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Original Article

Ethical Justice in Psychological Modeling: Testing the Invariance of a Causal Model of Denial and Sublimation based on Linguistic Capacities and Anxiety in Individuals Affected by Emotional Relationship Breakdown across Gender

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Abstract

Introduction: In psychological research, one of the main challenges is the formation of incorrect judgments about gender differences; judgments that are sometimes not a reflection of the psychological reality of individuals, but are the result of conceptual biases and measurement inequities. Comparing psychological constructs without ensuring measurement equivalence can lead to unfair interpretations about women and men. Therefore, the aim of the current study is ethical justice in psychological modelling.

Material & Methods: A sequential exploratory mixed-method design was employed. In the qualitative phase, 20 in-depth interviews were analyzed using constructivist grounded theory to extract the components of linguistic capacities and anxiety. In the quantitative phase, a total of 712 individuals (373 women, 339 men) who had experienced emotional relationship breakdown within the past two years completed the Linguistic Capacity Scale, the Post-Separation Anxiety Inventory, and the Defensive Style Questionnaire (DSQ). Structural equation modeling (SEM), path analysis, bootstrapping, and multigroup SEM (MGSEM) were used to test the models.

Results: Model fit indices indicated that Model 1, in which linguistic capacities affect denial and sublimation through reduced anxiety, demonstrated the best fit (RMSEA = 0.028, CFI = 0.976). Linguistic capacities directly reduced anxiety ($\beta = -0.46$), anxiety increased denial ($\beta = 0.44$) and decreased sublimation ($\beta = -0.34$). The indirect effects of linguistic capacities on denial ($\beta = -0.21$) and sublimation ($\beta = 0.16$) were significant. Gender invariance analysis showed that the model was stable across women and men at the configural, metric, and scalar levels.

Conclusion: The findings indicate that linguistic capacities reduce anxiety, thereby strengthening the use of more mature defensive mechanisms such as sublimation and weakening the tendency toward denial. Gender invariance supports the conceptual fairness of the model and its generalizability across sexes.

Keywords: *Ethical Fairness; Language Capacity; Anxiety; Denial; Sublimation; Emotional Relationship Breakdown*

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INTRODUCTION

In psychological research, a major challenge is the risk of drawing incorrect conclusions about gender differences. Such conclusions do not always reflect individuals' psychological reality. They may instead arise from conceptual bias, lack

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of measurement equivalence, or unequal interpretation in data analysis. Evidence shows that comparing psychological constructs without testing measurement invariance can lead to inaccurate and unfair inferences about women and men [1]. In addition, some reported gender differences may not be substantive. They may result from nonequivalent instruments or biased interpretations [2]. Therefore, scientific fairness requires theoretical models and measurement tools to represent both genders in an equitable and structurally comparable way. This helps prevent the unintended reproduction of conceptual inequality in research.

Meanwhile, family and intimate relationships constitute one of the primary contexts in which mental health develops. These relationships can strengthen a sense of belonging and meaning in life. They also contribute to emotional stability, social identity formation, and moral development [3]. However, separation and divorce have increased in recent years. Reports indicate that approximately 40–50% of marriages end in separation worldwide [4]. In Iran, roughly one divorce is registered for every three marriages. As a result, emotional relationship breakdown has become a psychological, moral, and social challenge. Experiencing the emotional relationship breakdown is not limited to emotional consequences. It may also create conditions for unfair gendered interpretations of emotional reactions and adjustment. Therefore, the scientific analysis of these reactions is not just a theoretical discussion; it is also an ethical concern. The risk of analytical bias increases if models interpret gender differences without controlling for conceptual bias or without testing for equivalence. This can lead to conceptual injustice. For this reason, "ethical fairness in psychological modeling" requires that causal relations among constructs be tested in an equitable and equivalent manner across genders. Under this condition, the observed differences could reflect psychological and social reality, rather than the result of cultural or gender pre assumptions of the researcher and society [5].

Emotional relationship breakdown is an experience that can strongly activate feelings of loss, anger, anxiety, and confusion. From a psychoanalytic perspective, this state evokes the earliest experience of separation from a "significant other" and, at an unconscious level, mobilizes defenses to preserve psychological cohesion [6]. Defense mechanisms are unconscious processes that help regulate anxiety and support psychological reorganization [7]. These defenses fall on a continuum from primitive to developed defenses. For example, denial temporarily reduces emotional distress by refusing to accept threatening realities, but in the long term can lead to continued anxiety [8]. In contrast, sublimation is a developed mechanism that allows an individual to reframe unpleasant emotions in the form of creative, spiritual, or cultural actions [9, 10]. Research has also shown that people who use sublimation more often tend to have greater mental health, cognitive flexibility, and moral development [11]. Therefore, the way defense mechanisms are used after an emotional relationship breakdown is an important indicator for understanding an individual's psychological and moral adjustment. However, explaining these mechanisms without taking into account cultural and gender contexts can lead to unfair simplifications and theoretical labeling; For this reason, ethical sensitivity and justice are of particular importance in psychological modeling [12].

Recent research suggests that two key factors, namely linguistic capacity and anxiety, can influence the path of defense mechanism selection. Linguistic capacity refers to a set of symbolic and cognitive abilities that help an individual construct meaning, express and regulate emotions. These abilities include vocabulary, syntactic complexity, narrative

ability, understanding metaphor, and flexibility in discourse [13]. Findings show that higher linguistic capacity is associated with better emotion regulation and less anxiety [14]. In contrast, linguistic limitation is usually associated with difficulty in expressing emotions and increased psychological tension [15]. From a psychoanalytic perspective, language is not just a means of expression, but also a symbolic structure that can play a role in the formation of anxiety [16]. In this context, language is referred to as the "big other" because it both highlights the separation from the primary bond and allows for the representation of desire and anxiety [17, 18]. Therefore, language and anxiety are intertwined in the experience of loss, and both can play a pivotal role in shaping defenses.

Anxiety, as research [6] has suggested, is evoked in response to a sense of threat and can lead to the activation of defense mechanisms [19, 20]. In the post-Freudian view, anxiety is not just a consequence of repression, but can also be the starting point of the defense process. In other words, anxiety is an emotion that leads an individual to use various defenses; from basic defenses such as denial to more developed defenses such as sublimation. Contemporary theories also show that anxiety, in interaction with linguistic capacities, determines which defense pattern an individual tends to adopt. When linguistic capacities are limited, the probability of choosing ineffective defenses increases. In contrast, when linguistic capacities are rich, the possibility of activating adaptive and developed defenses increases [21, 22]. Therefore, language can play a mediating role between anxiety and defenses, and its quality can determine the level of psychological and moral development of the individual's response.

However, linguistic capacities do not develop in a cultural vacuum and are not the same across groups. Research has shown that linguistic and symbolic patterns differ across cultural, social, ethnic, and gender contexts [23, 24]. Therefore, explanations of the relationship between language, anxiety, and defense mechanisms must be sensitive to these contexts in order to remain conceptually fair. Particularly in the experience of emotional relationship breakdown, cultural and gender differences in the way loss is expressed and emotional adaptation can significantly alter the course of defense mechanism selection [25]. Ignoring these differences may lead to unequal generalizations and theoretical simplifications, reducing the moral validity of psychological explanations. Such a situation can reproduce gender bias and highlight the importance of fairness in scientific analyses.

