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Original Article

Relationships of Attitudes toward Eating and Eating Behaviors with Invalidating Childhood Environment in Adults: The Mediating Role of Self-Compassion, Distress Tolerance, and Impulsivity

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Abstract

Objective: Eating disorders (EDs) are prevalent in adulthood and often originate in adolescence, influenced by various psychological factors, including childhood experiences. This research investigated how self-compassion, distress tolerance, and impulsivity function as mediators between early experiences of emotional invalidation during childhood and individuals' eating patterns and attitudes in adulthood.
Method: The study involved 1,217 students (86.2% female), recruited through convenience sampling. Participants completed standardized questionnaires assessing eating behaviors, eating attitudes, self-compassion, distress tolerance, and impulsivity. The proposed model was tested using structural equation modeling (SEM).
Results: Impulsivity and self-compassion significantly mediated the relationship between childhood invalidation and both eating behavior ($\beta = 0.161$, $P < 0.05$) and eating attitude ($\beta = 0.077$, $P < 0.01$). Distress tolerance did not serve as a significant mediator in the model. Invalidating childhood environment was directly related to impulsivity ($\beta = 0.303$, $P < 0.001$) and self-compassion ($\beta = -0.350$, $P < 0.001$). Self-compassion and impulsivity were significant predictors of eating behavior and attitudes.
Conclusion: Childhood experiences of invalidation contribute to maladaptive eating behaviors and attitudes through the mediating roles of impulsivity and self-compassion. Notably, impulsivity had a stronger indirect effect on both outcomes compared to self-compassion. The results indicate that fostering self-compassion and managing impulsive tendencies may serve as important focal points for interventions designed to prevent or treat eating disorders.

Key words: *Childhood Invalidation; Eating Behaviors; Impulsivity; Mediation; Self-Compassion*

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Eating disorders (EDs), including Anorexia Nervosa, Bulimia Nervosa, and Binge Eating Disorder, are serious psychological and medical conditions associated with significant physical and mental health consequences (1). The clinical manifestations of these disorders have evolved over time, most recently reflected in updates to diagnostic criteria introduced in *the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* in 2013 (2). EDs are prevalent among the general population, with higher incidence rates reported in women compared to men, and a significantly higher prevalence in Western countries than in Asian nations (3). Furthermore, EDs frequently co-occur with other psychiatric and medical conditions, such as anxiety disorders and mood disorders, complicating treatment endeavors (4). Given their complex etiology and significant comorbidities, understanding the factors contributing to EDs remains a critical area of research.

Eating disorders are complex and multifaceted conditions that emerge from the interplay of various biological, psychological, social, and environmental factors. Studies emphasize that the onset of eating disorders can be heavily influenced by genetic vulnerability, neurobiological mechanisms, and hormonal disruptions (5). Psychologically, distorted body image, low self-esteem, and maladaptive coping strategies, often stemming from trauma or negative childhood experiences, are prominent contributors (6). Social influences—including cultural ideals of beauty, family relationships, and peer pressure—are also key contributors to how individuals perceive food and their body image (7). Furthermore, environmental stressors, such as bullying or stressful life events, can act as triggers for the onset or exacerbation of eating disorders (7, 8). These diverse factors underscore the importance of a comprehensive, integrated approach to treatment and prevention.

A wide range of studies indicates that eating disorders are influenced and sustained by a combination of environmental, biological, and psychological elements. Among these, attitudes towards eating stand out as a significant predictor of the development of EDs. Negative attitudes towards eating — excessive concern about body weight and shape — can lead to maladaptive eating behaviors and the persistence of disordered eating symptoms. Early experiences with unhealthy eating attitudes during adolescence are associated with ongoing psychological difficulties in adulthood, highlighting the importance of understanding where these attitudes originate (9). The relationship between eating behaviors and psychological factors such as impulsivity, emotional regulation, and stress is intricate and multifaceted, complicating the understanding of EDs and attitudes toward eating. Impulsivity, for example, can lead to difficulties in controlling eating behaviors, while poor emotional regulation may result in using food as a way to cope with negative emotions (10, 11). Stress, in particular, can heighten food consumption, often triggering emotional eating or binge eating as coping mechanisms (12). These psychological factors interact with one another, creating a cycle where negative emotional states and maladaptive coping strategies exacerbate disordered eating behaviors, further distorting attitudes toward food and eating. As a result, the interplay between these variables makes it more challenging to address the root causes of EDs and develop effective interventions to modify eating behaviors and improve attitudes toward eating. A comprehensive understanding of the multifaceted factors influencing eating disorders is essential for developing effective diagnostic tools and therapeutic interventions.

