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The Structural Model of Depression in Patients with Irritable Bowel Syndrome Based on Internalized Maladaptive Object Relations: The Mediating Role of Defense Mechanisms

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ABSTRACT

Objective: This study tested a structural model in which internalized maladaptive object relations influence depressive symptoms in patients with irritable bowel syndrome (IBS) through different styles of defense mechanisms.

Methods and Materials: In this cross-sectional study, 351 adults with clinician-diagnosed IBS (153 men, 198 women; 18–65 years) were recruited from healthcare centers in Tehran in 2022–2023 using purposive sampling. Participants completed the Bell Object Relations and Reality Testing Inventory, the Defense Style Questionnaire-40, and the 7-item Beck Depression Inventory for Primary Care. Data were screened for normality and outliers, then analyzed using Pearson correlation, confirmatory factor analysis, and path analysis with maximum likelihood estimation. Model fit was evaluated with CMIN/DF, GFI, AGFI, CFI, and RMSEA indices.

Findings: Object-relations dimensions (egocentricity, alienation, insecure attachment, and social incompetence) were significantly associated with both defense styles and depression. The final model showed good fit (CMIN/DF = 2.81, GFI = 0.99, AGFI = 0.96, CFI = 0.99, RMSEA = 0.06) and explained 36% of the variance in depression. Mature and immature defenses were the strongest direct predictors of depression (protective and risk, respectively), whereas neurotic defenses showed a weaker, inverse association. All object-relations dimensions affected depression only indirectly via defense styles; no direct paths from object relations to depression remained significant.

Conclusion: These findings highlight defense mechanisms as key psychological pathways linking maladaptive object relations to depressive symptoms in IBS. Targeting defensive functioning alongside early relational patterns may be important in psychotherapeutic interventions for this population.

Keywords: Irritable Bowel Syndrome, Depression, Object Relations, Defense Mechanisms.

Introduction

Irritable Bowel Syndrome (IBS) is one of the most frequent disorders encountered in medical consultations. It is a type of gastrointestinal dysfunction characterized by abdominal pain and changes in bowel habits in the absence of any identifiable physical abnormality (Drossman et al., 2011; Fond et al., 2014). IBS is generally recognized as a functional disorder, with its onset, course, and outcomes being influenced by physiological, psychological, and environmental factors (Drossman et al., 2011; Simrén et al., 2007). This syndrome is highly comorbid with anxiety, especially when rooted in difficulties processing underlying emotions (Abbass, 2005; Abbass et al., 2020). On the other hand, depression manifesting as low mood, lack of motivation, or loss of meaning in life has also been strongly associated with IBS. In most studies, however, depression and anxiety are often examined as overlapping constructs rather than separate conditions. Impaired emotional processing appears to play a central role in the emergence of both anxiety and depression among IBS patients (Perry et al., 2020). While the primary issue may seem to be related to gastrointestinal motility or sensory dysfunction, evidence on the impact of depression suggests a significant psychological etiology (Fond et al., 2014).

Patients with functional gastrointestinal disorders, including IBS, report higher levels of depression compared to control groups (Chupradit et al., 2022). Previous research indicates that psychological symptoms in IBS are more closely tied to the individual's mental state than to the physiological course of the disorder. (Posserud et al., 2004) showed that symptoms in many IBS patients emerge concurrently with or following psychological stress. Other studies also point to a high prevalence of psychiatric comorbidities in this population (Folks, 2004; Nasiri-Dehsorkhi et al., 2022). Among the most prominent psychological symptoms associated with IBS is depression (Simpson et al., 2020). Further evidence suggests that IBS patients with comorbid depression experience more severe pain and tension, likely due to fear of catastrophic health outcomes and anxiety about death or worsening symptoms (Rahal et al., 2020).

Emotional states such as anxiety, or experiences of psychological stress and depression, can influence gut physiology and negatively affect the perception and interpretation of bodily symptoms (Xie et al., 2024). This assertion is supported by research findings indicating that psychological interventions particularly those targeting mood and emotional regulation can lead to improvements in IBS symptoms (Farnam et al., 2014). The intertwined nature of psychological factors especially anxiety and depression with IBS led the present study to focus on a sample selected from individuals diagnosed with irritable bowel syndrome, in order to gain a better understanding of developmental factors and underlying psychological mechanisms.