Despite the general agreement on the role of language and anxiety in the formation of defense mechanisms, research findings have not always been consistent. Some studies have considered linguistic capacities as a moderating factor; that is, language increases or decreases the intensity of the effect of anxiety on defenses [26]. In contrast, others have introduced linguistic capacities as mediators and believe that language transmits the effect of anxiety to defenses through meaning-making, emotional reflection, and cognitive enhancement [13, 14]. Another view considers anxiety as a mediator between linguistic capacities and defenses, and accordingly, linguistic ability can enhance the use of more developed defenses such as sublimation by reducing anxiety [27]. This difference in results indicates that the interaction between language and anxiety in the formation of defenses is not simple and linear. This interaction can be a complex and two-way process and depends on cultural and gender contexts. Therefore, to understand these relationships more precisely, more precise causal modeling and comparison of different theoretical models are necessary.

Accordingly, the present study, relying on classical and post-Freudian psychoanalytic theories, examines three causal models in a

comparative manner. The first model focuses on the mediation of anxiety and tests whether language facilities change the choice of defenses by reducing anxiety. In the second model, anxiety plays an initiating role and it is assumed that anxiety directs the path of defenses by weakening or strengthening language capacities. In the third model, language facilities play a moderating role; that is, linguistic richness can reduce the effect of anxiety on denial and strengthen or neutralize its effect on sublimation. Comparing these three models can clarify the contribution of language and anxiety in explaining denial and sublimation in the context of emotional relationship breakdown. In the final step, the present study tests the invariance of the model based on gender to assess moral justice and reduce the risk of gender bias. The aim is to determine whether the relationships between language facilities, anxiety, and defenses have a similar structure in women and men. In this study, the model invariance test is not just a statistical method, but also an indicator for measuring the moral justice of the explanation.

The main question is whether the proposed model explains the psychological phenomenon fairly and without gender bias [28]. If the model is invariant across genders, its analytical equality and conceptual justice can be defended. However, if it is variable, this result has an important moral message. In this case, the experience of emotion, anxiety, and the use of defenses in the two genders may be shaped by differences in language, socialization, and emotional meaning-making. Therefore, the invariance test in this study is an attempt to answer the question of whether the proposed model reflects a common human reality, or whether it indicates gender differences in the experience and regulation of psychological defenses after the emotional relationship breakdown.

MATERIAL AND METHODS

The present study was applied in terms of purpose and methodology, and was conducted with a sequential exploratory mixed design. In the first step, the qualitative part was conducted based on Charmaz's grounded theory approach to inductively extract the components and dimensions of the constructs of "language capabilities" and "anxiety" from the participants' lived experiences and provide a theoretical basis for the research. In the second step, the quantitative part was designed in the form of a descriptive-correlational study using structural equation modeling (SEM) to simultaneously evaluate the direct, indirect, and moderating relationships between language capabilities, anxiety, and defense mechanisms of denial and sublimation in the form of an integrated causal model to test and fit the conceptual model.

In this study, due to the nature of the sequential exploratory mixed design, the population and sample were defined separately in two qualitative and quantitative parts. In the qualitative part, the population consisted of individuals who had experienced a breakup of an emotional relationship and were selected based on purposive sampling; the goal was not statistical generalization, but rather conceptual enrichment. At this stage, in-depth interviews were conducted until theoretical saturation was reached to identify the components and dimensions of “linguistic capacities” and “anxiety” and to understand how they were linked to the defense mechanisms of denial and sublimation, which resulted in a total of about 12 interviews in the first step and 8 supplementary interviews in the second step. In the quantitative part, the statistical population consisted of all young people aged 25 to 40 living in Tehran province who had registered their official divorce within the past two years and had reported experiencing anxiety following the breakup of an emotional relationship. From this population, a sample of 712 individuals (373 women and 339

men) was selected using a convenience method, which was deemed appropriate given the sensitivity of the situation and the difficulty of access. The sample size was determined based on Klein's recommendations for structural equation modeling (10 to 20 people per parameter) and Cochran's formula to ensure a minimum of 385 people. However, to increase the accuracy of estimates and enable multigroup analyses based on gender, the sample size was increased to 712 people to ensure statistical adequacy for model fitting and measurement invariance testing between women and men.

Data Collection Instruments: In the qualitative part of the research, data were collected using in-depth semi-structured interviews that were designed based on psychoanalytic literature, linguistics, and the lived experiences of individuals after the emotional relationship breakdown, allowing for flexible exploration of the dimensions of "language capabilities", "anxiety" and defense mechanisms. To ensure the content validity of the extracted components, the final version of the codes and components was provided to 10 psychometric and psychological experts, and the content validity ratio (CVR) was calculated based on the Lavish method; only components whose CVR value was equal to or greater than 0.62 were retained and entered into the conceptual model. In order to examine the reliability of the coding, first, test-retest reliability was conducted by recoding two interviews at two time points and calculating the percentage of agreement, the results of which indicated an overall reliability of about 82 percent; This is higher than the minimum accepted criterion of 60% in qualitative studies and indicates the desired consistency of the researcher's coding over time. Then, to assess inter-coder reliability, a colleague familiar with the subject independently coded the two interviews, and the percentage of intra-subject agreement between the two coders was calculated, resulting in an overall reliability of about 84%; this level of agreement indicates acceptable coordination between the coders and appropriate validity of the qualitative analysis process.

Quantitative Phase: In the quantitative part of the study, three questionnaires were used to measure the main variables of the model: two researcher-made questionnaires to measure language capabilities (in six dimensions of language performance) and anxiety after the emotional relationship breakdown, and the standard DSQ Defense Styles Questionnaire to assess defense mechanisms, especially denial and sublimation. The simultaneous use of these tools allowed for a detailed and integrated examination of the relationships between language capabilities, anxiety, and defense mechanisms.

Researcher-Developed Linguistic Capacities Questionnaire: Researcher-designed questionnaire on language capabilities: In the quantitative part of the study, the “Researcher-designed questionnaire on language capabilities” was specifically designed based on the results of the qualitative phase and interviews with individuals experiencing the emotional relationship breakdown. In this phase, six main dimensions of language capabilities were identified, including language production, pragmatic and interactive, written and oral, expressive-emotional, cognitive-cognitive, and metalinguistic/metaphorical abilities, which served as the basis for developing the items. Initially, 8 items were designed for each dimension, and after review by psychology and linguistic experts, 5 items were selected for each dimension based on criteria such as clarity, transparency, and content appropriateness, and the final version of the tool was structured in the form of 30 questions. The responses were scored based on a five-point Likert scale from “completely disagree” to “completely agree” to allow for a gradual measurement of the intensity of the use of language capabilities. The face and

content validity of the questionnaire was confirmed by 11 psychometric and psychological experts, and confirmatory factor analysis was used to examine the construct validity. Also, the reliability of the instrument was reported to be at a desirable level through internal consistency and Cronbach's alpha calculation.

Researcher-Developed Anxiety Questionnaire: Anxiety Questionnaire: The "Researcher-Made Anxiety Questionnaire" was also specifically developed based on the qualitative phase data and the analysis of the experiences of individuals after the emotional relationship breakdown. The analysis of the interviews showed that anxiety in this context has several basic dimensions, and accordingly, five components of automatic physiological reactions, muscle tension and associated pain, cognitive components, behavioral components, and non-cognitive and non-behavioral psychological components (emotional/semantic/existential) were identified as the conceptual structure of the instrument. In the first step, 8 initial items were designed for each dimension and then reviewed by psychological and psychometric experts in terms of proportionality, clarity, and consistency with the relevant dimension, and finally 5 items were selected for each component; thus, the final version of the questionnaire included 25 questions. This questionnaire was also scored on a five-point Likert scale from "strongly disagree" to "strongly agree" to allow for precise differentiation between different degrees of anxiety. The face and content validity of the instrument was confirmed by 10 experts, and the results of confirmatory factor analysis showed a good fit of the five-factor model. The reliability of the anxiety questionnaire was also reported to be acceptable and desirable using Cronbach's alpha coefficient, which indicates good internal consistency of the items.