While psychological factors are widely acknowledged, an often-overlooked aspect in the etiology of EDs is the influence of the familial environment, particularly experiences of emotional invalidation during childhood. An invalidating environment is characterized by a lack of alignment between a child's emotional needs and the responses they receive from caregivers (13). Studies suggest that such environments predispose individuals to a range of psychological difficulties, including low self-esteem, increased distress tolerance challenges, and heightened impulsivity (14). These factors can create a cycle in which individuals resort to unhealthy coping mechanisms, including maladaptive eating behaviors (15).

In the meantime, self-compassion emerges as a potentially protective factor in this dynamic (16). Self-compassion, characterized by kindness and understanding toward oneself in challenging situations, has been associated with reduced self-criticism and the adoption of more adaptive coping mechanisms (17). Research indicates that integrating self-compassionate practices can reduce harmful behaviors associated with eating disorders (18). By fostering self-compassion, individuals may break the cycle of self-criticism and maladaptive coping, offering a promising intervention to mitigate disordered eating behaviors (19).

Impulsivity and distress tolerance are psychological factors closely linked to disordered eating behaviors (20, 21). Impulsivity is characterized by a propensity to respond rapidly without evaluating potential outcomes, frequently resulting in maladaptive behaviors like binge eating or overeating as a way to temporarily alleviate negative emotions. Distress tolerance is the ability to endure and cope with negative emotional states without resorting to harmful coping mechanisms. Individuals with low distress tolerance may struggle to manage intense emotions, which increases the likelihood of emotional eating or binge episodes. Elevated impulsivity combined with poor distress tolerance impairs the regulation of healthy eating behaviors and has been recognized as a major risk factor in both the onset and persistence of eating disorders (22).

The core hypothesis guiding this study suggests that an invalidating childhood environment may contribute to

the development of harmful eating behaviors and negative eating attitudes by influencing psychological factors such as diminished distress tolerance, insufficient self-compassion, and heightened impulsivity. Research indicates that environments that fail to validate a child's emotional experiences are linked to difficulties in regulating distress, often leading to maladaptive coping mechanisms like disordered eating behaviors (23). Furthermore, a lack of self-compassion has been shown to contribute to self-criticism, which can exacerbate negative attitudes toward food and body image (24). Elevated impulsivity, often resulting from such environmental influences, can further drive disordered eating behaviors as individuals seek immediate relief from negative emotional states (25). This framework highlights the intricate links between early life experiences, psychological resilience, and the development of eating disorder pathology.

In summary, research indicates that nutritional behaviors are more influenced by cultural, beliefs, attitudes towards eating, media, and fashion than by nutritional awareness (26). The prevalence of eating disorders in women is approximately 4.8%, and in men, it is about 2.2% (27). Therefore, further investigation into attitudes towards eating as a basis for behavior modification could serve as a preventive measure against eating disorders in a wide range of populations. By examining the role of these variables in predicting attitudes towards eating and eating behaviors, attention can be directed towards vulnerable individuals in treatment and preventive strategies can be formulated to prevent harmful attitudes towards eating and maladaptive eating behaviors.

Accordingly, this study sought to examine the association between childhood emotional invalidation and adult eating attitudes and behaviors, emphasizing the mediating effects of self-compassion, distress tolerance, and impulsivity. Specifically, the study sought to:

1. Examine whether childhood emotional invalidation is associated with maladaptive eating behaviors and negative attitudes toward eating in adulthood.
2. Examine the mediating roles of self-compassion, distress tolerance, and impulsivity in the association between childhood invalidation and adult eating behaviors.
3. Determine the relative strength of these mediators in explaining the impact of childhood invalidation on disordered eating patterns.