According to empirical evidence, emotionally burdensome experiences characterized by loss or guilt can lead to the emergence of depression. In psychological explanations of depression, the notion of loss and deprivation has long been regarded as a central theme. Psychological studies describe depression as a complex reaction to loss or to the inability to process feelings of guilt (Lenzo et al., 2020). From a classical psychodynamic perspective, depression is viewed as the consequence of disrupted infant–mother attachment, the loss of a real or imagined object, and the internalization of the lost object as a defensive strategy to cope with the distress of loss and to redirect anger from the attachment figure toward the self. In this view, defense mechanisms with a suppressive nature are seen as creating fertile ground for depression to emerge (da Silva Machado et al., 2023; Waqas et al., 2015). As previously noted, depression—as a psychological comorbidity of IBS has a developmental nature and is directly linked to the individual's intrapsychic dynamics. This developmental nature of depression raises the question of which developmental dimensions play the most significant role in explaining the psychological and physical symptoms associated with IBS. In the present study, the developmental trajectory of the individual is explored through the lens of object relations theory. Object relations refer to interpersonal relationships, where the "object" denotes either a person or anything that serves as a source of emotional attachment or gratification. The central assumption of object relations theory is that internalized representations of relationships persist over time and influence an individual's current interactions with the self, others, and the external world (Herbert et al., 2010; Chupradit et al., 2022).

Object relations theorists propose that a child's mind is shaped through early interactions with primary caregivers, and that the patterns of these initial relationships are often repeated throughout development. Object relations theories are fundamentally developmental in nature, considering not only post-Oedipal but also pre-Oedipal processes and relational dynamics. According to this perspective, development centers on the internalization of early interactive patterns between the child and caregivers—patterns that tend to remain relatively stable across the lifespan and shape the individual's perception of the self, others, and the surrounding world (Cohen & Nycz, 2006). A sense of safety and the formation of secure attachment is considered a basic developmental need, fulfilled by parents or primary caregivers. When this need is met with inconsistency, unpredictability, or conflict, the child becomes fundamentally incapable of forming secure attachment bonds. In other words, future attempts at attachment or intimacy may become infused with expectations of disappointment, instability, and inadequacy. This experience attachment insecurity is one of the most detrimental outcomes of maladaptive object relations.

Attachment insecurity hampers the development of a coherent and differentiated sense of self. The inability to feel loved or valued in close relationships often leads to feelings of inadequacy and alienation. These feelings foster excessive self-focus and heightened sensitivity to others' reactions, thereby reducing the individual's capacity to respond adaptively to contextual demands. As a result, everyday frustrations are interpreted through the lens of previous emotional injuries, making effective coping more difficult (Siefert & Porcerelli, 2015).

From the perspective of object relations theory, the development of an effective ego one that enables the individual to adapt, experience positive affect, and engage in constructive behavior requires the presence of a secure psychological environment throughout development. In the absence of such an environment, anxiety processes are likely to be triggered by experiences of frustration, and intense negative emotions such as anger and shame tend to emerge. These aversive experiences hinder access to a cohesive sense of self and promote reliance on defensive mechanisms such as avoidance, repression, and projection.

Fairbairn posited that the ego develops through establishing relationships with real, external others. When these relationships are satisfying, ego integrity is maintained. However, when external relations are unsatisfying, a crucial consequence arises: the formation of internalized objects that emerge to compensate for disappointing or harmful external ones. The emergence of such active internal objects leads to the fragmentation of ego unity, as different parts of the ego become associated with conflicting internalized objects. Whenever an object is split, the ego itself becomes divided, with its parts engaged in internal conflict. The intrapsychic situation thus refers to the interplay between these ego structures and the internalized objects, which themselves take on structural roles within the psyche (Smith et al., 1997).