Defense Style Questionnaire (DSQ): Defense Mechanisms Questionnaire (DSQ): The Defense Styles Questionnaire (DSQ) was first developed by Bond, Gardner, Christian, and Segal (1983). The original version of the instrument consisted of 88 items (DSQ-88) and was designed to measure a wide range of defense mechanisms at three general levels: developed, neurotic, and underdeveloped. A shorter version of the instrument, the DSQ-40, was developed by Andrews, Singh, and Bond (1993), which consists of 40 items and measures 20 defense mechanisms. The items are answered on a 9-point Likert scale (from strongly disagree to strongly agree), and each defense mechanism is assessed by two questions. In this study, only items related to the two defense mechanisms of denial (items 8 and 18) and sublimation (items 3 and 38) were used, because these two mechanisms were directly related to the research objectives and represent two opposing spectrums of psychological defenses [29, 30].

The psychometric properties of the DSQ questionnaire have been repeatedly confirmed in international studies. For example, researchers [30] reported that the three-factor structure of developed, neurotic, and underdeveloped defenses has a good fit. Cronbach's alpha coefficient has been obtained in various studies for the main subscales between 0.70 and 0.85, and the test-retest has also shown acceptable stability over time periods of several weeks. In addition, the convergent and discriminant validity of the questionnaire has been confirmed in comparison with personality and psychopathology assessment tools in different countries, including Japan, Brazil, and France [30, 31]. These findings indicate that the DSQ has sufficient validity for measuring defense styles in clinical and non-clinical populations. In Iran, the DSQ was also translated and validated by Heydari Nasab et al. (2007). In this process, after the translation and review of the items by experts, the Persian version was examined in terms of content, face, and construct validity. The results showed that the

questionnaire structure has a good fit in the Iranian sample, and Cronbach's alpha coefficient for the main subscales was obtained between 0.71 and 0.82 [32]. Also, in subsequent studies [33], the construct validity of the questionnaire was confirmed using confirmatory factor analysis and its reliability was also reported to be at an acceptable level.

In the present study, only items related to the defense mechanisms of denial and sublimation were used in order to specifically examine their relationships with language capabilities and anxiety in individuals affected by the emotional relationship breakdown.

Instruments and Data Analysis Procedure: In this study, the data analysis tools and methods were designed and implemented in accordance with the qualitative and quantitative sections. In the qualitative section, data were collected through in-depth semi-structured interviews and analyzed based on the grounded theory approach with Charmaz's constructivist model. The analysis process was inductive-deductive in nature; initially, at the inductive level, initial coding (line by line), focused coding (merging similar codes into intermediate categories), and theoretical coding (establishing connections between categories and forming a conceptual model) were carried out so that concepts and categories could be extracted directly from the participants' narratives. Next, to strengthen theoretical coherence, the obtained categories were compared analogically with the foundations of psychoanalysis and existing theoretical frameworks to clarify points of overlap and innovation. The result of this combined process was a conceptual model that showed how language facilities and anxiety can guide the path of choosing defense mechanisms of sublimation and denial in individuals affected by the emotional relationship breakdown.

In the quantitative part, the structural equation modeling (SEM) method was used to assess the psychometric properties of the instruments and test the final causal model. Data from three questionnaires of language facilities, anxiety, and defense styles (DSQ) were entered and analyzed in the R software. In the first step, the content validity of the items of the researcher-made questionnaires was examined using the Lawshe's Content Validity Ratio (CVR) and the judgment of 10 psychology and psychometric experts; only items with a CVR value of at least 0.62 or higher were retained in the final version. Then, descriptive statistics indices including mean, standard deviation, skewness, and kurtosis were used to describe the data and examine the distribution characteristics. Next, for a preliminary evaluation of the performance of the items, the correlation coefficients of each item with the total scale score and the reliability in case of item deletion were calculated to identify and eliminate the less coherent items.

After the initial refinement, to confirm the factor structure of the instruments, confirmatory factor analysis (CFA) was performed and fit indices such as RMSEA, CFI, TLI and the ratio of χ^2 to degrees of freedom (χ^2/df) were calculated to measure the degree of conformity of the empirical data with the theoretical model. The final reliability of the scales was estimated using Cronbach's alpha coefficient, and values higher than 0.70 confirmed the desirable internal consistency of the instruments. In the next step, the conceptual model of the research was tested within the SEM framework; in this stage, the significance of the direct causal paths between language facilities, anxiety, and defense mechanisms of denial and sublimation was examined, and to test indirect and mediation effects, the bootstrap method was used to estimate coefficients and confidence intervals. Also, the moderating roles were evaluated in accordance with the hypotheses. In the final stage, to measure the invariance of the model based on gender, a multigroup analysis was

conducted and different levels of invariance were examined, including configural invariance (the overall structure of the model), metric/metric (factor coefficients), and quantitative/scalar (constant values).

The multigroup analysis of invariance testing in this study was conducted not only with the aim of statistical validity but also with the aim of preventing gender bias and achieving conceptual justice in psychological analysis. The results of these tests showed that the proposed model has an acceptable fit in the two groups of women and men, and therefore the relationships between language facilities, anxiety, and defense mechanisms can be interpreted fairly and generalizable at the target population level.

RESULTS

Qualitative Phase

In this section, the findings from the qualitative phase of the research are explained with the aim of identifying the components and dimensions of "language capabilities" and "anxiety" in individuals affected by the emotional relationship breakdown. The design of the qualitative section was based on Charmaz's constructivist grounded theory approach and in response to two main questions: "What are the precise components and dimensions of language capabilities affected by emotional relationship breakdown?" and "What are the precise components and dimensions of anxiety affected by the emotional relationship breakdown?"

In this approach, the researcher, as an active actor in interacting with the data, analyzed the lived narratives of the participants through three stages of initial coding, focused coding, and theoretical coding; Thus, first, the initial codes were extracted line by line from the interview text, then the synonymous codes were organized into intermediate categories, and finally, by merging and abstracting these categories, the final conceptual structure of the two constructs of "language capabilities" and "anxiety" was formulated in the context of the emotional relationship breakdown. Table 1 summarizes the main components and subcomponents of both constructs together in a concise manner.

Table 1: Components and subcomponents of linguistic capacities and anxiety among individuals affected by emotional relationship breakdown

Variable	Main Component	Subcomponents / Sample Focused Codes
Linguistic Capacities	Linguistic Production Competence	Vocabulary range; lexical richness; grammar/syntax; creative language construction; familiarity with subcultural expressions; word formation distinct from psychotic neologisms
	Pragmatic and Interactional Competence	Use of metaphor, irony, examples, and analogy; linguistic attunement to the interlocutor; silence and active listening; tone and vocal modulation appropriate to content; congruent/incongruent facial and bodily expressions; unusual/attention-grabbing language uses; use of a second/third language to express emotion
	Written and Compositional Competence	Spelling accuracy and writing format; coherence and organization of text; emphasis on meaning conveyance and purposeful impact; attention to rhythm, cadence, and linguistic aesthetics in written text
	Emotional–Expressive Competence	Integration of feeling and language; use of symbolic and metaphoric language rather than direct imagery; linguistic self-reflection and use of language for self-understanding; capacity to verbalize reality and painful separation experiences
	Cognitive–Reflective Competence	Narrative construction of the separation experience; temporal organization (past–present–future) in speech; temporal–spatial shifting in narrative; using language to cross the boundaries of reality and build alternative verbal worlds
	Metalinguistic Competence	Reflection on experience and one's own speech; language about language (questioning meanings, linguistic play, humor with language) as an advanced form of linguistic self-awareness