Given the complex interplay among psychological factors such as self-compassion, distress tolerance, and impulsivity, it is essential to examine their simultaneous and interrelated effects within an integrated structural model to comprehensively understand their roles in the development of eating disorder pathology.

Although individual psychological contributors to eating disorders have been studied extensively, there is a scarcity of research examining the concurrent mediating effects of self-compassion, distress tolerance, and impulsivity in relation to childhood emotional invalidation. The present study aims to address this gap by integrating these mediators within a single framework to better understand their joint and distinct contributions to disordered eating attitudes and behaviors in adulthood. This approach offers a more comprehensive understanding of how early emotional environments influence later eating pathology, providing insights that may inform more targeted and effective prevention and intervention strategies.

Materials and Methods

Participants and Procedure

This study utilized a cross-sectional design and included 1,217 university students from Tehran, (Mean age = 28.31, SD = 7.95, 86.2% female). Participants were recruited online through a convenience sampling approach from September 2023 to May 2024. Invitations to take part in the study were shared with university students in Tehran via social media platforms, including WhatsApp, Instagram, and Telegram. The survey was administered using Google Forms, a secure online platform. Individuals interested in participating provided their consent by selecting a checkbox on the form after reviewing the study's purpose and assurances regarding data confidentiality. To be eligible, participants had to be enrolled in a university at the time of the study and express a genuine interest in participating. The research was conducted in compliance with the ethical standards established by the Declaration of Helsinki and was approved by the Institutional Review Board (28).

To ensure data quality, all responses were checked for completeness and consistency. Participants who provided incomplete surveys or showed signs of inattentive responding (e.g., straight-lining or extremely short completion times) were excluded from the analysis. The survey included standardized, validated questionnaires to assess the variables of interest. Data collection was anonymous to encourage honest responses. Participants were also informed that they could withdraw from the study at any time without any consequences.

Measures

Demographic Characteristics Questionnaire

This questionnaire included items that assessed participants' age, gender, educational level, and marital status.

Invalidating Childhood Environment Scale (ICES)

The ICES was used to assess perceived parental invalidation during childhood (13). The measure consists of 14 self-report items evaluating the extent to which participants experienced parental invalidation, with responses recorded on a 5-point Likert scale (1 = never, 5 = always). The ICES yields separate scores for perceived maternal and paternal invalidation, each ranging from 14 to 70, with higher scores reflecting greater perceived invalidation. The Persian version of

the ICES has demonstrated good psychometric properties, including strong internal consistency (Cronbach's alpha of 0.84 for mothers and 0.87 for fathers) and test-retest reliability (0.98).

Distress Tolerance Scale (DTS)*:*

The DTS, created by Simons and Gaher in 2005, is a self-administered measure that assesses how individuals perceive their capacity to withstand and cope with emotional distress. (29). The scale consists of 15 items rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) and evaluate four key components: distress tolerance, cognitive appraisal, distress regulation, and distress absorption. These components reflect the ability to withstand emotional discomfort, the subjective evaluation of distressing situations, efforts to manage distress, and the degree to which distress interferes with functioning, respectively. The Persian version of the DTS shows excellent internal consistency, with a reported Cronbach's alpha of 0.89. Furthermore, the scale exhibits strong test-retest reliability, confirming its stability over time (30).

Barratt Impulsiveness Scale (BIS-11)

The BIS-11, developed by Barratt in 1959, is a widely used self-report measure designed to assess impulsivity across three dimensions: motor impulsivity, cognitive impulsivity, and non-planning (31). The scale comprises 30 items, each rated on a 4-point Likert scale ranging from 1 (rarely/never) to 4 (almost always). Total scores are calculated by summing individual item responses, with higher scores indicating greater levels of impulsivity. In the Iranian context, the BIS-11 has been validated with favorable results. The Iranian version has a reported Cronbach's alpha of 0.85, indicating excellent internal consistency. It also demonstrates strong construct validity, with established relationships with other impulsivity measures, confirming its effectiveness in assessing impulsivity within the Iranian population (32, 33).

