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# The Structural Model of Anxiety in Patients with Irritable Bowel Syndrome Based on Internalized Traumatic Object Relations with the Mediating Role of Defense Mechanisms

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## ABSTRACT

**Objective:** The present study aimed to investigate a structural model of anxiety based on object relations, with the mediating role of defense mechanisms in patients with IBS.

**Methods and Materials:** In a non-experimental correlational study with path modeling, 351 adults with clinically diagnosed IBS (18–65 years; Tehran, 2022–23) completed the Bell Object Relations Inventory (egocentricity, alienation, insecure attachment, social incompetence), the Defense Style Questionnaire (mature, neurotic, immature), and the Beck Anxiety Inventory. Data screening addressed distributional assumptions; model estimation and fit evaluation used standard indices (CMIN/DF, GFI/AGFI, CFI, RMSEA). Direct and indirect paths were tested to determine whether defense styles mediate links between object relations and anxiety.

**Findings:** The final model showed excellent fit (CMIN/DF = 1.52; GFI = 0.99; AGFI = 0.96; CFI = 0.99; RMSEA = 0.05). Anxiety variance explained was substantial ( $R^2 = 0.42$ ). Mature defenses were negatively associated with anxiety ( $\beta = -0.52$ ,  $p < .01$ ), whereas neurotic and immature defenses showed positive associations ( $\beta = 0.19$  and  $\beta = 0.31$ , both  $p < .01$ ). Object-relations dimensions exerted significant indirect effects on anxiety through defense styles: egocentricity ( $\beta_{ind} = 0.07$ ,  $p < .01$ ), alienation ( $\beta = 0.20$ ,  $p < .01$ ), insecure attachment ( $\beta = 0.15$ ,  $p < .01$ ), and social incompetence ( $\beta = 0.05$ ,  $p < .01$ ). Direct paths from object relations to anxiety were not significant, supporting full mediation by defense mechanisms.

**Conclusion:** Among patients with IBS, anxiety appears to be shaped developmentally: internalized object-relations patterns influence the deployment of defense styles, which in turn determine anxiety levels.

**Keywords:** Anxiety, Irritable Bowel Syndrome, Trauma, Object Relations, Defense Mechanisms.

## Introduction

Irritable Bowel Syndrome (IBS) is among the most frequently reported conditions in medical visits. It is a type of gastrointestinal dysfunction distinguished by abdominal pain and changes in bowel habits without any identifiable physical abnormality (de Roten et al., 2021; Fond et al., 2014). IBS is recognized as a functional disorder whose onset, course, and outcomes are influenced by physiological, psychological, and environmental factors (Drossman et al., 2011; Simrén et al., 2007). In fact, this syndrome has a strong comorbidity with anxiety stemming from an inability to experience core emotions (Abbass, 2005; Abbass et al., 2020). Posserud et al., (2004) demonstrated that the symptoms of IBS patients often emerge concurrently with or following psychological stress. Other studies have also indicated a high prevalence of psychological disorders among IBS patients (Folks, 2004). Anxiety appears to be the closest psychological correlate of IBS (Simpson et al., 2020).

In most studies, anxiety is not considered as a separate factor (from depression, etc.), but rather as one of the persistent comorbidities of irritable bowel syndrome (IBS) (Folks, 2004). This evidence suggests that IBS can be influenced by anxiety or may itself act as a contributing factor in intensifying anxiety (Abbass, 2005). This bidirectional interaction invites researchers to explore anxiety in individuals with IBS and raises the question: how do impairments in the experience of core emotions contribute to the onset of anxiety in people with IBS? (Perry et al., 2020). In this study, developmental factors are also considered as underlying mechanisms behind the avoidance of emotional experiences.

Anxious emotional states or periods of psychological stress can influence gut physiology or negatively impact the way bodily symptoms are experienced and interpreted (Xie et al., 2024). Research findings also support the claim that psychological interventions targeting mood and emotion regulation can lead to

improvements in gastrointestinal symptoms (Farnam et al., 2014). The intertwined nature of psychological factors particularly anxiety and IBS prompted the present study to draw its sample from individuals with IBS, aiming for a deeper understanding of the developmental and psychological mechanisms involved.

