the role of maladaptive schemas in explaining later distress following childhood emotional maltreatment (Wright et al., 2009), whereas Snyder et al. emphasized insecure attachment, dissociation, and emotion-regulation difficulties (Snyder et al., 2024). Mohammadbeigi et al. and Zahra and Ahmad also identified alexithymia as relevant to the psychological consequences of childhood trauma (Mohammadbeigi et al., 2023; Zahra & Ahmad, 2025). The present findings therefore fit a multidimensional model in which childhood trauma influences adult psychological vulnerability through several interconnected psychological pathways.

Another major finding was the substantial negative association between perceived social support and psychological vulnerability. Among all direct pathways leading to psychological vulnerability, perceived social support demonstrated the largest negative standardized coefficient, indicating that women who perceived stronger support from significant interpersonal sources tended to report considerably lower psychological vulnerability. This finding supports the conceptualization of perceived social support as an important psychological protective factor. Supportive interpersonal relationships can provide emotional reassurance, practical assistance, validation, companionship, opportunities for disclosure, and a greater sense of safety and belonging. These resources may reduce

the subjective burden of stressful experiences and increase confidence in one's ability to cope with adversity.

The protective role of perceived social support is consistent with the findings of Saedi et al., who found that perceived social support played a mediating role in the relationship between childhood trauma and psychological security among Iranian medical students (Saedi et al., 2025). Their findings suggest that perceived support can partly counterbalance the negative psychological consequences associated with early adversity by strengthening individuals' sense of interpersonal and psychological security. Quan et al. also demonstrated that social support was relevant to the relationship between childhood trauma and romantic relationship satisfaction, together with attachment processes (Quan et al., 2025). Such findings indicate that social support may affect psychological adjustment across both intrapersonal and relational domains.

The present study further demonstrated that perceived social support was positively associated with adaptive cognitive emotion regulation and negatively associated with maladaptive cognitive emotion regulation. This result suggests that supportive relationships may contribute to psychological well-being partly by facilitating healthier ways of managing emotional experiences. Individuals who perceive adequate support may be more likely to discuss stressful experiences, receive reassurance, obtain alternative interpretations of difficult situations, and engage in constructive problem solving. Such interpersonal processes may encourage positive reappraisal, planning, and perspective taking. Conversely, when perceived support is low, individuals may be left to manage distress alone and may become more vulnerable to repetitive negative thinking, catastrophizing, and self-blame.

This explanation is consistent with Omopo's structural model, which examined emotion regulation, peer pressure, and social support in relation to the effects of childhood trauma on adolescent mental health (Omopo, 2025). The findings emphasized that both emotion regulation and social support may shape the psychological consequences of early trauma. Çavuş Uysal et al. likewise demonstrated the relevance of social support in the context of childhood trauma and treatment compliance, showing that interpersonal resources can have meaningful implications for adjustment and health-related behavior (Çavuş Uysal et al., 2024). These studies reinforce the idea that social support is not merely an external contextual factor but may become integrated with internal coping and regulatory processes.

The significant indirect effects of perceived social support through both adaptive and maladaptive cognitive emotion regulation provide further evidence for this integrated interpretation. Greater perceived social support was indirectly associated with lower psychological vulnerability through greater use of adaptive regulation and lower use of maladaptive regulation. Thus, perceived support may have both a direct protective relationship with psychological functioning and an indirect relationship by influencing how individuals cognitively respond to emotionally difficult situations. This pattern is consistent with the broader literature emphasizing the interaction between social resources and emotion-regulation processes. Omopo demonstrated that social support and emotion regulation jointly contribute to understanding mental-health outcomes following childhood trauma (Omopo, 2025), while Saedi et al. showed that perceived social support can operate as an important intermediary psychological resource in the relationship between trauma and psychological security (Saedi et al., 2025).