Anxiety	Autonomic Physiological Reactions	Increased heart rate and palpitations; sweating of hands and body; tremors; rapid, shallow breathing; dry mouth; dizziness or light-headedness
	Muscular Tension and Associated Pain	Neck and shoulder stiffness; stomach pain and gastrointestinal disturbances; tension headaches; chest pressure and tightness with shortness of breath
	Cognitive Components	Rumination and repetitive replay of memories and mistakes; chronic worry and negative future predictions; exaggerated and pessimistic appraisal of situations; concentration and memory problems; mental escape and fantasizing alternative scenarios
	Behavioral Components	Avoidance of anxiety-provoking situations and social withdrawal; motor restlessness (pacing, nail-biting, etc.); sleep disturbances (insomnia, nightmares); emotional overeating or appetite loss; impulsive and sudden behaviors
	Emotional/Meaning-Based/Existential Components	Feelings of meaninglessness and emptiness; death anxiety; sense of loss and emotional vacancy; feelings of deprivation and abandonment; anxiety in facing choice and freedom; vague fears without a specific object; feelings of helplessness and vulnerability; intense arousal and mood fluctuations

The qualitative analysis revealed that linguistic capacities are organized into six main components: linguistic production competence, pragmatic–interactional competence, written–compositional competence, emotional–expressive competence, cognitive–reflective competence, and metalinguistic competence. Anxiety, in turn, is structured around five core components: autonomic physiological reactions, muscular tension and associated pain, cognitive components, behavioral components, and emotional/meaning-based/existential components. Each of these components encompasses a set of subcomponents or focused codes that reflect the bodily, cognitive, emotional, behavioral, and linguistic manifestations of separation, and demonstrate how individuals use language and their experience of anxiety to make sense of the emotional relationship and to regulate their psychological state.

Content Validity of Extracted Components: To assess the content validity of the extracted components, the final conceptual structure of "linguistic capacities" and "anxiety" was reviewed by ten experts in psychometrics and psychology following theoretical coding. Content validity was evaluated using Lawshe's Content Validity Ratio (CVR). Based on the critical value of 0.62 for ten raters, the results indicated that all components demonstrated acceptable content validity. Specifically, within the domain of linguistic capacities, the components of linguistic production competence and pragmatic–interactional competence, and within the domain of anxiety, the components of autonomic physiological reactions, muscular tension and associated pain, cognitive components, and psychological components (emotional/meaning-based/existential) achieved the highest possible CVR value of 1.00. The remaining components, including written–compositional competence, emotional–expressive competence, cognitive–reflective competence, metalinguistic competence, and behavioral components of anxiety, also exceeded the critical threshold, with a CVR value of 0.80. This pattern demonstrates that both theoretical interpretation and clinical judgment of experts supported the conceptual structure, confirming its validity and its alignment with the constructs under investigation.

Quantitative Phase

In the quantitative phase of the study, the psychometric properties of the three instruments (two researcher-developed questionnaires on *linguistic capacities* and *anxiety*, and the standardized DSQ for defensive mechanisms) were evaluated in terms of content validity, construct validity, and internal consistency.

Subsequently, four structural models involving linguistic capacities, anxiety, and the defensive mechanisms of denial and sublimation were tested using structural equation modeling. Content validity of the two researcher-developed questionnaires was assessed through expert judgment by eleven specialists in psychology and psychometrics, using Lawshe's Content Validity Ratio (CVR). Given the number of raters, a CVR value of 0.62 was established as the critical threshold for item retention. Each item was rated on a three-point scale ("essential," "useful but not essential," and "not essential").

In the Linguistic Capacities Questionnaire, although all items generally showed acceptable validity, only the five items with the highest CVR within each of the six dimensions were retained to enhance construct coherence. Specifically, the following items were preserved: items 1, 3, 4, 5, and 8 for *linguistic production competence*; items 9, 11, 13, 14, and 16 for *pragmatic and interactional competence*; items 25, 26, 28, 30, and 32 for *emotional–expressive competence*; items 17, 20, 21, 22, and 24 for *written–compositional competence*; items 33, 35, 36, 38, and 39 for *cognitive–reflective competence*; and items 41, 43, 44, 45, and 47 for *metalinguistic competence*. Items with lower CVR values (2, 6, 7, 10, 12, 15, 18, 19, 23, 27, 29, 31, 34, 37, 40, 42, 46, 48) were removed. As a result, the final version of the questionnaire included 30 items across six dimensions, demonstrating strong content validity and adequate conceptual parsimony for subsequent factor analysis and structural modeling.

A similar procedure was applied to the researcher-developed Anxiety Questionnaire. Content validity for the 40 items of this instrument was also evaluated using Lawshe's CVR method (threshold = 0.62). The results indicated that although most items demonstrated acceptable content validity, in order to improve precision and efficiency, only the five items with the highest CVR values within each of the five factors were retained in the final version. Accordingly, items 1, 3, 4, 5, and 8 were retained for the factor *autonomic physiological reactions*; items 9, 10, 11, 13, and 14 for *muscular tension and associated pain*; items 17, 18, 20, 22, and 24 for *cognitive components*; items 25, 28, 29, 30, and 32 for *behavioral components*; and items 33, 36, 37, 38, and 40 for *emotional/meaning-based/existential components*. Items with lower CVR values (2, 6, 7, 12, 15, 16, 19, 21, 23, 26, 27, 31, 34, 35, 39) were removed.

As a result of this process, both the linguistic capacities and anxiety questionnaires, after retaining only those items exceeding the numerical threshold of 0.62 and receiving qualitative approval from experts, were transformed into concise, structured instruments suitable for assessing the six dimensions of linguistic capacities and the five dimensions of anxiety among individuals affected by emotional relationship breakdown. These instruments provide a valid foundation for estimating structural equation models and testing causal and defensive relationships.

Construct Validity: Construct validity of the instruments was examined within a comprehensive measurement model consisting of the two main constructs, *linguistic capacities* and *anxiety*, together with their subordinate dimensions, using confirmatory factor analysis. Prior to model estimation, statistical assumptions were tested. Results of the multivariate normality test using the Shapiro–Wilk statistic ($W = 0.98$, $p = 0.45$) indicated no significant deviation from multivariate normality, and Bartlett's test of sphericity ($\chi^2 = 6016.56$, $df = 435$, $p < 0.001$) confirmed the adequacy of the correlation matrix for factorization. Model fit indices demonstrated an excellent level of correspondence between the overall model and the data. The ratio of χ^2 to degrees of freedom was 1.15, RMSEA was 0.015, and the comparative and incremental fit indices

were all above 0.90 (CFI = 0.989, TLI = 0.988, IFI = 0.989, NFI = 0.925). In addition, GFI = 0.959 and AGFI = 0.953 supported the goodness of fit, and SRMR = 0.031 was below the recommended cutoff of 0.08. In this model, all retained items loaded significantly on their respective subfactors, with standardized factor loadings of at least 0.45 and significant z-statistics ($p < 0.05$). Accordingly, the overall measurement model—including the two constructs, linguistic capacities and anxiety—demonstrated strong construct validity, a stable factorial structure, and sufficient adequacy for use in structural equation modeling and the testing of causal relationships within the study.