In contemporary psychodynamic definitions, anxiety is the body and mind's reaction to an inability to fully process emotions (Spokas et al., 2009). In other words, anxiety is the response of the sympathetic and parasympathetic systems to the discharge of tension generated by vague, ambiguous, or conflicting emotions. From a psychoanalytic perspective, anxiety was seen as a warning signal of a danger present in the unconscious (Spokas et al., 2009). This danger is not necessarily tied to a specific external stimulus but rather to the risk of experiencing an unpleasant feeling rooted in the individual's past. Psychological stress caused by a sensory experience that exceeds the person's mental capacity can trigger the onset of anxiety.

Malan views anxiety as a crucial part of the conflict triangle, arising from the inability to process impulses and emotions. In his formulation of anxiety (which adopts a developmental perspective), if a feeling does not align with the individual's developmental capacity and the growing child cannot process the impulse or feeling at the moment it arises then anxiety is inevitably triggered. Anxiety is an unpleasant process that pushes the child to employ defense mechanisms to suppress, discharge, or transform the anxiety (Malan, 2000). Accordingly, in Malan's view, anxiety is an unavoidable response to emotional processing failure. When such anxiety is repeatedly experienced, the child becomes equipped with avoidance mechanisms. Thus, anxiety is inherently a developmental concept (Gori et al., 2023), meaning that its manifestations may vary depending on the age at which events occur, the learning patterns, and the anxiety history tied to specific defense mechanisms. Psychological trauma experienced in early relationships

and at younger ages tends to be more intense (Brenes, 2006).

As previously mentioned, anxiety being a psychological correlate of IBS has a developmental nature that is directly related to the individual's intrapsychic dynamics. This developmental aspect of anxiety raises the question of which developmental dimensions play the greatest role in explaining these symptoms. In this study, the developmental trajectory of the individual is examined through the lens of object relations theory. "Object relations" refers to interpersonal relationships; in this context, an "object" is anything (often a person) that satisfies a need and serves as an attachment figure. The premise of object relations theory is that these relationships leave internal imprints that shape how a person currently interacts with themselves, others, and the world (Herbert et al., 2010).

Insecurity in object relations prevents the development of a coherent and differentiated sense of self. In other words, the inability to feel loved and valued in close relationships leads to feelings of inadequacy and alienation. This sense of inadequacy and insecurity often results in excessive self-focus and heightened attention to how others react and feel about oneself, thereby impeding adaptive functioning in contextual situations. Essentially, everyday frustrations are perceived through the lens of prior emotional injuries, making effective coping more difficult (Siefert & Porcerelli, 2015).

From the perspective of object relations theory, the development of an effective ego capable of adaptation, experiencing well-being, and engaging in functional behavior requires the experience of a psychologically safe environment during development. Otherwise, anxiety processes will consistently arise following experiences of frustration, and intense negative emotions such as anger and shame will manifest. These unpleasant emotional experiences hinder access to a cohesive self and lead to the employment of defensive mechanisms such as avoidance, suppression, and acting out.

Fairbairn believed that the ego develops in the pursuit of relationships with real, external people. When these relationships are satisfying, the ego remains integrated. However, when they are unsatisfying, they result in the internal formation of "objects" within the personality to compensate for the inadequacy of external relationships. The formation of such active internal objects can lead to

a fragmentation of the ego, as different parts of the ego relate to different internalized objects. When an object is split, the ego also splits, resulting in inner conflict. The endopsychic state thus refers to these ego structures in connection with internalized objects, which themselves have become part of the structure (Smith et al., 1997).

A psychologically healthy and normative state promotes the growth of internal structures, but failure to consolidate these structures plays a critical role in psychopathology. It is virtually impossible for a person to develop in a completely secure and frustration-free environment. The intensity of frustration varies across individuals, but any experience of frustration provokes infantile aggression toward the object—typically the mother or caregiver. From an emotional standpoint, the child experiences frustration as rejection or even abandonment by the mother. In such cases, expressing anger toward the mother is perceived as dangerous, as it could lead to further rejection. Thus, the anger turns inward, leading to self-attack and feelings of guilt (Fiorentino et al., 2024). In essence, intense anxiety stemming from anger directed at an attachment figure triggers the use of defense mechanisms.