A psychologically healthy and normative developmental environment fosters the formation of stable internal structures. However, failure to consolidate these internal structures plays a fundamental role in psychopathology. It is essentially impossible for an individual to progress in a perfectly safe and frustration-free environment. While the intensity of frustration varies among individuals, the experience of frustration itself typically triggers infantile aggression directed toward the object most often the mother or primary caregiver. Emotionally, the child experiences frustration as rejection or emotional unavailability by the mother. In this situation, expressing hatred toward the mother is perceived as dangerous, as it may result in further rejection. As a result, the child redirects the anger inward, leading to self-directed aggression, depressive tendencies, and feelings of guilt (Fiorentino et al., 2024). Intense anxiety stemming from rage toward an attachment figure activates the use of defense mechanisms (Janov, 2013).

Defense mechanisms can vary depending on the severity of the psychological injury, the individual's temperament, the developmental stage at which relational trauma occurred, and reinforcement patterns (Janov, 2013). Defense mechanisms are involuntary and unconscious strategies employed by the ego to reduce anxiety and manage negative emotions through the distortion or denial of reality, thereby preserving personality coherence and psychological equilibrium at least temporarily until more adaptive solutions are found (Javdan & Shahri, 2023). Andrews et al. (1993),

drawing on Vaillant's hierarchical classification (1971, 1976), divided defense mechanisms into three categories based on their adaptive functions: mature, neurotic, and immature. The earlier in life psychological trauma occurs, the more primitive the internalized defenses are likely to be. Repression is considered a maladaptive mechanism often associated with depressive symptoms and self-directed aggression (Goldblatt & Maltsberger, 2010). Moreover, rather than reducing emotional distress, repression tends to reinforce the cycle of anxiety by suppressing the authentic emotional experience (Rabiei, 2023).

From a developmental standpoint, while it is well understood that patterns of object relations play a pivotal role in shaping how individuals perceive and respond to their environment, the primary pathway through which these patterns exert influence is via the individual's way of managing emotions (Shahar, 2021). In other words, maladaptive object relations, through the ego's impaired capacity to process emotions, make the use of defense mechanisms inevitable (Yıldız & Bahayi, 2024). The chronic and inflexible reliance on such defense mechanisms often results in the emergence of clinical symptoms, such as depression. Therefore, object relational patterns can contribute to the onset of affective and behavioral disturbances both directly and indirectly (Frederickson et al., 2018; Kernberg, 2022).

In light of these considerations, the present study focuses on depression as a comorbidity frequently associated with irritable bowel syndrome. From a developmental perspective, depression is hypothesized to be linked to early relational patterns and internalized object relations. According to the researcher, object relations contribute to depressive symptoms by undermining ego cohesion and diminishing the ego's capacity to process self-experience in an integrated manner. In turn, the resulting defensive responses—whether suppressive or externalizing—amplify depressive manifestations. Consequently, the primary aim of this study is to test a structural model of depression based on the mediating role of defense mechanisms in the context of object relations. A secondary objective is to examine differences in the type and intensity of defense mechanisms and their respective impact on depression.

Methods and Materials

This study employed a descriptive-correlational research design.

The statistical population consisted of men and women aged 18 to 65 residing in District 6 of Tehran who were diagnosed with irritable bowel syndrome (IBS) during the years 2022 and 2023. The presence of IBS as a medical condition made random sampling highly impractical. Therefore, due to the requirement that participants be selected from patients visiting healthcare centers, a purposive, non-random sampling method was employed.

Inclusion criteria were as follows: (a) diagnosis of IBS for at least six months, (b) sufficient literacy to comprehend the questions and read the questionnaire items, and (c) minimum cognitive and psychological stability to maintain attention during the response process (Shirzadifard et al., 2020). Participants were selected based on these inclusion and exclusion criteria using purposive sampling. Recruitment was conducted at clinical centers throughout Tehran, where 396 individuals were initially selected and completed the questionnaires.

Out of the distributed questionnaires, 45 were excluded due to incomplete responses or random/matrix-like response patterns. Ultimately, 351 questionnaires (153 men and 198 women) were retained for the final analysis.