Table 2: Results of confirmatory factor analysis for the linguistic capacities and anxiety questionnaires

Factor	Item Code	β	se	z	p
Linguistic Production Competence	l1_1	0.64	–	–	–
	l1_2	0.65	0.08	13.41	0.01
	l1_3	0.63	0.07	13.14	0.01
	l1_4	0.67	0.08	13.65	0.01
	l1_5	0.62	0.07	12.97	0.01
Pragmatic and Interactional Competence	l2_1	0.67	–	–	–
	l2_2	0.64	0.07	13.93	0.01
	l2_3	0.57	0.06	12.58	0.01
	l2_4	0.67	0.07	14.41	0.01
	l2_5	0.64	0.07	13.91	0.01
Written–Compositional Competence	l3_1	0.66	–	–	–
	l3_2	0.62	0.07	13.09	0.01
	l3_3	0.60	0.07	12.76	0.01
	l3_4	0.70	0.07	14.29	0.01
	l3_5	0.57	0.07	12.36	0.01
Emotional–Expressive Competence	l4_1	0.68	–	–	–
	l4_2	0.60	0.06	13.28	0.01
	l4_3	0.64	0.07	14.03	0.01
	l4_4	0.65	0.07	14.06	0.01
	l4_5	0.63	0.07	13.71	0.01
Cognitive–Reflective Competence	l5_1	0.68	–	–	–
	l5_2	0.68	0.07	14.68	0.01
	l5_3	0.63	0.07	13.91	0.01
	l5_4	0.63	0.06	13.83	0.01
	l5_5	0.65	0.07	14.17	0.01
Metalinguistic Competence	l6_1	0.64	–	–	–
	l6_2	0.68	0.05	14.02	0.01
	l6_3	0.63	0.07	13.31	0.01
	l6_4	0.67	0.07	13.87	0.01
	l6_5	0.63	0.07	13.29	0.01
Autonomic Physiological Reactions	a1_1	0.70	–	–	–
	a1_2	0.66	0.06	14.96	0.01
	a1_3	0.66	0.06	15.07	0.01
	a1_4	0.63	0.06	14.36	0.01
	a1_5	0.68	0.06	15.35	0.01
Muscular Tension and Associated Pain	a2_1	0.69	–	–	–
	a2_2	0.66	0.07	14.84	0.01
	a2_3	0.67	0.07	15.04	0.01

	a2_4	0.64	0.07	14.42	0.01
	a2_5	0.68	0.07	15.20	0.01
Cognitive Components	a3_1	0.71	–	–	–
	a3_2	0.68	0.06	15.79	0.01
	a3_3	0.68	0.06	15.77	0.01
	a3_4	0.69	0.06	15.99	0.01
	a3_5	0.70	0.06	16.23	0.01
Behavioral Components	a4_1	0.68	–	–	–
	a4_2	0.62	0.06	13.78	0.01
	a4_3	0.64	0.07	14.17	0.01
	a4_4	0.65	0.07	14.31	0.01
	a4_5	0.65	0.06	14.20	0.01
Emotional/Meaning-Based/Existential Components	a5_1	0.68	–	–	–
	a5_2	0.66	0.07	14.67	0.01
	a5_3	0.64	0.07	14.28	0.01
	a5_4	0.66	0.07	14.58	0.01
	a5_5	0.66	0.07	14.66	0.01
Second-Order Factor: Linguistic Capacities	Linguistic Production	0.60	–	–	–
	Pragmatic/Interactional	0.68	0.14	8.52	0.01
	Written/Compositional	0.60	0.13	8.04	0.01
	Emotional–Expressive	0.68	0.14	8.56	0.01
	Cognitive–Reflective	0.66	0.14	8.46	0.01
	Metalinguistic	0.58	0.13	7.95	0.01
Second-Order Factor: Anxiety	Autonomic Physiological	0.67	–	–	–
	Muscular Tension	0.66	0.10	9.71	0.01
	Cognitive Components	0.68	0.10	9.97	0.01
	Behavioral Components	0.74	0.11	10.06	0.01
	Emotional/Meaning-Based/Existential	0.74	0.11	10.10	0.01

The results obtained from Table 2 clearly indicate the adequacy and structural validity of the Anxiety Questionnaire. First, it can be observed that all item loadings across the first-order factors exceed 0.45, and the z-statistics for all of them are significantly greater than the critical value of 1.96. This pattern, together with p-values lower than 0.05, demonstrates that each item makes a meaningful contribution to explaining its respective factor and is appropriately loaded on the corresponding theoretical construct. Second, at the second-order level, the five factors—autonomous physiological reactions, muscular tension and related pain, cognitive components, behavioral components, and emotional/meaningful/existential components—were all associated with the latent variable of anxiety, with factor loadings ranging between 0.66 and 0.74 and a significance level of 0.01. This pattern indicates that the latent construct of anxiety emerges from a meaningful and consistent convergence among the first-order factors and reflects satisfactory internal consistency and convergent validity. Moreover, the absence of weak or non-significant factor loadings and the lack of need to remove any items in the final stage of analysis confirmed the structural adequacy of the measurement model. Based on these findings, it can be concluded with confidence that the designed questionnaire is capable of accurately measuring the construct of anxiety and its five dimensions within the study sample, and possesses appropriate theoretical and empirical validity for use in future research.

Reliability: To examine the reliability of the collected data in the two domains of linguistic capacities and anxiety, the internal consistency index of Cronbach's alpha was used. The results for the Linguistic Capacities Questionnaire indicated that the alpha value for the dimension of "linguistic production competence" was 0.86, for "pragmatic–interactive competence" 0.88, for "written and compositional competence" 0.84, for "expressive–emotional competence" 0.87, for "cognitive–reflective competence" 0.85, and for "metalinguistic competence" 0.83, while the total scale alpha was estimated at 0.89.For the Anxiety Questionnaire, Cronbach's alpha values were 0.86 for "autonomous physiological reactions," 0.84 for "muscular tension and related pain," 0.88 for "cognitive components," 0.82 for "behavioral components," and 0.85 for "emotional/meaningful/existential components," with an overall alpha value of 0.89. All coefficients exceeded the threshold criterion of 0.70, indicating satisfactory internal consistency, acceptable stability, and adequate reliability of both questionnaires for assessing the six dimensions of linguistic capacities and the five dimensions of anxiety in individuals affected by emotional relationship breakdown.

Structural Model of the Study: In this section, four structural models based on structural equation modeling were tested and compared to explain the relationships among linguistic capacities, anxiety, and the two defensive mechanisms of sublimation and denial. In the first model, linguistic capacities are the independent variable and anxiety serves as the mediator, and its effects on sublimation and denial are examined both directly and indirectly. In the second model, anxiety is the independent variable and linguistic capacities mediate its relationship with the defensive mechanisms. In the third model, anxiety functions as a moderator in the relationship between linguistic capacities and defensive mechanisms, and in the fourth model, linguistic capacities operate as the moderator of the relationship between anxiety and defensive mechanisms. After comparing the fit indices, the superior model was selected as the final model and subsequently evaluated for invariance based on gender (at the levels of configural, metric, and scalar invariance). To provide a general picture of the study variables, descriptive indices of mean and standard deviation were calculated. The results showed that linguistic capacities had a mean of 90.70 and a standard deviation of 20.31, indicating a relatively favorable level, and anxiety had a mean of 73.79 and a standard deviation of 19.17, corresponding to a moderate level. For the defensive mechanisms, the mean score for denial was 9.68 (SD = 4.58), and the mean score for sublimation was 10.28 (SD = 4.21), suggesting balanced score dispersion and individual differences across dimensions of these constructs.