Defense mechanisms can vary depending on the severity of the trauma, the individual's temperament, the age at which relational trauma occurs, and reinforcement patterns. Defense mechanisms are defined as involuntary and unconscious strategies employed by the ego to reduce anxiety and cope with negative emotions by distorting or denying reality—thus temporarily preserving personality coherence and balance until a real solution can be found (Javdan & Shahri, 2023). According to Andrews et al., (1993), based on Vaillant's hierarchical classification (1971, 1976), defense mechanisms are categorized into three levels based on their adaptive function: mature, neurotic, and immature. The younger the individual at the time of trauma, the more likely it is that more primitive defense mechanisms are internalized (Goldblatt & Maltzberger, 2010). Moreover, suppression rather than facilitating the experience of authentic emotions merely perpetuates the cycle of anxiety (Rabiei, 2023).

From a developmental standpoint, while it is clear that patterns of object relations play a defining role in how individuals perceive and react to their environment, the primary route of their influence is through how the individual processes emotions (Shahar, 2021). In other

words, damaging object relations, by undermining the ego's capacity to process emotions, make the use of defense mechanisms inevitable (Yıldız & Bahayi, 2024). When defense mechanisms become rigid and habitual, they contribute to the emergence of clinical symptoms such as anxiety. Therefore, patterns of object relations can directly and indirectly predispose individuals to serious mood and behavioral symptoms (Frederickson et al., 2018; Kernberg, 2022).

In light of the above, the present study focuses on anxiety as a psychological correlate of irritable bowel syndrome. According to the researcher, object relations by undermining ego cohesion and diminishing the ego's capacity for integrated self-processing lead to the activation of defensive responses. These defense responses, due to their repressive or externalizing nature, in turn intensify anxiety symptoms. Hence, the goal of this study is to test a structural model of anxiety based on the role of object relations mediated by defense mechanisms.

### Methods and Materials

The present study employed a descriptive-correlational design.

#### Participants

The statistical population consisted of men and women aged 18 to 65, residing in District 6 of Tehran, diagnosed with irritable bowel syndrome (IBS) during 2022 and 2023. The condition of having IBS makes random sampling quite challenging. Therefore, given that the target sample needed to be selected from treatment centers, the sampling method used was purposive and non-random. Inclusion criteria included: (a) having been diagnosed with IBS for at least six months; (b) sufficient literacy to understand and read the questionnaire items; and (c) possessing at least minimal cognitive ability and psychological stability to recall and remain focused during response. Participants were selected using purposive sampling based on inclusion and exclusion criteria. Data collection took place in clinical centers across Tehran, where 396 individuals were recruited, and questionnaires were administered individually. A total of 45 questionnaires were excluded due to incompleteness or random/matrix-style response patterns, leaving 351

valid responses (153 men and 198 women) for final analysis.

#### Research Instruments

##### *Bell Object Relations Inventory (BORI)*

The Bell Object Relations Inventory consists of 45 items and is standardized for both clinical and non-clinical populations. It is utilized in the assessment of interpersonal relationships and for diagnosing and predicting psychopathology (Hansen, 2001). The questionnaire includes four subscales measuring different dimensions of object relations:

**Alienation (ALN):** Assesses fundamental lack of trust, feelings of alienation, and difficulties with intimacy.

**Insecure Attachment (IA):** Evaluates sensitivity to rejection, fear of separation and abandonment, and vulnerability to being hurt by others.

**Egocentricity (EGC):** Reflects low empathy, a tendency for self-protection in relationships, controlling others, and exploitation.

**Social Incompetence (SI):** Indicates discomfort in social settings, shyness, and difficulty forming 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 values from 0.78 to 0.90. The validity of this scale has been confirmed through its correlations with instruments such as the Brief Psychiatric Rating Scale, the Positive and Negative Syndrome Scale, the Millon Clinical Multiaxial Inventory-II, the Minnesota Multiphasic Personality Inventory, and the revised SCL-90.