Instruments

Bell Object Relations and Reality Testing Inventory (BORRTI): The Bell Object Relations Inventory (BORI) consists of 45 items and has been standardized for both clinical and non-clinical populations. It is widely used in assessing interpersonal functioning and in the diagnosis and prediction of psychopathology. The questionnaire includes four subscales that measure various dimensions of object relations:

Alienation (ALN): assesses the lack of basic trust, feelings of estrangement, and difficulty in forming intimate relationships. *Insecure Attachment (IA):* evaluates sensitivity to rejection, fear of separation and abandonment, and vulnerability to being hurt by others. *Egocentricity (EGC):* reflects low empathy and a tendency toward self-protective relational strategies, manipulation, and exploitation. *Social Incompetence*

(SI): captures discomfort in social settings, shyness, and difficulty establishing friendships (Bell, 2007).

Bell, (2007) reported four-week test-retest reliability coefficients for the subscales ranging from 0.58 to 0.90, and internal consistency coefficients from 0.78 to 0.90. The construct validity of the BORI has been supported through correlations with several instruments, including the Brief Psychiatric Rating Scale (BPRS), the Positive and Negative Syndrome Scale (PANSS), the Millon Clinical Multiaxial Inventory-II (MCMI-II), the Minnesota Multiphasic Personality Inventory (MMPI), and the Symptom Checklist-90-Revised (SCL-90-R).

In an Iranian validation study, Mesgarian et al. (2020) reported Cronbach's alpha reliability coefficients ranging from 0.66 to 0.77 and split-half reliability coefficients ranging from 0.60 to 0.77. In the present study, the internal consistency of the BORI was assessed using Cronbach's alpha. The coefficients were as follows: total scale (0.90), egocentricity (0.88), alienation (0.88), insecure attachment (0.76), and social incompetence (0.82), all indicating satisfactory reliability.

Defense Style Questionnaire (DSQ): The Defense Style Questionnaire was originally developed by Bond, (1992). The first version consisted of 88 items and assessed 24 defense mechanisms categorized into four groups: adaptive defenses, maladaptive defenses, self-sacrificing defenses, and reality-distorting defenses. Later, Andrews and colleagues revised the questionnaire in 1989 and introduced a 72-item version, in which defense mechanisms were reorganized into three hierarchical levels: neurotic, mature, and immature. Due to concerns regarding empirical validity, the instrument underwent further revision in 1993, resulting in a shortened 40-item version developed by Andrews et al. In this version, 20 defense mechanisms are retained, still classified into the same three levels: mature, neurotic, and immature.

The DSQ has been evaluated across various countries and cultural contexts. Studies conducted in France, Brazil, and Portugal have confirmed its reliability and construct validity, demonstrating its utility as a psychometric tool (Petraglia et al., 2009).

In Iran, the Defense Style Questionnaire was validated by (Heydarinasab et al., 2007). Psychometric evaluations conducted during the validation process confirmed that the instrument possesses acceptable reliability and validity within the Iranian population. In the present study, the internal consistency of the defense style subscales was confirmed, with Cronbach's alpha coefficients as follows: immature defenses (0.77), mature defenses (0.71), and neurotic defenses (0.70).

Beck Depression Inventory for Primary Care (BDI-PC): The Beck Depression Inventory for Primary Care (BDI-PC) was originally developed by (Beck et al., 1961), a major revision was made by (Beck et al., 1961) to better capture a broader range of depressive symptoms and to align the instrument more closely with the diagnostic criteria for depressive disorders outlined in the *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV)*. In this revised version, four items were modified to reflect symptoms more indicative of severe depression, such as agitation, feelings of worthlessness, difficulty concentrating, and loss of energy.

In the present study, the 7-item version of the BDI-PC was used. This version was previously applied in Iran by (Monirpour, 2018), who reported favorable psychometric properties. Numerous international studies have supported the reliability and validity of the BDI-PC. In Iran, a study by Rahimi et al., (2023) also provided strong evidence for the instrument's psychometric adequacy, reporting a Cronbach's alpha of 0.87 and a test-retest reliability coefficient of 0.78. The factorial structure of the scale was also confirmed in Rahimi's study.