Table 3: Descriptive information of the study variables

Variable	Dimension	Mean	Standard Deviation
Linguistic Capacites	Linguistic Production Ability	15.21	5.19
	Pragmatic–Interactive Ability	15.26	5.20
	Written and Compositional Ability	15.08	5.12
	Expressive–Emotional Ability	15.19	5.21
	Cognitive–Reflective Ability	15.21	5.24
	Metalinguistic Ability	14.74	5.25
	Total	90.70	20.31
Anxiety	Autonomic Physiological Responses	14.70	5.32
	Muscular Tension and Associated Pain	14.83	5.38
	Cognitive Components	14.93	5.55

	Behavioral Components	14.79	5.22
	Emotional/Meaningful/Existential Components	14.54	5.34
	Total	73.79	19.17
Defense Mechanisms	Denial	9.68	4.58
	Sublimation	10.28	4.21

Model Evaluation and Comparison

The statistical method employed in this study was structural equation modeling based on latent variables. Since multivariate normality is a fundamental assumption for parametric multivariate analyses, this assumption was examined first. The multivariate Shapiro–Wilk test indicated that the data did not deviate significantly from a normal distribution; the obtained W value was 0.99635 and the associated probability was 0.1005. Therefore, the assumption of multivariate normality was satisfied.

In the next step, Bartlett's test of sphericity was used to ensure the presence of a sufficient correlation structure among the variables. The results showed that the correlation matrix differed significantly from the identity matrix, with a chi-square value of 351.98, 6 degrees of freedom, and a probability level below 0.001. This finding indicates that adequate correlations exist among the study variables and that the data are suitable for multivariate analyses, particularly for fitting structural equation models.

After confirming these assumptions, the four structural models of the study—including two mediation models and two moderation models—were compared. To evaluate and compare the models, common fit indices including χ^2/df, RMSEA, CFI, TLI, IFI, GFI, NFI, and SRMR were calculated, along with the information criteria AIC and BIC. The values of these indices are presented in Table 4.

Table 4: Fit indices for the structural models

Fit Index	Model 1	Model 2	Model 3	Model 4	Criterion
χ^2/df	1.55	1.89	1.212	1.212	< 3
RMSEA	0.028	0.035	0.023	0.023	< 0.08
CFI	0.976	0.961	0.926	0.926	> 0.90
TLI	0.971	0.952	0.912	0.912	> 0.90
IFI	0.976	0.961	0.905	0.905	> 0.90
GFI	0.998	0.997	0.957	0.957	> 0.90
NFI	0.935	0.921	0.934	0.934	> 0.90
SRMR	0.038	0.046	0.054	0.054	< 0.08
AIC	60084.4	60113.1	93623.7	93623.7	lower is better
BIC	60308.2	60336.9	93943.5	93943.5	lower is better

The results of the fit indices indicate that all four structural models demonstrate an acceptable level of conformity with the empirical data; however, meaningful differences in the degree of fit can be observed among them. The χ^2/df ratio for Model 1 was 1.55, for Model 2 was 1.89, and for Models 3 and 4 was 1.21, all of which fall below the recommended threshold of 3, reflecting satisfactory model fit. The RMSEA values for Models 1, 2, 3, and 4 were 0.028, 0.035, 0.023, and 0.023, respectively, indicating minimal deviation

between the proposed structures and the observed data.

Among the comparative fit indices, the values of CFI were 0.976 for Model 1, 0.961 for Model 2, and 0.926 for Models 3 and 4. Similarly, the TLI values were 0.971 for Model 1, 0.952 for Model 2, and 0.912 for Models 3 and 4. These indices highlight the superior fit of Model 1, followed by Model 2. A similar pattern was observed for IFI and NFI: IFI equaled 0.976 in Model 1 and 0.961 in Model 2, but dropped to 0.905 in Models 3 and 4, while NFI values were 0.935, 0.921, 0.934, and 0.934, respectively. These results suggest that although Models 3 and 4 meet acceptable fit criteria, their explanatory power is lower than that of Models 1 and 2. The GFI values were 0.998 for Model 1, 0.997 for Model 2, and 0.957 for Models 3 and 4, all exceeding the recommended cutoff of 0.90. The SRMR values were 0.038 for Model 1, 0.046 for Model 2, and 0.054 for Models 3 and 4, all below the criterion of 0.08, confirming satisfactory residual error.

From the perspective of information criteria, Model 1 demonstrated the lowest AIC (60084.4) and BIC (60308.2) values, followed by Model 2 (60113.1 and 60336.9). In contrast, Models 3 and 4 yielded substantially higher AIC and BIC values (93623.7 and 93943.5). Since lower AIC and BIC values indicate more efficient models with better explanatory capability and lower complexity, these results strongly support the superiority of Model 1.

It is noteworthy that Models 3 and 4 share an identical structure, as the moderating effect was defined using the interaction of two predictor variables; therefore, their fit indices were expected to be identical, a pattern confirmed by the results. In summary, although all four models achieved acceptable fit, the first model—in which anxiety mediates the relationship between linguistic capacities and the defense mechanisms—emerged as the optimal and most parsimonious model, supported by superior fit indices and lower information criteria. This model therefore offers the most robust explanation of the relationships among the key variables in the study.

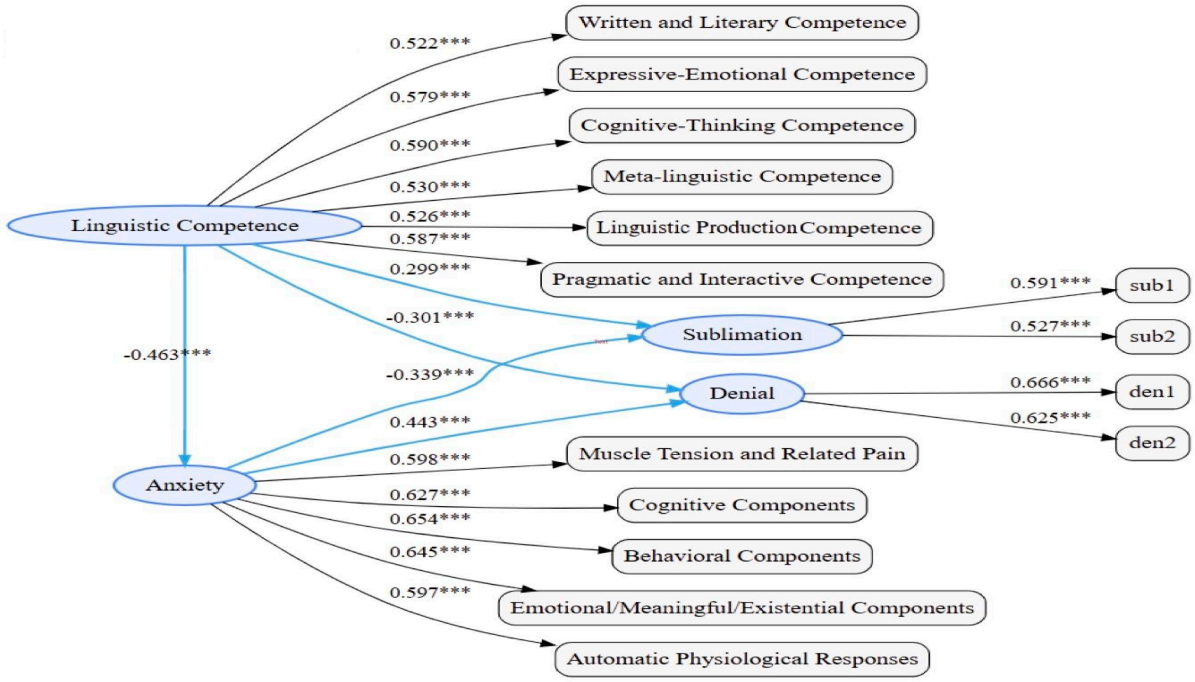

Figure 1. Structural model with standardized coefficients

In this section, based on the findings from the structural equation model, the direct effect of linguistic capacities on defense mechanisms is explained while taking into account the mediating role of anxiety. To assess the statistical significance of the relationships between variables, the z-statistic and the p-value were used, allowing for precise evaluation of both the magnitude and direction of each effect. Standardized coefficients (β), together with standard errors (se), z-values, and p-levels for each structural path were computed and are presented in Table 5. This table provides the necessary evidence for scientific interpretation of the direct and indirect relationships among the study variables and enables accurate judgement regarding the acceptance or rejection of the research hypotheses.