In the current study, the reliability of the BORI was assessed using Cronbach's alpha: 0.90 for the total scale, 0.88 for Egocentricity, 0.88 for Alienation, 0.76 for Insecure Attachment, and 0.82 for Social Incompetence, all indicating acceptable reliability.

#### *Defense Mechanisms Questionnaire*

The Defense Style Questionnaire (DSQ) was originally developed by Bond, (2004) and colleagues in 1983. This instrument consisted of 88 items assessing 24 defense mechanisms categorized into four groups: adaptive defense mechanisms, non-adaptive defense mechanisms, self-sacrificing defenses, and distortion-based defenses. In (Andrews et al., 1993) and colleagues revised Bond's original questionnaire and introduced a 72-item version in which defense mechanisms were classified into three levels: neurotic, mature, and

immature. Due to a lack of empirical fit, the questionnaire was further revised in 1993, and a 40-item version was developed by Andrews et al. This final version retained the three-level classification (neurotic, mature, and immature) and included 20 defense mechanisms.

This questionnaire has been evaluated across several countries and cultures. Research findings from France, Brazil, and Portugal indicate that the DSQ possesses satisfactory validity and reliability, confirming its utility as a robust psychometric tool.

#### Beck Anxiety Inventory (BAI)

The Beck Anxiety Inventory is a self-report questionnaire designed to assess the severity of anxiety in adolescents and adults. Developed by [Beck et al., \(1990\)](#), the BAI specifically measures the intensity of

**Table 1**

#### Descriptive Statistics of Research Variables

Construct	Component	Mean	Standard Deviation	Kurtosis	Skewness
<b>Anxiety</b>	Total Score	37.94	5.40	1.06	0.52
<b>Object Relations</b>	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
<b>Defense Styles</b>	Immature Style	103.96	25.93	0.11	-0.76
	Mature Style	30.26	11.10	-0.99	0.47
	Neurotic Style	25.50	8.22	-0.96	-0.89

The values obtained for assessing the distribution of variables (kurtosis and skewness) indicate that none of the research variables deviate significantly from a normal distribution. Additionally, the Kolmogorov-Smirnov test confirmed that the variables had distributions close to normal. Some outliers were

detected in the social incompetence variable; these were adjusted toward the end of the spectrum to normalize the distribution and prepare the data for inferential analysis. Table 2 presents the results of the correlation analysis of the research variables.

#### Findings and Results

Table 1 presents the descriptive statistics for the research variables.

detected in the social incompetence variable; these were adjusted toward the end of the spectrum to normalize the distribution and prepare the data for inferential analysis. Table 2 presents the results of the correlation analysis of the research variables.

**Table 2**

#### Correlations Among Research Variables

Variable	2	3	4	5	6	7	8	9
<b>1. Anxiety</b>								
<b>2. Object Relations</b>	0.34**							
<b>3. Egocentricity</b>	0.28**	0.67**						
<b>4. Alienation</b>	0.27**	0.60**	0.62**					
<b>5. Insecure Attachment</b>	0.28**	0.57**	0.62**	0.58**				
<b>6. Social Incompetence</b>	0.08	0.62**	0.56**	0.36**	0.31**			
<b>7. Neurotic Style</b>	-0.11*	-0.33**	-0.31**	-0.35**	-0.36**	-0.22**		
<b>8. Mature Style</b>	-0.47**	-0.33**	-0.41**	-0.49**	-0.47**	-0.25**	-0.61**	
<b>9. Immature Style</b>	0.43**	0.22**	0.32**	0.38**	0.37**	0.16**	0.09	-0.27**

Note: \* p < 0.05, \*\* p < 0.01

The correlation coefficients indicate that anxiety has a significant positive relationship with three components

of object relations, as well as with the overall object relations score. More precisely, the total object relations

score showed a significant positive correlation with anxiety ( $r = 0.34, p < 0.01$ ). Similarly, egocentricity ( $r = 0.28, p < 0.01$ ), alienation ( $r = 0.27, p < 0.01$ ), and insecure attachment ( $r = 0.28, p < 0.01$ ) all had significant positive correlations with anxiety. Social incompetence, however, did not show a significant relationship with anxiety ( $r = 0.08, p > 0.05$ ).