Self-Compassion Scale (SCS)

The SCS was developed by Kristin Neff in 2003 and is a 26-item self-report measure designed to assess individuals' attitudes toward themselves during times of suffering (34). Comprising six dimensions—self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification—the scale uses a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always), where higher scores denote increased self-compassion. The Persian version of the SCS has shown excellent internal consistency, with a reported Cronbach's alpha of 0.90, indicating high reliability. Additionally, it has demonstrated strong test-retest reliability over a two-week interval, with a reported coefficient of 0.93 (35).

Dutch Eating Behavior Questionnaire (DEBQ)

The DEBQ, developed by Van Strien, is a 33-item self-report measure designed to assess eating behaviors across three dimensions: emotional eating, external eating, and restrained eating (36, 37). Participants respond to each item using a 5-point Likert scale ranging from 1 (never) to 5 (always), with higher scores indicating a stronger tendency toward the specific eating behavior. The Persian version of the DEBQ has also shown acceptable internal consistency, with Cronbach's alphas ranging from 0.75 to 0.83.

Eating Attitudes Test (EAT-26)

The EAT-26 is a 26-item self-report questionnaire developed by Garner *et al* (38) to assess symptoms and attitudes related to eating disorders. Participants respond to each item using a 6-point Likert scale ranging from 1 (never) to 6 (always) with higher scores indicating a greater tendency toward disordered eating behaviors. The Cronbach's alpha for the Persian version of the EAT-26 is reported to be 0.91, indicating excellent internal consistency (39).

Data Analysis

First, descriptive statistics were analyzed for all study variables. Subsequently, Pearson correlation coefficients were computed to examine associations among the variables. Effect sizes were interpreted based on established guidelines, with values of $\leq .30$ considered small, .30 to .50 moderate, and $\geq .50$ strong. Next, Structural Equation Modeling (SEM) was utilized to assess the hypothesized model, testing direct and indirect effects simultaneously. Model fit was assessed using several goodness-of-fit indicators, including the chi-square test (χ^2), Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Goodness of Fit Index (GFI). Non-Normed Fit Index (NNFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA). Acceptable model fit was determined based on established guidelines, with CFI, IFI, GFI, and NNFI values of 0.90 or higher, as well as SRMR and RMSEA values below 0.08 (40). Analyses were conducted using AMOS version 24.

Ethical Consideration

The study protocol was reviewed and approved by the Institutional Review Board of Shahid Beheshti University of Medical Sciences, with the ethical approval code IR.SBMU.MSP.REC.1398.989.

Results

Demographic and Descriptive Statistics

A total of 1,217 students participated in the study, with a mean age of 28.31 years (SD = 7.95) and an age range of 18 to 47 years. The sample predominantly comprised females (86.2%) and a smaller proportion of males (13.8%). In terms of marital status, the majority of participants (71.2%) were single, while 28.8% were married. Regarding educational attainment, 18.6% of participants had a high school diploma, 47.9% held a bachelor's degree, 26.6% had a master's degree, 1.7% had a non-continuous doctoral degree, and 5.2% were enrolled in professional doctoral programs. A detailed

summary of the demographic characteristics is presented in Table 1. Regarding educational background, 226 participants (18.6%) had completed high school, 583 (47.9%) held bachelor's degrees, and 324 (26.6%) had obtained master's degrees. Additionally, marital status data revealed that 867 participants (71.2%) were single, while 350 (28.8%) were married.

Table 1. Frequency and Percentage Distribution of Gender, Marital Status, and Education Level Among Participants (N = 1217)

Variable	Frequency	Percentage
Gender		
Female	1049	86.2%
Male	168	13.8%
Total	1217	100%
Marital status		
Single	867	71.2%
Married	350	28.8%
Total	1217	100%
Education level		
High school	226	18.6%
Bachelors	583	47.9%
Masters	324	26.6%
Non-continuous Doctorate	21	1.7%
Professional doctorate	63	5.2%
Total	1217	100%