Table 5. Effects of linguistic capacities on defense mechanisms with the mediating role of anxiety

Dependent Variable	Predictor	Mediator	β	SE	z	p
Anxiety	Linguistic Capacities	–	−0.46	0.06	−8.84	0.01
Denial	Anxiety	–	0.44	0.09	5.87	0.01
Denial	Linguistic Capacities	–	−0.30	0.09	−4.51	0.01
Sublimation	Anxiety	–	−0.34	0.08	−4.35	0.01
Sublimation	Linguistic Capacities	–	0.30	0.10	3.54	0.01
Denial	Linguistic Capacities	Anxiety	−0.21	0.05	−5.11	0.01
Sublimation	Linguistic Capacities	Anxiety	0.16	0.05	4.02	0.01

The results presented in Table 4-4 indicate that linguistic capacities significantly reduced anxiety, with a standardized coefficient of −0.46 and a z-value of −8.84 at the 0.01 significance level. Anxiety, in turn, exerted a positive and significant effect on denial (β = 0.44, z = 5.87, p = 0.01), and a negative and significant effect on sublimation (β = −0.34, z = −4.35, p = 0.01). Linguistic capacities also had direct effects on both defense mechanisms: they decreased denial (β = −0.30, z = −4.51, p = 0.01) and increased sublimation (β = 0.30, z = 3.54, p = 0.01). Regarding the indirect paths, linguistic capacities reduced denial through the reduction of anxiety (β = −0.21, z = −5.11, p = 0.01), and strengthened sublimation through the same mediating process (β = 0.16, z = 4.02, p = 0.01). These findings demonstrate that all hypothesized relationships are statistically significant and support the conceptual model of the study.

Model Invariance Testing

In the final stage of data analysis, a multigroup invariance test was conducted to ensure the stability and generalizability of the conceptual model across men and women. This procedure examines whether the factor structure and causal relationships of the model are equivalent across groups, and it consists of three main levels. At the first level, configural invariance is evaluated to determine whether the overall factor pattern and structural paths are comparable between the two groups, indicating that the baseline model fits both groups in the same way. At the second level, metric invariance is tested by constraining factor loadings, allowing the researcher to verify that the observed indicators measure the latent variables in a similar manner in both groups. At the third level, scalar invariance examines equality of latent means, ensuring that comparisons of latent constructs and structural relationships between men and women are statistically valid. Implementing all three levels enables an accurate assessment of whether the confirmed model remains stable across gender groups.

To evaluate the stability of the final model across men and women, fit indices were estimated for the baseline model and for each of the three levels of multigroup invariance, including configural,

metric, and scalar invariance. In this procedure, the baseline model was first fitted simultaneously for both groups, and then successive equality constraints were applied to factor loadings and parameter estimates, while changes in model fit were examined. Table 5-1 reports the values of chi-square to degrees of freedom ratio, RMSEA, CFI, AIC, and BIC at each level, providing a precise basis for judging the stability of the model across genders.

Table 6. Fit indices for multigroup invariance models

Model Level	Configural Invariance	Metric Invariance	Scalar Invariance
χ^2/df	1.28	1.27	1.25
RMSEA	0.028	0.027	0.026
CFI	0.975	0.975	0.975
AIC	60077	60067	60056
BIC	60525	60465	60404

As shown in Table 6, the addition of successive constraints resulted in no substantial changes in the fit indices. The CFI value remained approximately 0.975 across all stages, and RMSEA remained within the range of 0.026 to 0.028, both indicating an excellent level of model fit. In addition, the ratio of χ^2 to degrees of freedom was below 2 in all stages and clearly lower than the threshold of 3. The gradual decrease in AIC and BIC values from the configural to the metric and scalar levels reflects improved model efficiency at higher levels of constraint. These results confirm that the factor structure, factor loadings, and latent means are stable across men and women and that the model demonstrates full invariance.

To further examine model stability, the changes in fit indices between the sequential stages of the invariance test were calculated. Table 5-2 presents the differences in chi-square ($\Delta\chi^2$), change in degrees of freedom (Δdf), change in the comparative fit index (ΔCFI), and change in the root mean square error of approximation (ΔRMSEA) for comparing the configural model with the metric model, and the metric model with the scalar model.

Table 7: Comparison of fit index changes across invariance levels

Model Comparison	$\Delta\chi^2$	Δdf	ΔCFI	ΔRMSEA	Result
Configural → Metric	12.09	11	0.001	0.001	Supported
Metric → Scalar	10.9	11	0.000	0.001	Supported

statistically significant. Specifically, for the comparison between the configural and metric models, the $\Delta\chi^2$ value was 12.09 with a significance level of 0.3569, and for the comparison between the metric and scalar models, the $\Delta\chi^2$ value was 10.90 with a significance level of 0.4516. In addition, changes in ΔCFI and ΔRMSEA in both comparisons were below the recommended cutoff values (a decrease in CFI of less than 0.01 and an increase in RMSEA of less than 0.015). These statistical findings indicate that imposing equality constraints on factor loadings and indicator intercepts did not result in a significant deterioration of model fit. Accordingly, metric and scalar invariance of the model are fully supported. Confirmation of model invariance at the configural level indicates that the relationships among linguistic capacities, anxiety, and defense mechanisms exhibit an equivalent structural pattern in women and men. This finding supports not only the statistical validity of the model but also its ethical fairness,

as the proposed analysis represents psychological experience in both groups without imposing gender-based presuppositions.

DISCUSSION

In line with the objectives of the present study, the primary focus was on examining the causal relationships among linguistic capacities, anxiety, and the two defense mechanisms of denial and sublimation, as well as on evaluating model equivalence across gender. This issue is of particular importance from the perspective of conceptual justice, as any unequal interpretation of gender differences may be the consequence of implicit theoretical or cultural biases. By proposing an integrated model and testing its structure separately in women and men, the present study sought to prevent such biases and to provide a foundation for a more equitable analysis of emotional mechanisms following emotional relationship breakdown. The following section therefore presents and interprets the results obtained from testing this model.

The findings of the present study showed that linguistic capacities play a central role in shaping emotional experience and the selection of defense mechanisms following emotional relationship breakdown - a role that operates through the reduction of anxiety. This result is consistent with theoretical frameworks linking language and emotion as well as with psychoanalytic theories. From the perspective of classical psychoanalysis, anxiety is the starting point for the activation of defense mechanisms [6]; however, the present study demonstrated that linguistic capacity can modulate the intensity of this anxiety. From this viewpoint, language is not merely a tool for expression, but a symbolic structure through which individuals render the experience of loss both *tolerable* and *narratable*.

This finding is fully aligned with Lacan's perspective, which conceptualizes language not as a means of description, but as a fundamental structure for containing the Real and reducing anxiety, insofar as it transforms the experience of loss from the level of "raw suffering" into the level of meaning. The data showed that individuals with higher linguistic capacities experienced lower levels of anxiety and were less likely to rely on denial. This pattern is consistent with contemporary theories of emotion regulation. According to [13, 14], the ability to *label emotions*, construct narratives, and create cognitive coherence among past, present, and future enhances cortical brain activity and inhibits limbic responses associated with anxiety. The findings of the present study support this mechanism: linguistic capacity directly reduces anxiety and thereby facilitates the use of more mature defense mechanisms.