Furthermore, anxiety showed a significant positive correlation with the immature defense style ( $r = 0.43, p < 0.01$ ), and significant negative correlations with both the mature defense style ( $r = -0.47, p < 0.01$ ) and the neurotic defense style ( $r = -0.11, p < 0.05$ ).

**Figure 1**

*Structural model of anxiety based on object relations with the mediating role of defense style (standardized model)*

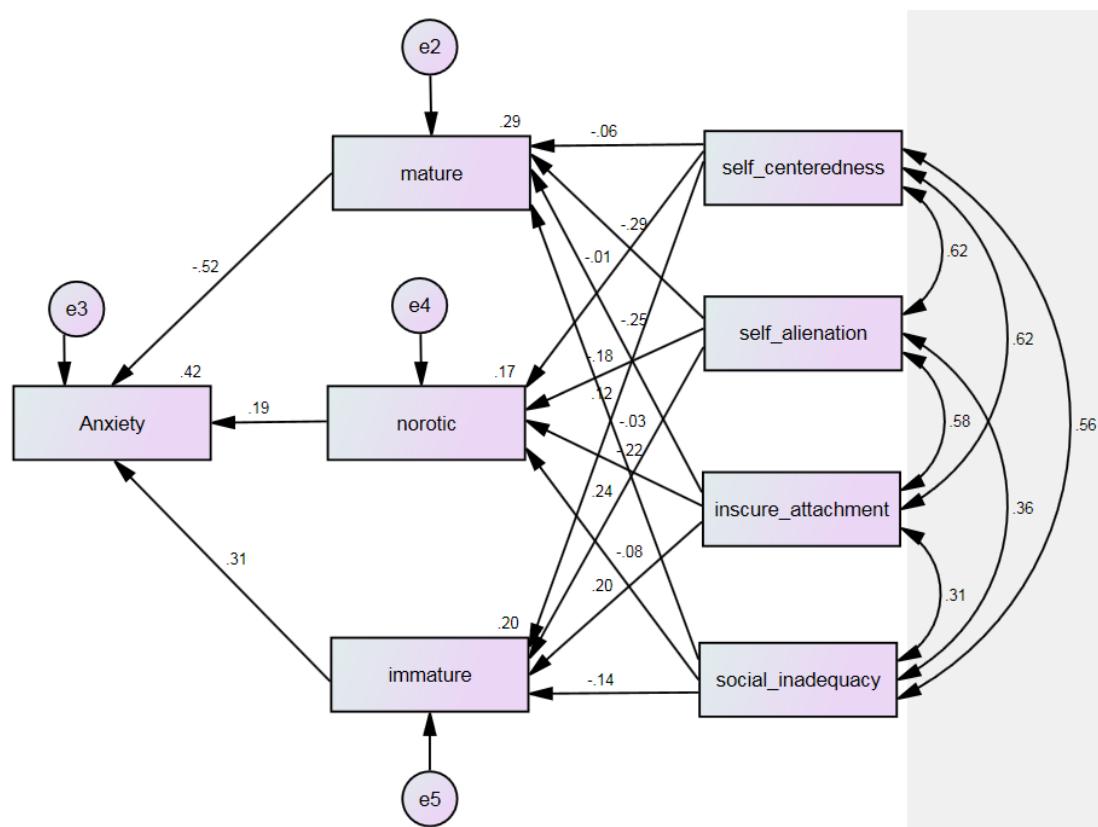


Table 3 presents the model fit indices for the final model.