Descriptive statistics were also calculated for the primary study variables. Table 2 shows that the mean score for overall eating behavior was 67.59 (SD = 13.07), with subscale scores for emotional eating at 22.68 (SD = 7.25), restrained eating at 15.90 (SD = 5.94), and external eating at 29.02 (SD = 5.76). Participants' attitudes toward eating yielded a mean score of 25.42 (SD = 7.09), which was positively associated with maladaptive eating behaviors. In addition, distress tolerance, self-compassion, and impulsivity had mean scores of 39.38 (SD = 10.90), 71.90 (SD = 10.83), and 66.28 (SD = 7.09), respectively. Detailed descriptive statistics, including skewness and kurtosis values, for all study variables are presented in Table 2.

Table 2. Descriptive Statistics (Mean, Standard Deviation, Skewness, and Kurtosis) for Eating Behavior and Related Psychological Variables Among Participants (N = 1217)

Variable	Mean	SD	Skewness	Kurtosis
Eating Behavior	59.67	13.07	0.205	-0.189
Emotional Eating	68.22	7.25	0.649	-0.086
Restrained Eating	90.15	5.94	0.176	-0.750
External Eating	29.02	5.76	0.057	-0.292
Attitude towards Eating	42.25	7.09	0.997	1.344
Eating Habits	91.5	6.02	1.365	1.622
Food Hunger	0.89	1.72	2.788	9.04
Distress Tolerance	39.38	10.90	0.221	2.280
Self-Compassion	71.90	10.83	-0.104	-0.469
Impulsivity	66.28	7.09	0.224	-0.189

Note. SD = Standard deviation

The skewness and kurtosis values presented in Table 2 fall within the acceptable range of -2 to +2, indicating that the data are approximately normally distributed.

Correlations and Relationships between Variables

The relationships among key study variables were examined using Pearson correlation coefficients, presented in Table 3. Eating behavior demonstrated significant positive correlations with external eating (r = 0.57, P < 0.01), emotional eating (r = 0.49, P < 0.01), and restrained eating (r = 0.37, P < 0.01). Conversely, eating behavior showed significant negative correlations with self-compassion (r = -0.24, P < 0.01) and distress tolerance (r = -0.19, P < 0.01). Attitudes toward eating were also positively correlated with emotional eating (r = 0.61, P < 0.01) and negatively associated with self-compassion (r = -0.25, P < 0.01), suggesting that higher maladaptive attitudes toward eating were related to lower levels of self-compassion. Additionally, impulsivity exhibited significant positive correlations with both external eating (r = 0.24, P < 0.01) and emotional eating (r = 0.21, P < 0.01). As shown in Table 3, eating behavior was positively correlated with impulsivity and negatively correlated with self-compassion and distress tolerance. Additionally, attitudes toward eating display similar patterns.

Table 3. Correlation Matrix Among Eating Behaviors, Psychological Traits, and Perceived Parental Responses in Participants (N = 1217)

Variable	1	2	3	4	5	6	7	8	9
1. Eating Behavior	1								
Attitude towards Eating	0.619*	1							
3. Distress Tolerance	-0.189**	-0.206**	1						
4. Self-Compassion	-o.136**	0.192**	0.507**	1					
5. Impulsivity	0.244**	0.215**	-0.020**	0.079**	1				
6. maternal negative responses	0.177**	0.165**	-0.227**	-0.158**	0.207**	1			
7.lack of maternal support	0.122**	0.162**	-0.186**	-0.1930**	0.127**	0.608**	1		
8.paternal negative responses	0.184**	0.179**	0.235**	0.186**	0.157**	0.729**	0.473**	1	
9.lack of paternal support	0.134**	0.187**	-0.199**	-0.242	0.123**	0.465**	0.758**	0.589**	1

Note. *P < 0.05; ** P < 0.001

Furthermore, an SEM was conducted to evaluate the adequacy of the proposed model, examining the relationships among childhood adversities, self-compassion, distress tolerance, impulsivity, and eating behaviors. The model fit indices are summarized in Table 4. The results indicated a good fit to the data, supporting the validity of the hypothesized relationships.