In the present study, the internal consistency of the BDI-PC (7 items) was assessed using Cronbach's alpha, yielding a value of 0.91, indicating excellent internal reliability.

Findings and Results

Table 1 presents the descriptive statistics for the study variables.

Table 1

Descriptive Statistics for Research Variables

Construct	Component	Mean	Standard deviation	Kurtosis	Skewness
Depression	Total Score	33.87	7.32	1.10	0.99
Object Relations	Total Score	18.79	2.93	-0.18	-0.91
	Egocentricity	7.32	2.61	-0.10	-0.99
	Alienation	3.56	5.99	0.38	-0.48
	Insecure Attachment	3.46	2.99	0.41	-0.38
	Social Incompetence	4.51	4.08	-0.20	-0.72
Defense Styles	Immature Defense Style	103.96	25.93	0.11	-0.76
	Mature Defense Style	30.26	11.10	-0.99	0.47
	Neurotic Defense Style	25.50	8.22	-0.96	0.89

The skewness and kurtosis indices indicated that none of the variables exhibited significant deviation from a normal distribution. Based on the Kolmogorov–Smirnov test, all variables demonstrated approximately normal distributions. The *Social Incompetence* variable included a few outliers, which were transformed by adjusting the extreme values to ensure normality and prepare the data for inferential analysis.

Table 2 presents the results of the correlation analysis among the study variables.

Table 2

Correlations Between Research Variables

Variable	1	2	3	4	5	6	7	8
1. Depression								
2. Object Relations	.33**							
3. Egocentricity	.41**	.67**						
4. Alienation	.39**	.60**	.62**					
5. Insecure Attachment	.45**	.57**	.62**	.58**				
6. Social Incompetence	.24**	.62**	.56**	.36**	.31**			
7. Neurotic Defense Style	–.14**	–.33**	–.31**	–.35**	–.36**	–.22**		
8. Mature Defense Style	–.51**	–.33**	–.41**	–.49**	–.47**	–.25**	–.61**	
9.Immature Defense Style	.38**	.22**	.32**	.38**	.37**	.16**	.09	–.27**

*Note:** =p < .01*

As shown, depression was significantly and positively correlated with all components of object relations, as well as the total object relations score. Specifically, the total object relations score had a significant positive correlation with depression (r= .33, *p*< .01). In addition, egocentricity (r = .41, *p*< .01), alienation (r = .39, *p* < .01), insecure attachment (r= .45, *p*<.01), and social incompetence (r= .24, *p*<.01) were all positively and significantly associated with depression.

Depression also showed a significant positive correlation with the immature defense style (r = .38, *p* < .01), and significant negative correlations with both the mature defense style (r = –.51, *p* < .01) and the neurotic defense style (r = –.14, *p* < .01).

To test the proposed model, path analysis was conducted. In this model, all three defense styles were included as mediators in the relationship between object relations dimensions and depression. It was hypothesized that object relations would influence defense styles, which in turn would predict levels of depression. This model structure allows for the simultaneous consideration of the defense styles and accounts for their shared variance in explaining depressive symptoms.

Figure 1 presents the structural model of depression based on object relations, with defense styles as mediating variables (standardized coefficients shown).