**Table 3**

*Model Fit Indices for the Anxiety Model Based on Object Relations with the Mediating Role of Defense Style*

Fit Index	Before Modification	After Modification
Chi-square/df (CMIN/DF)	21.03	1.52
Goodness of Fit Index (GFI)	0.88	0.99
Adjusted Goodness of Fit Index (AGFI)	0.66	0.96
Root Mean Square Error of Approximation (RMSEA)	0.17	0.05

Comparative Fit Index (CFI)	0.88	0.99
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The model fit indices indicate that the final model, incorporating defense styles as mediators in explaining anxiety, exhibits an excellent fit with the data. The chi-square to degrees of freedom ratio ( $CMIN/DF = 1.52$ ), Goodness of Fit Index ( $GFI = 0.99$ ), Adjusted Goodness of Fit Index ( $AGFI = 0.96$ ), Root Mean Square Error of

Approximation ( $RMSEA = 0.05$ ), and Comparative Fit Index (CFI = 0.99) all confirm the strong fit of the final model.

Table 4 will present the standardized path coefficients and the explained variance for anxiety and defense style.

**Table 4**

*Path Coefficients for the Anxiety Model Based on Object Relations with the Mediating Role of Defense Style*

Path	Direct Effect	Indirect Effect	Total Effect	Coefficient of Determination ( $R^2$ )
<b>On Anxiety from:</b>				
Neurotic Style	0.19**	-	0.19**	
Mature Style	-0.52**	-	-0.52**	
Immature Style	0.31**	-	0.31**	
Egocentricity	-	0.07**	0.07**	
Alienation	-	0.20**	0.20**	
Insecure Attachment	-	0.15**	0.15**	
Social Incompetence	-	0.05**	0.05**	
<b>On Neurotic Style from:</b>				
Egocentricity	-0.01	-	-0.01	
Alienation	-0.18**	-	-0.18**	
Insecure Attachment	-0.22**	-	-0.22**	
Social Incompetence	-0.08	-	-0.08	
<b>On Mature Style from:</b>				
Egocentricity	-0.06	-	-0.06	
Alienation	-0.29**	-	-0.29**	
Insecure Attachment	-0.25**	-	-0.25**	
Social Incompetence	-0.03	-	-0.03	
<b>On Immature Style from:</b>				
Egocentricity	0.12*	-	0.12*	
Alienation	0.24**	-	0.24**	
Insecure Attachment	0.20**	-	0.20**	
Social Incompetence	-0.14*	-	-0.14*	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$

As can be seen, in the fitted model, anxiety ( $r^2 = 0.42$ ) was explained to a considerable degree. A substantial portion of the variance in mature defense style ( $r^2 = 0.29$ ), immature style ( $r^2 = 0.20$ ), and neurotic style ( $r^2 = 0.17$ ) was accounted for by the internal variables of the model.

Examining the fitted paths, the indirect effect of egocentricity on anxiety ( $\beta = 0.07$ ,  $p < 0.01$ ) was positive and significant. Likewise, alienation ( $\beta = 0.20$ ,  $p < 0.01$ ), insecure attachment ( $\beta = 0.15$ ,  $p < 0.01$ ), and social incompetence ( $\beta = 0.05$ ,  $p < 0.01$ ) had significant indirect effects.

The direct effect of mature defense style ( $\beta = -0.52$ ,  $p < 0.01$ ) on anxiety was negative and significant. Neurotic ( $\beta = 0.19$ ,  $p < 0.01$ ) and immature ( $\beta = 0.31$ ,  $p < 0.01$ ) defense styles had significant positive effects on anxiety.

The direct effects of alienation ( $\beta = -0.29$ ,  $p < 0.01$ ) and insecure attachment ( $\beta = -0.25$ ,  $p < 0.01$ ) on mature

defense style were significantly negative. In contrast, egocentricity ( $\beta = -0.06$ ,  $p > 0.05$ ) and social incompetence ( $\beta = -0.03$ ,  $p > 0.05$ ) did not have significant effects on mature defense style.

The direct effects of alienation ( $\beta = -0.18$ ,  $p < 0.01$ ) and insecure attachment ( $\beta = -0.22$ ,  $p < 0.01$ ) on neurotic style were also significantly negative. Egocentricity ( $\beta = -0.01$ ,  $p > 0.05$ ) and social incompetence ( $\beta = -0.08$ ,  $p > 0.05$ ) did not have significant effects on neurotic style.