Table 4. Fit Indices and Acceptable Thresholds for the Measurement Model of Eating Behavior and Related Psychological Constructs

Fit index	Acceptable range
χ^2 (Chi-Square)	P > 0.05
χ^2/df (Ratio)	Less than 5
CFI (Comparative Fit Index)	Greater than 0.90

RMSEA (Root Mean Square Error)	Less than 0.08
SRMR (Standardized Root Mean Square Residual)	Less than 0.08

The fit indices presented in Table 5 demonstrate that all values fall within acceptable ranges, confirming the model's adequacy. Specifically, while the χ^2 value was relatively high, the χ^2/df ratio (4.245) remained below the critical threshold of 5, suggesting an acceptable fit. Additionally, CFI (0.952), IFI (0.953), GFI (0.931), and NNFI (0.945) all exceeded the recommended cut-off value of 0.90, providing further evidence of model fit. RMSEA (0.052) was well below the acceptable upper limit of 0.08, and SRMR (0.041) also indicated an acceptable fit. Together, these indices affirm the structural model's overall adequacy and its ability to capture the underlying theoretical framework.

Table 5. Fit Indices, Acceptable Thresholds, and Observed Values for the Structural Model Examining the Relationships among Eating Behavior, Psychological Traits, and Perceived Parental Factors

Fit index	Acceptable range	Value
Chi-square (χ^2)	-	304.911
Ratio of Chi-square to Degrees of Freedom	Less than 5	4.980
Comparative Fit Index (CFI)	Greater than 0.90	0.941
Incremental Fit Index (IFI)	Greater than 0.90	0.941
Goodness of Fit Index (GFI)	Greater than 0.90	0.935
Non-Normed Fit Index (NNFI)	Greater than 0.90	0.926
Root Mean Square Error of Approximation (RMSEA)	Less than 0.08	0.057
Standardized Root Mean Square Residual (SRMR)	Less than 0.08	0.069