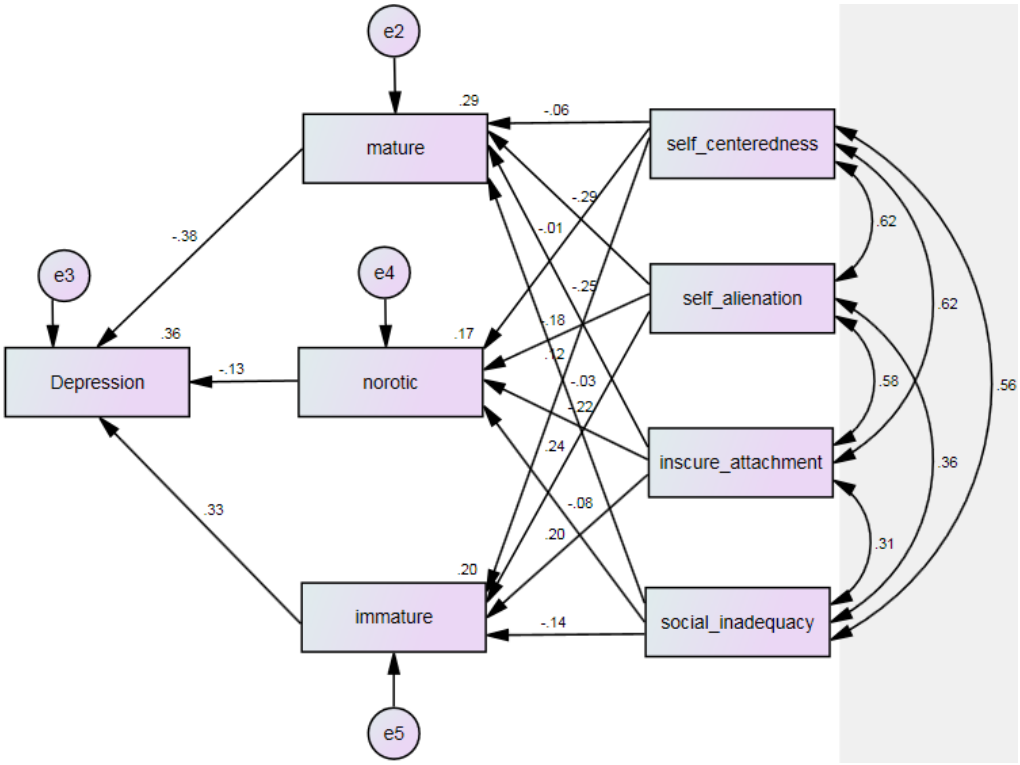

Figure 1

Structural model of depression based on object relations with the mediating role of defense styles (standardized estimates).

Table 3

Fit Indices for the Depression Model Based on Object Relations with the Mediating Role of Defense Styles

Fit Index	Before Modification	After Modification
Chi-square/df (CMIN/DF)	15.31	2.81
Goodness of Fit Index (GFI)	0.90	0.99
Adjusted Goodness of Fit Index (AGFI)	0.64	0.96
Root Mean Square Error of Approximation (RMSEA)	0.20	0.06
Comparative Fit Index (CFI)	0.86	0.99

Table 3 presents the fit indices of the final model. Based on the obtained indices, the final model with the mediating role of defense styles demonstrated excellent fit to the data. As shown, the chi-square to degrees of freedom ratio (CMIN/DF = 2.81), Goodness of Fit Index (GFI = 0.99), Adjusted GFI (AGFI = 0.96), Root Mean Square Error of Approximation (RMSEA = 0.06), and Comparative Fit Index (CFI = 0.99) all support the adequacy of the final model. Table 4 presents the standardized path coefficients of the final model along with the explained variance (R^2) for depression and defense styles.

Table 4

Path Coefficients in the Depression Model Based on Object Relations with the Mediating Role of Defense Styles

Path	Direct Effect	Indirect Effect	Total Effect	R^2
On Depression from:				.36
Neurotic Defense Style	–.13**	–	–.13**	
Mature Defense Style	–.38**	–	–.38**	
Immature Defense Style	.33**	–	.33**	
Egocentricity	–	.07**	.07**	

Alienation	–	.21**	.21**	
Insecure Attachment	–	.19**	.19**	
Social Incompetence	–	–.02	–.02	
On Neurotic Defense Style from:				.17
Egocentricity	–.01	–	–.01	
Alienation	–.18**	–	–.18**	
Insecure Attachment	–.22**	–	–.22**	
Social Incompetence	–.08	–	–.08	
On Mature Defense Style from:				.29
Egocentricity	–.06	–	–.06	
Alienation	–.29**	–	–.29**	
Insecure Attachment	–.25**	–	–.25**	
Social Incompetence	–.03	–	–.03	
On Immature Defense Style from:				.20
Egocentricity	*.12**	–	*.12**	
Alienation	.24**	–	.24**	
Insecure Attachment	.20**	–	.20**	
Social Incompetence	*.–14**	–	*.–14**	