Direct effects of egocentricity ( $\beta = 0.12$ ,  $p < 0.05$ ), alienation ( $\beta = 0.24$ ,  $p < 0.01$ ), and insecure attachment ( $\beta = 0.20$ ,  $p < 0.01$ ) on immature defense style were positive and significant. Social incompetence had a negative and significant effect ( $\beta = -0.14$ ,  $p < 0.05$ ) on immature defense style.

A particularly important point in this model is that no direct effect from object relations to anxiety was significant, and all effects were mediated through

defense styles. This finding underscores that defense styles serve as effective mediators in the relationship between object relations and anxiety, thereby confirming the research hypothesis.

### Discussion and Conclusion

The present study was conducted to investigate a structural model of anxiety based on object relations, with defense mechanisms serving as mediators. It was hypothesized that anxiety does not arise directly from early object relations, but indirectly, through defense mechanisms shaped by those relations. Accordingly, it was expected that object relations (including egocentricity, alienation, insecure attachment, and social incompetence) would lead to different defense mechanisms, which in turn would result in varying levels of anxiety. In the fitted model, 42% of the variance in anxiety scores was explained by defense mechanisms influenced by object relations. These findings support the mediating role of defense mechanisms in explaining anxiety.

The findings are aligned with several previous studies. For instance, object relations, as discussed by scientists see [Brenes, \(2006\)](#); [Smith et al., \(1997\)](#), [Siefert & Porcerelli, \(2015\)](#), have been shown to be significant determinants of defense mechanisms due to their critical role in ego integration. Similarly, prior research has emphasized the influence of mature defense mechanisms on anxiety ([Miranda & Gross, 1997](#); [Siefert & Porcerelli, 2015](#); [Spokas et al., 2009](#)), aligning the current research with established literature.

Egocentricity impairs one's capacity to develop mature and adaptive defense mechanisms. Mature psychological defenses help individuals cope with the inherent pains of life—failures, adaptation challenges, and losses. Individuals with egocentric object relations struggle to distinguish themselves from attachment figures, attributing life's disappointments directly to their self-worth. Their inability to transcend the self leads them to frequent self-attacks and self-defeating processes.

Insecure attachment and alienation, by undermining the perception of being lovable and remaining valued even when separated from attachment figures, result in preoccupation with relational security. Mature defense mechanisms require a relatively stable perception of

reality and a consistent self-image, which disrupted object relations fail to provide. Individuals with such relations, particularly those characterized by insecure attachment and alienation, are unable to view themselves as distinct and worthy individuals ([Epstein, 2008](#)).

Mature defense mechanisms, including humor, sublimation, anticipation, and suppression, clearly support ego cohesion and enhance the capacity to process frustration. Humor reduces pain and redirects focus toward a creative and humorous interpretation of events. In the path of growth and learning, deficiencies are inevitable, and humor significantly aids in maintaining mood and function. Suppression, as a core component of increased emotional capacity, helps manage frustration, especially feelings of shame and anger. Conversely, the absence of suppression results in impulsive, immature reactions and self-directed aggression.

In the present study's formulation, anxiety was conceptualized as a psychological reaction to the inability to experience primary emotion. This definition is drawn from the psychodynamic perspective, where anxiety is one corner of Malan's triangle of person ([Malan, 2000](#)). This view emphasizes the individual's capacity to process (primarily negative) emotions. The more intense and earlier the emotional trauma, the less capacity individuals have to manage negative emotions, prompting the development of immature and rigid defenses to moderate anxiety stemming from negative affect. According to [Malan, \(2000\)](#), when individuals cannot coherently process emotion, anxiety arises, and to preserve ego integrity and attachment relationships, they resort to defense mechanisms.