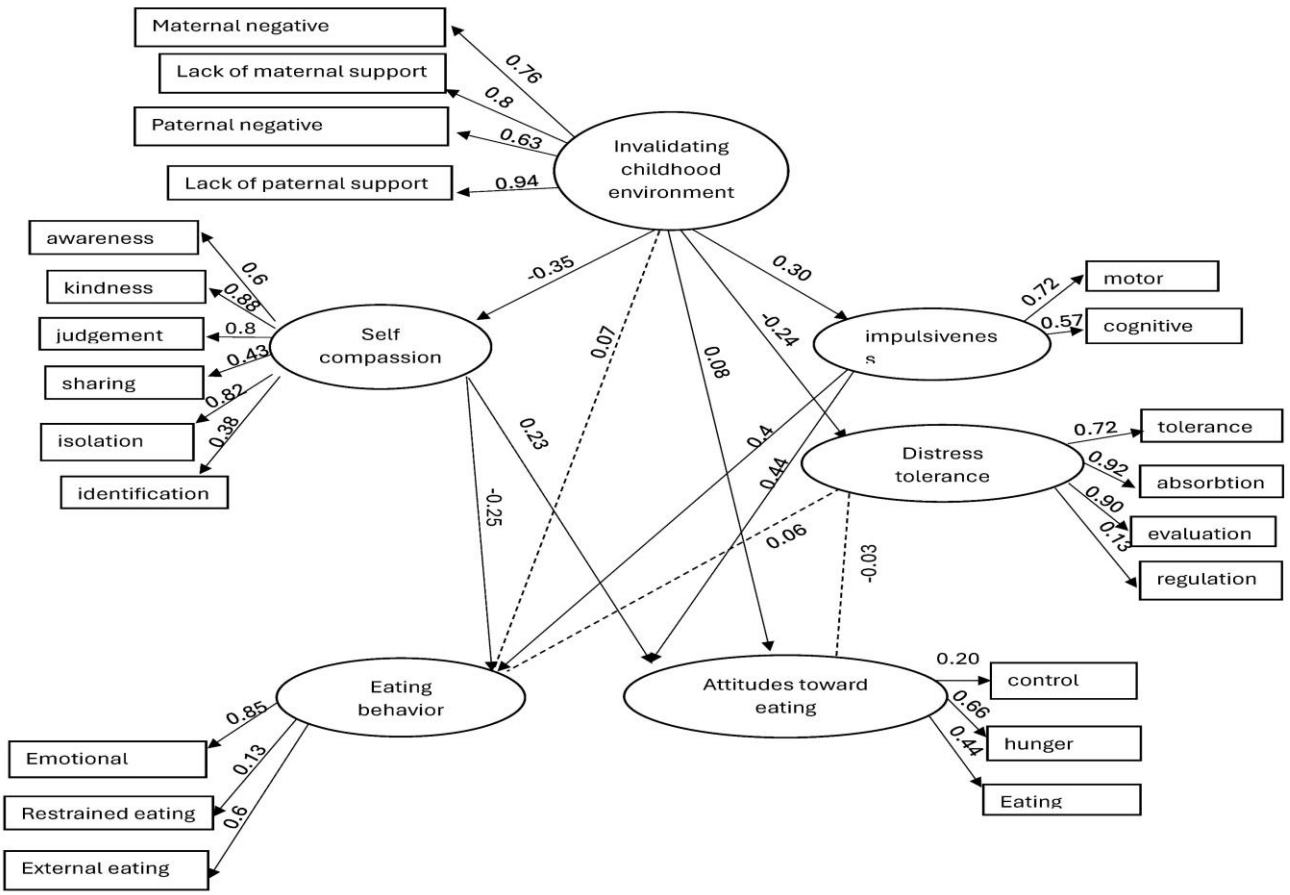

Figure 1. Structural Equation Model (SEM) Depicting the Relationships among Study Variables, with Standardized Path Coefficients Presented

Figure 1, the structural model distinguishes significant paths with solid lines and non-significant paths with dashed lines. For instance, the direct pathway from childhood unhelpful environments to eating behavior was not significant, while the indirect effects through impulsivity and self-compassion were statistically significant. As presented in Figure 1, significant pathways were identified, particularly for impulsivity and self-compassion as mediators linking childhood adversities to maladaptive eating behaviors. However, the direct path from childhood unhelpful environments to eating behaviors was not significant, suggesting that this relationship operates indirectly through impulsivity and self-compassion. The direct effects of the key variables on eating behaviors and attitudes were examined. As shown in Figure 1, impulsivity had a significant positive effect on both eating behavior ($\beta = 0.405$, $t = 8.306$, $P < 0.01$) and eating attitudes ($\beta = 0.443$, $t = 7.225$, $P < 0.01$). Conversely, self-compassion demonstrated a significant negative effect on eating behavior ($\beta = -0.232$, $t = -4.105$, $P < 0.01$) and eating attitudes ($\beta = -0.246$, $t = -3.742$, $P < 0.01$). In contrast, distress tolerance did not exhibit any significant direct effect on eating behavior ($\beta = 0.056$, $t = 1.083$, $P > 0.05$) or eating attitudes ($\beta = -0.029$, $t = -0.497$, $P > 0.05$). The findings also indicated that impulsivity and self-compassion significantly mediated the relationship between childhood invalidation and both eating behavior and eating attitudes. However, distress tolerance did not demonstrate a significant mediating role in the model. Furthermore, childhood invalidation indirectly influenced eating behavior and attitudes through impulsivity and self-compassion, while its indirect effects through distress tolerance were non-significant.

Discussion

Focusing on the mediating mechanisms of self-compassion, impulsivity, and distress tolerance, the present study investigated the link between childhood emotional invalidation and later eating-related attitudes and behaviors. Consistent with previous research, our findings confirm that growing up in a disvaluing family environment significantly influences adult eating attitudes. This aligns with literature suggesting that dysfunctional family dynamics can predispose individuals to maladaptive coping mechanisms, including problematic eating patterns (41). However, unlike some prior studies, we did not find a direct association between childhood invalidation and actual eating behaviors. This divergence may be due to the non-clinical nature of the sample and its restricted age range, which might have limited the expression of eating behavior symptoms. Moreover, it underscores the complexity of the pathways linking early invalidation to behavioral outcomes, suggesting that mediating factors play a critical role.