*Note: *=p < .05, **=p < .01*

In the final fitted model, depression was substantially explained, with an R^2 = .36. Additionally, the explained variance for mature defenses (R^2 = .29), immature defenses (R^2 = .20), and neurotic defenses (R^2 = .17) was also significant and meaningful. The indirect effect of egocentricity on depression was positive and significant (β = .07, p < .01). Similarly, alienation (β = .21, p < .01) and insecure attachment (β = .19, p < .01) had significant indirect effects on depression. However, the indirect effect of social incompetence on depression was not statistically significant (β = –.02, p > .05). In terms of direct effects, mature defenses (β = –.38, p < .01) and neurotic defenses (β = –.13, p < .01) were negatively and significantly associated with depression. In contrast, immature defenses showed a significant positive direct effect on depression (β = .33, p < .01). Regarding the predictors of defense styles, alienation (β = –.29, p < .01) and insecure attachment (β = –.25, p < .01) had significant negative effects on mature defenses, whereas egocentricity (β = –.06, p > .05) and social incompetence (β = –.03, p > .05) did not have significant effects. Alienation (β = –.18, p < .01) and insecure attachment (β = –.22, p < .01) also negatively and significantly predicted neurotic defenses, while egocentricity (β = –.01, p > .05) and social incompetence (β = –.08, p > .05) had no significant effects. Egocentricity (β = .12, p < .05), alienation (β = .24, p < .01), and insecure attachment (β = .20, p < .01) had positive and significant direct effects on immature defenses, while social incompetence had a significant negative direct effect (β = –.14, p < .05).

A critical finding of this model is that none of the object relations variables had a significant direct effect on depression. All effects were mediated through defense styles, highlighting the strong mediating role of defense mechanisms in the relationship between object relations and depression. This result confirms the researcher's hypothesis and underscores the psychological process through which early relational patterns influence depressive symptoms.

Discussion and Conclusion

The present study aimed to examine the structural model of depression based on object relations, with defense mechanisms as mediating variables. The central hypothesis was that depression is not directly caused by early object relations, but rather emerges indirectly through defense mechanisms shaped by these object relations. Accordingly, it was expected that different aspects of object relations (egocentricity, alienation, insecure attachment, and social incompetence) would give rise to different types of defense mechanisms, which in turn would predict varying levels of depression. In the final fitted model, 36% of the variance in depression scores was explained by defense mechanisms influenced by object relational patterns. These findings support the mediating role of defense mechanisms in the development of depressive symptoms.

Egocentricity impairs the individual's capacity to develop mature and adaptive defense mechanisms. Mature psychological defenses help individuals adapt to life's inevitable pains, such as frustration, loss, and adjustment difficulties. Individuals with egocentric object relations struggle to differentiate themselves from their attachment figures, often internalizing failures in

relationships or unmet desires as personal shortcomings. This inability to transcend the self renders the individual vulnerable to self-directed aggression and chronic self-sabotaging tendencies. Depression, including low mood, a sense of meaninglessness, and lack of motivation, may thus reflect emotional exhaustion resulting from persistent self-blame. (Kannan & Levitt, 2013) showed that depression is closely related to self-criticism and self-destructive defense mechanisms.

Furthermore, insecure attachment and alienation lead to a persistent internal perception of the self as unlovable and dependent on proximity to attachment figures for affirmation. This overconcern with relationship security impedes the development of mature defenses, which require a relatively stable perception of reality and a consistent self-image. Disrupted object relations compromise this capacity. Individuals with impaired object relational functioning especially in the dimensions of insecure attachment and alienation are often unable to perceive themselves as distinct and inherently valuable (Epstein, 2008).