Defense mechanisms have been categorized at different levels. As noted earlier, these include mature, immature, and neurotic mechanisms. The more severe the trauma, the earlier it occurs, and the lower the individual's capacity to process negative emotion, the more primitive and maladaptive the defense mechanisms. Immature defense reactions themselves lead to maladaptive behaviors that replicate traumatic experiences, perpetuating the anxiety cycle. Immature defenses—particularly those involving projection, dissociation, and denial—enhance the likelihood of somatization [Abbass, \(2005\)](#), thereby increasing the risk of gastrointestinal disorders, headaches, and related

conditions. A substantial body of research has shown how anxiety is linked with digestive system dysfunction and IBS (Drossman et al., 2011). Especially when chronic and pervasive, anxiety activates fight-or-flight and autoimmune responses, leading to tissue damage, particularly in smooth muscles (Fond et al., 2014).

Although defense mechanisms are introduced as factors in the onset and intensification of anxiety, the question remains: what leads to the development of these mechanisms, particularly the immature ones? Object relations theory offers a strong explanatory framework for the relationship between attachment experiences and defense mechanisms. These theories posit that it is the environment that, by facilitating necessary developmental conditions, shapes the individual's growing capacity for relating to others in the external world. It assumes that a child's subjective experience and mental representations shape the way they relate to themselves and others. On the other hand, traumatic experiences are seen as major factors that disrupt the child's mental representations of the world. A child's mental capacity enables them to form a coherent understanding of the self and the environment, while the inability to experience a safe environment and stable relationships may contribute to the emergence of immature defense mechanisms.

From Kernberg's perspective, defense mechanisms are reactions to threats in attachment-based relationships. In other words, whenever frustration occurs in relation to an object, the individual adopts defense mechanisms in order to psychologically maintain that object relation. Studies support the link between immature defense mechanisms and object relations (Siefert & Porcerelli, 2015; Smith et al., 1997). Insecure attachment—whether anxious or avoidant—contributes to the development of projection, denial, dissociation, and other defense mechanisms that disrupt one's perception of reality, especially in interpersonal domains. Impaired reality testing is an inevitable outcome of immature defenses, and in turn, it fosters anxiety reactions in interpersonal relationships.

Neurotic defense mechanisms occupy a middle ground in the spectrum of defenses. That is, they are not as primitive, immature, or maladaptive as lower-level defenses, but they are also not as integrative or adaptive as mature mechanisms. Therefore, their consequences cannot be as clearly associated with maladjustment

(Blaya et al., 2006). Previous studies have not yielded convergent results on this point. Some neurotic defenses, such as pseudo-altruism and reaction formation, pertain to interpersonal functioning, while others like rationalization are more concerned with emotion regulation.

In this study, insecure attachment and alienation were negatively associated with neurotic defense mechanisms. This finding is notable because one might expect neurotic defenses to correlate positively with object relations disruptions. However, the current findings do not support that assumption. This could suggest that neurotic defenses, in the context of modern life, are not necessarily maladaptive. The absence of a correlation between neurotic defense mechanisms and anxiety—particularly given the positive relationship between insecure attachment and egocentricity with anxiety—further supports this possibility.

The findings of this study draw on object relations and psychodynamic theories of defense mechanisms. In alignment with these theories, it was observed that secure attachment relationships are associated with the development of mature defenses. That is, the more secure, supportive, and predictable the early attachment relationships, the greater the individual's ability to process foundational (positive or negative) emotions. Authentic experience of early emotions leads to more adaptive orientation toward the environment and responses to life events. Moreover, satisfying relationships facilitate the growth of a coherent ego with flexible perceptions. In other words, parenting behaviors that provide appropriate feedback enable the individual to develop a differentiated self that remains connected to others, steering away from egocentricity. Both egocentricity and alienation, due to an individual's inability to maintain healthy boundaries between self and others, increase vulnerability to emotional instability and, in more severe cases, borderline personality features.

Psychodynamic theories emphasize that the primary function of parenting is to enhance the capacity of the observing ego. This logic supports the notion that if parental behavior is overly evaluative and critical, the individual internalizes a punitive superego instead of developing a healthy ego. As mentioned earlier, a punitive superego, as part of immature defensive

functioning, significantly contributes to anxiety 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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