Importantly, our results highlight impulsivity and self-compassion as significant mediators in this relationship. The connection between childhood invalidation and elevated impulsivity supports existing models that link early emotional neglect or rejection to impaired self-regulation and increased emotional reactivity (42). Individuals from invalidating backgrounds may develop impulsive tendencies as maladaptive attempts to manage stress and negative emotions, often due to deficits in learned coping skills. Furthermore, low self-compassion, as demonstrated in our findings, is associated with greater eating pathology, consistent with Neff and colleagues' work (43). Self-compassion appears to serve as a protective factor by mitigating harsh self-criticism and fostering emotional resilience, thereby reducing vulnerability to disordered eating behaviors.

Contrary to prior research, distress tolerance did not significantly correlate with eating attitudes or behaviors in our sample (22). While this discrepancy may partly reflect methodological limitations—such as the use of a distress tolerance scale that may inadequately capture culturally nuanced emotional regulation or the characteristics of a non-clinical sample—there may be deeper complexities. Distress tolerance might interact with impulsivity and self-compassion in intricate ways that a cross-sectional design cannot fully disentangle. For example, distress intolerance could indirectly influence eating behaviors through its impact on impulsivity or emotional regulation capacities, which warrants further longitudinal and experimental investigation.

In comparison to the study 'Attitudes Towards Emotional Expression Mediate the Relationship Between Childhood Invalidation and Adult Eating Concern,' our results similarly underscore the significance of mediating psychological variables in understanding the impact of early emotional invalidation on adult eating behaviors (44). Both studies emphasize the critical role of emotional processing in linking childhood invalidation to eating disturbances. While that study identified attitudes towards emotional expression as a mediator, our study extends this by identifying impulsivity and self-compassion as additional key mediators. This suggests a multifaceted pathway whereby early invalidation shapes not only emotional expression but also self-regulatory capacities and self-relational attitudes, collectively influencing eating outcomes.

The interplay between impulsivity and distress tolerance observed in the literature also emerges as a complex, potentially bidirectional relationship. Distress intolerance can exacerbate impulsive reactions to stress, yet impulsivity may itself hinder the development of distress tolerance skills. This dynamic may complicate the detection of straightforward correlations in cross-sectional analyses and points to the need for more nuanced models and measures.

Limitation

Several limitations of the present study should be acknowledged. First, the sample was restricted to medical students in Tehran, which limits the generalizability of the findings. This specific population may share particular characteristics, such as heightened perfectionism or stress levels, that influence self-compassion and eating attitudes differently than in the general population. Additionally, cultural factors unique to this group might have shaped the observed relationships, thus caution is warranted when extending results to other populations or cultural contexts.

Second, the study relied exclusively on self-report measures, which are susceptible to various biases including social desirability and recall inaccuracies. These biases may have influenced participants' responses, particularly concerning sensitive topics like childhood invalidation and eating behaviors. Incorporating multi-method approaches or objective assessments in future research would help mitigate these concerns.

It is important to note that the cross-sectional design inherently constrains causal interpretations of the findings. While significant associations and mediation effects were identified, the temporal sequence and directionality of these relationships remain unclear. Longitudinal or experimental studies are necessary to clarify causality and better understand how childhood invalidation, impulsivity, self-compassion, and distress tolerance interact over time to influence eating attitudes and behaviors.

Conclusion

A disvaluing environment can lead to harmful attitudes and behaviors towards eating by mediating impulsivity and self-compassion. In this way, when faced with negative emotions and difficult situations, people turn to impulsive and harmful behaviors such as uncontrolled eating instead of experiencing emotions and solving problems. Self-compassion can be a moderator of this situation. Despite previous research, the present study did not show the mediating role of distress tolerance in relation to a disvaluing environment and eating attitudes and behaviors. The results of this study can be used to provide parents with education about the devaluing environment and its possible consequences to prevent related disorders, and also to consider the devaluing environment component in the treatment plan for borderline personality disorder, eating disorders, and personality disorders in general. It is suggested that this work be repeated in future studies on clinical populations and populations with different cultures.

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Conflict of Interest

None.

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