These findings also explain why higher levels of anxiety were associated with increased reliance on denial. Denial can be understood as a "refusal to admit loss into the symbolic domain," meaning that the individual is unable or unwilling to translate the experience of suffering into words and meaning. Consistent with [8], when symbolization is disrupted, the mind resorts to defenses that suspend the "perception of reality." The results of the present study indicate that individuals with lower linguistic capacities are more vulnerable to such suspension, as insufficient language limits the capacity to construct meaning out of loss.

In contrast, the findings of the present study supported the positive role of linguistic capacities in facilitating sublimation. Sublimation, as explained by researchers [10], is a defense mechanism through which emotional energy is rechanneled into cultural, creative, and constructive pathways. The results of this study demonstrated that linguistic capacities - particularly cognitive–reflective abilities and metalinguistic skills - strengthen the pathway toward sublimation. From an analytic

perspective, language enables the transformation of suffering into narrative and subsequently into "action," which is precisely what distinguishes sublimation from other defense mechanisms. This finding is consistent with Lacanian theories that regard symbolic representation as a prerequisite for moving beyond anxiety.

The findings are also aligned with international research. Studies [34, 35] have shown that elevated anxiety increases the likelihood of employing immature defenses such as denial. Conversely, a meta-analysis [36] and several empirical studies [37, 38] indicate that linguistic and narrative skills play a protective role against psychological distress. By proposing an integrated causal model, the present study goes a step further and demonstrates that language and anxiety are linked in a sequential relationship that ultimately determines defensive outcomes.

At the same time, the qualitative analysis of the study revealed that the lived experience of loss was accompanied by linguistic disruptions, prolonged silences, fragmented narratives, and an inability to "frame" the experience. These findings converge with the quantitative model: linguistic limitations intensify anxiety and activate the pathway toward denial. In contrast, participants who employed metaphors, reconstructed narratives, and linguistic reflexivity experienced lower levels of anxiety and demonstrated more mature defenses. This qualitative–quantitative convergence indicates that language in this process is not merely a cognitive indicator, but rather an existential mechanism for moving through and beyond loss.

In the section on ethical justice, the gender invariance analysis demonstrated that the model exhibits a similar structure across both genders. This finding is theoretically significant, as it indicates that any potential behavioral differences between women and men are not attributable to model bias. From the perspective of research ethics, model invariance strengthens the legitimacy of psychological explanations and suggests that language, anxiety, and defense mechanisms constitute general human structures rather than gender-specific ones. This result is consistent with Miller's (2023) discussion of conceptual justice in psychology [25].

From the standpoint of ethical justice in psychological research, testing model invariance goes beyond a purely methodological requirement and should be regarded as an ethical commitment. When causal models are applied without examining conceptual equivalence across gender groups, there is a risk that observed differences may not reflect genuine psychological realities but instead arise from implicit theoretical, cultural, or historical biases—biases that ultimately lead to inequitable analysis, interpretation, and conclusions. The present findings, which demonstrate the stability of the structural relationships among linguistic capacities, anxiety, and defense mechanisms in both women and men, indicate that the proposed model possesses analytical fairness and avoids reproducing unequal or reductionist explanations. Ethical justice in relation to gender is sensitive to gender differences in responding to various situations; however, not every difference implies inequality, just as structural similarity does not equate to the denial of difference. Accordingly, the present results support the view that defensive responses following emotional relationship breakdown can be explained within a shared and non-biased framework one that acknowledges individual differences without reducing them to gender stereotypes.

The equivalence of the underlying linguistic structure of defense mechanisms across genders also carries ethical implications for psychological interventions in clinical practice. Specifically, language-based and anxiety-regulation interventions should not be shaped or delivered in gender-biased ways or contaminated by gender

stereotypes under the pretext of differences between women and men.

At the level of social application, the findings suggest that enhancing linguistic and narrative skills can play a significant role in improving post-separation adjustment. Narrative therapy, expressive writing, and meaning-centered interventions may reduce anxiety and strengthen mature defenses such as sublimation. This finding is particularly important for clinicians, as it demonstrates that linguistic work facilitates not only improved emotional expression but also the reconstruction of an individual's defensive structure. Ultimately, the proposed model indicates that loss and anxiety are raw and unmanageable experiences unless they are symbolically reworked through language. Linguistic capacities play a central role in this reworking process and determine the direction an individual takes following emotional relationship breakdown - toward denial or toward sublimation. Thus, language is not merely a tool for communication but an ethical and psychological container through which the subject is reconstructed after suffering.

Despite the significance of the findings and the theoretical coherence of the proposed model, interpretation of the results requires consideration of several limitations. The use of convenience sampling and the focus on participants drawn from a specific geographical–cultural context restrict the generalizability of the findings to other cultural and social groups. In addition, the cross-sectional nature of the data limits strong causal inference and constrains the examination of developmental trajectories, indicating that the dynamics of the relationships among linguistic capacities, anxiety, and defense mechanisms should be investigated over time. Furthermore, reliance on self-report measures for part of the assessment may have been influenced by response biases as well as the inherent difficulty of conscious access to unconscious processes. Accordingly, future research is encouraged to employ longitudinal designs, more culturally and socially diverse samples, and integrative methodologies combining self-report instruments with clinical assessments, observational methods, or structured interviews. Incorporating variables such as attachment style, quality of early relationships, emotional history, discursive contexts, and broader socio-cultural factors may provide a more comprehensive understanding of psychological adaptation following emotional relationship breakdown within a framework of conceptual and ethical justice.

CONCLUSION

The findings of this study showed that linguistic capacities are not simply a communication skill but a "psychological infrastructure" that determines an individual's response to the emotional relationship breakdown. By reducing anxiety, language facilitates the activation of more developmentally mature defense mechanisms such as sublimation and weakens the tendency toward immature defenses such as denial. These results confirm that meaning-making, narrative construction, and linguistic reflexivity constitute the core of psychological adjustment following loss, enabling individuals to shift the experience of suffering from a state of emotional immediacy to one of symbolic representation.

The stability of the model across both genders further indicated that the relationships among language, anxiety, and defense mechanisms represent fundamental and trans-experiential structures rather than gender-biased patterns an observation that strengthens the ethical and conceptual validity of the proposed model. Accordingly, it can be concluded that language-based clinical interventions including narrative therapy, expressive writing, work with metaphor, and meaning reconstruction can serve as effective

tools for reducing anxiety and guiding individuals toward more constructive defenses, without the need for stereotypical gender-based differentiation. This study suggests that psychological reconstruction following separation is, above all, a linguistic–symbolic process a process through which language enables individuals to render the experience of loss tolerable, meaningful, and integrable within their personality structure.

The findings also indicate that ethical justice in psychology is not achieved through benevolent intentions alone, but rather through rigorous and responsible methodological design, systematic testing of equivalence, and cautious interpretation of results. Future research is therefore encouraged to consider additional ethical dimensions relevant to the realization of conceptual justice by examining the roles of other cultural and social variables, attachment styles, emotional history, and the quality of early relationships, as well as alternative pathways of interaction among language, anxiety, and defense mechanisms, in order to construct a more comprehensive and conceptually just account of post-breakdown psychological adjustment.

ETHICAL CONSIDERATIONS

This study was conducted in accordance with ethical principles for research in the behavioral sciences. Prior to data collection, informed consent was obtained from all participants, who were fully informed about the aims of the study, confidentiality of their responses, and their right to withdraw at any time without penalty. No personal or identifying information was stored or disclosed, and all data were analyzed anonymously. The study was approved by the University Ethics Committee under the code (IR-ATU.REC-1404-004).

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interests.

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