Mature defense mechanisms including humor, sublimation, anticipation, and suppression clearly serve to preserve ego integrity and enhance the individual's capacity to process frustration. Humor, as a defensive function, alleviates emotional pain by directing the individual's attention toward a creative and ironic interpretation of the situation. As shortcomings are an inevitable part of learning and growth, having a sense of humor plays a vital role in maintaining emotional balance and functioning. Suppression, likewise, is a core component in expanding emotional capacity, particularly in processing difficult feelings such as shame and anger. In contrast, the absence of suppression leads to impulsive, immature reactions and self-directed aggression.

Egocentricity, which reflects the inability to adopt others' perspectives and an emotionally self-centered orientation, often gives rise to narcissistic behaviors. Egocentric object relations are closely associated with narcissistic defenses, which emerge from a person's difficulty in processing shame or frustration-related anger. This results in a tendency toward self-attack, self-blame, and self-devaluation. Freud's conceptualization of depression emphasized this mechanism, in which anger originally directed toward an attachment figure is turned inward. Repression, as a maladaptive defense, plays a key role in depression particularly when emotions are repressed that conflict with the social environment and provoke guilt or shame.

Immature defenses frequently expose individuals to repeated failures. For example, in the case of omnipotent defense mechanisms, individuals avoid acknowledging their limitations and instead maintain an inflated self-image of invincibility. This distorted self-view impairs accurate judgment and reality-testing, leading to repeated experiences of failure, disappointment, and inconsistency. These failures, in turn, activate self-criticism and self-punishment, perpetuating the depressive cycle.

Among IBS patients, self-directed anger may manifest somatically as autoimmune dysfunction or gastrointestinal distress. Several researchers have argued that irritable bowel syndrome (and other GI disorders) are largely explained by somatization processes. In other words, somatization as a primitive defense renders the gastrointestinal system particularly vulnerable. The more an individual relies on immature, suppressive, self-attacking, or somatizing defenses, the greater the likelihood of developing physical symptoms. It can also be argued that self-damaging defenses form the foundation for depressive symptoms, emotional exhaustion, and lowered mood.

Neurotic defenses are inconsistently associated with mental health outcomes in the literature. This pattern was also observed in the present study, where neurotic defense mechanisms were negatively correlated with depression. This may suggest that among IBS patients—who typically suffer from suppressive and somatizing defenses—higher-level defenses such as rationalization may be negatively associated with depression. In other words, when the sample consists of individuals prone to primitive defenses, the presence of more organized defenses like rationalization may correspond to lower depression scores. This interpretation is aligned with Vaillant's perspective on the relative nature of defense mechanisms. As he posits, defenses must not be viewed in absolute terms; therapeutic progress may involve a shift from immature to neurotic defenses, or from neurotic to mature ones. Rationalization, for instance transforming sensory experience into cognitive understanding can be seen as a transitional, adaptive strategy.

The findings of the current structural model align theoretically with object relations and psychodynamic perspectives on defense processes. Consistent with these frameworks, the study revealed that attachment security is positively related to the development of mature defense mechanisms. This implies that the more secure, reliable, and predictable an individual's early attachment relationships are, the more likely they are to develop the capacity to process core emotional experiences whether positive or negative. Authentic emotional experiences shape adaptive orientation toward the environment and contribute to constructive responses to external events. Furthermore, satisfying relational experiences foster the development of an integrated ego with flexible perceptions. In other words, parenting behavior that offers consistent and proportionate feedback allows the child to develop a differentiated sense of self that remains connected to others and avoids egocentricity. Both egocentricity and alienation, stemming from difficulty in maintaining healthy boundaries between self and others, predispose the individual to unstable emotional regulation and in more severe cases borderline personality traits.

In psychodynamic theory, it is believed that the primary task of parenting is to foster the observing ego. This view supports the notion that when parenting is primarily critical and judgmental, the individual internalizes not a healthy ego, but a punitive superego. As previously discussed, a punitive superego part of the immature defensive structure plays a significant role in shaping depressive processes.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

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

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Authors' Contributions

All authors equally contribute to this study.

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