From a broader perspective, the present findings integrate several previously separate lines of research. Studies of psychological vulnerability have emphasized its relevance to depressive symptoms, existential concerns, relationship functioning, and responses to health-related threats (Lloyd et al., 2015; Thewes et al., 2003; Yaghubi Hasankala et al., 2021). Trauma research has demonstrated long-term psychological and psychosomatic consequences of childhood adversity (Saadati et al., 2024), while studies of emotion regulation have identified impaired regulatory functioning as an important mechanism linking trauma to psychological symptoms and maladaptive behaviors (Ahari et al., 2025; Sharma et al., 2024; Yöyen et al., 2024). Other studies have highlighted the protective contribution of perceived social support (Quan et al., 2025; Saedi et al., 2025). The present structural model brings these dimensions together and suggests that women's psychological vulnerability is associated simultaneously with developmental adversity, available interpersonal resources, and habitual cognitive strategies for managing emotional experiences.

Several limitations should be considered when interpreting the findings. First, the cross-sectional and correlational design prevents conclusions regarding causality or the temporal ordering of childhood trauma, perceived social support, cognitive emotion regulation, and psychological vulnerability. Although the structural model was theoretically specified and indirect effects were

statistically significant, mediation in cross-sectional data should be interpreted as statistical rather than causal mediation. Second, all major variables were assessed using self-report questionnaires, which may increase common-method variance and make the findings susceptible to social desirability, response tendencies, and individual differences in self-awareness. Third, childhood trauma was assessed retrospectively and may therefore be affected by recall bias, current emotional state, or minimization of adverse experiences. Fourth, the participants were married women attending counseling and psychology centers in Mashhad, which restricts the generalizability of the findings to unmarried women, men, individuals who do not seek psychological services, or women from other cultural and geographical settings. Finally, other potentially relevant mechanisms, such as attachment style, maladaptive schemas, alexithymia, dissociation, personality characteristics, and current life stress, were not included in the structural model.

Future studies should evaluate the proposed relationships using longitudinal designs that establish temporal sequencing and permit stronger conclusions about developmental and mediating pathways. Prospective studies beginning earlier in life would be especially valuable for reducing reliance on retrospective reports of childhood adversity. Replication with community-based samples, unmarried women, men, adolescents, older adults, and participants from different cultural and socioeconomic backgrounds would help determine the generalizability of the model. Future researchers could also examine additional mediators and moderators, including attachment security, maladaptive schemas, alexithymia, dissociation, self-compassion, resilience, coping styles, marital functioning, and current stressful life events. Distinguishing different forms of childhood trauma may clarify whether emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect operate through different regulatory pathways. Studies using multi-informant assessments, clinical interviews, behavioral measures of emotion regulation, and ecological momentary assessment could also reduce reliance on self-report data. Finally, experimental and intervention studies are needed to determine whether improvements in cognitive emotion regulation and perceived social support produce corresponding reductions in psychological vulnerability.

The findings have several implications for psychological assessment, counseling, and preventive intervention. Practitioners working with psychologically vulnerable

women should consider incorporating trauma-informed assessment into routine clinical evaluation while avoiding assumptions that all current difficulties are attributable to childhood experiences. Assessment of adaptive and maladaptive cognitive emotion-regulation strategies may help identify modifiable mechanisms that can be addressed during intervention. Treatment programs may benefit from teaching skills related to cognitive reappraisal, positive refocusing, perspective taking, problem solving, and planning while simultaneously reducing rumination, catastrophizing, and excessive self-blame. Because perceived social support showed a strong protective association with psychological vulnerability, interventions should also examine the quality and accessibility of clients' supportive relationships. Where appropriate, counseling may include strengthening communication, promoting constructive help-seeking, rebuilding safe interpersonal connections, and increasing engagement with reliable family, friendship, or community support systems. An integrated approach combining trauma-sensitive care, emotion-regulation training, and enhancement of interpersonal support may therefore provide a more comprehensive framework for reducing psychological vulnerability in women.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

Confidentiality and anonymity were maintained throughout the research process. Participants' names and identifying information were not recorded on the questionnaires, collected data were used solely for scientific purposes, and results were reported only in aggregate form. Because some questionnaire items addressed potentially sensitive experiences, particularly childhood maltreatment and psychological symptoms, participants were informed that they could stop responding if they experienced discomfort. The study received ethical approval from the Ethics Committee of Islamic Azad University, Bandar Abbas Branch, under approval code IR.IAU.BA.REC.1404.010.

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