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Original Article

A Model of Marital Adjustment Based on Self-Differentiation and Emotional–Sexual Needs Fulfillment, Mediated by Alexithymia, Among Students at Hormozgan University, Iran

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Abstract

Introduction: Marital adjustment is an important indicator of family health. However, the simultaneous roles of self-differentiation and emotional–sexual needs fulfillment in marital adjustment, mediated by alexithymia—particularly among married university students—have rarely been examined within an integrated model. Therefore, the present study aimed to test a model examining the mediating role of alexithymia in the relationship between self-differentiation and emotional-sexual needs fulfillment with marital adjustment among married students at the University of Hormozgan.

Methods: This research employed a descriptive-correlational design using a partial least squares structural equation modeling (PLS-SEM) approach. The statistical population of this study consisted of all married students at the University of Hormozgan. A sample of 316 individuals was selected through simple random sampling. Data were collected using the following instruments: the Self-Differentiation Inventory-Revised (DSI-R), the Emotional-Sexual Needs Questionnaire, the Toronto Alexithymia Scale (TAS-20), and the Locke-Wallace Marital Adjustment Test.

Results: The SEM analysis indicated that the final model demonstrated a good fit and explained a substantial proportion of variance in the endogenous constructs ($R^2=0.671$ for marital adjustment and $R^2=0.805$ for alexithymia). The direct path coefficients from both self-differentiation ($\beta=0.598$, $P<0.001$) and emotional–sexual needs fulfillment ($\beta=0.220$, $P<0.001$) to marital adjustment were statistically significant and positive. In contrast, the direct path coefficient from alexithymia to marital adjustment was statistically significant and negative ($\beta=-0.128$, $P<0.001$). In addition, emotional–sexual needs fulfillment ($\beta=-0.553$, $P<0.001$) and self-differentiation ($\beta=-0.298$, $P<0.001$) had significant negative direct effects on alexithymia. Furthermore, the indirect effects on marital adjustment via alexithymia were statistically significant for emotional–sexual needs fulfillment ($\beta=0.075$, $P<0.01$) and self-differentiation ($\beta=0.041$, $P<0.01$), confirming the mediating role of alexithymia.

Conclusion: The results demonstrate that self-differentiation and emotional-sexual needs fulfillment contribute positively to marital adjustment, while alexithymia exerts a negative influence. These findings can be explained within systemic theories and emotion-processing perspectives, suggesting that higher levels of self-differentiation and greater emotional-sexual needs fulfillment, enhance emotional awareness and expression, hereby improving marital adjustment.

Keywords: Alexithymia, Self-differentiation, Emotional-sexual needs fulfillment, Marital adjustment, Married students

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Introduction

Marriage is considered one of the most significant and sacred unions between two individuals, marking the beginning of a supportive and emotional foundation upon which the future functioning of the family and the physical and psychological health of its members are built (1). Indeed, marriage is a committed and emotionally bonded relationship between two mature adults, a man and a woman, as two distinct individuals. Consequently, the relationship between them plays a pivotal role in

various aspects of their lives, influences their lifestyle, and forms the basis of marital satisfaction (2). The quality of marital life improves when both partners are committed to fulfilling their spiritual and material rights and obligations towards each other, and the fulfillment of these duties contributes to the satisfaction of many marital needs. A multitude of factors can influence the success or failure of marital life (3); one such factor that significantly affects the continuity of a successful marriage is marital adjustment (4).

Marital adjustment does not imply the absence of problems in life; rather, it refers to the capacity to adapt to difficulties and resolve them effectively. It is considered an evolutionary process in the relationship between husband and wife, referring to a state of adaptation across various situations in which conflict may arise (5). In this process, couples gradually come to better understand and accept their responsibilities concerning their new roles within the family (6). The importance of marital adjustment lies in the fact that it directly affects the stability and success of the relationship. Thus, marital adjustment indicates a form of adaptive behavior that enables individuals to meet the demands of their environment. More explicitly, adjustment refers to the tendency of couples to respond constructively rather than destructively when faced with a potentially disruptive stimulus (7).

Furthermore, marital adjustment is regarded as a progressive process in the relationship between spouses, referring to a style of adaptation in different areas of the couple's life where conflict may be present (8). Findings from recent studies indicate that marital adjustment peaks during the first few years of marriage and declines after 10-20 years. Notably, among young couples with lower marital adjustment, the likelihood of divorce and separation is higher. It has also been shown that women report lower marital adjustment than men (9).

One of the variables that can influence individuals' marital adjustment is self-differentiation. Self-differentiation involves an individual's ability to remain emotionally connected with others while maintaining a clear sense of self; in other words, it is the capacity to maintain autonomy while preserving relationships with others (10). The concept of self-differentiation is defined as the experience of both closeness (intimacy) and separateness (autonomy) in relationships with others. This concept reflects an individual's capacity for realistic thinking about emotional issues within the family. Self-differentiation encompasses an intrapersonal ability to distinguish between thought and feeling, as well as an interpersonal ability to maintain independence within the context of deep relationships with significant others and a stable self-identity (11).

Self-differentiation is an integral part of an individual's ability to develop intimacy and appears to be associated with marital satisfaction. For instance, one study indicated that couples with low levels of self-differentiation and emotional fusion may struggle to clearly understand what they need from each other to improve the quality of their relationship, ultimately leading to lower levels of marital satisfaction (12). Numerous studies have examined the relationship between self-differentiation and marital satisfaction and have compared levels of self-differentiation between conflicted and non-conflicted couples (13–15). For example, a study investigating and comparing self-differentiation, communication patterns, and sexual satisfaction among couples filing for consensual divorce and non-divorcing couples found a significant relationship between marital satisfaction and self-differentiation and showed that self-differentiation plays an important role in couples' adjustment (15). This study concluded that self-differentiation is a strong predictor of marital conflict and marital satisfaction, showing a negative relationship with marital conflict and a positive relationship with marital adjustment. Furthermore, conflicted couples exhibited lower levels of self-differentiation.

Another variable associated with marital adjustment is the fulfillment of couples' emotional-sexual needs. Within marital relationships, emotional-sexual needs are among the most important and essential needs, and the dynamism and vitality of the couple's relationship depend greatly on the extent to which these needs are fulfilled (16). The importance of emotional-sexual needs is such that their lack of fulfillment may contribute to a decline in marital quality. This, in turn, can lead to marital dissatisfaction, as well as sexual and marital frustration and aversion among couples (17).

It is important to note that emotional and sexual needs cannot be considered separately. Rather, the reciprocal relationship between these two dimensions necessitates that they be addressed together within the context of the marital relationship. Consequently, the more enriched the marital life—namely, when the marital relationship is built upon sufficient knowledge and awareness, when couples experience no communication problems, and when a high level of agreement and empathy exists between them—the more favorable the conditions will be for the fulfillment of emotional-sexual needs.

An important point is that the emergence of problems in emotional and sexual matters is not limited to couples experiencing conflict and strife; it may also arise among couples who report few problems and perceive their lives as satisfactory. Such couples may experience monotony over time, which can reduce the richness of their marriage and lead them to overlook their own emotional-sexual needs (18). Simply put, emotional needs refer to the affective and psychological needs that women and men expect to have fulfilled throughout their marital life. These needs are a prerequisite for the establishment of intimacy between spouses (19).

Regarding the fulfillment of sexual needs in marital relationships, it should be emphasized that the sexual relations between spouses are not merely a means of satisfying a biological drive. Rather, the fulfillment of sexual needs is closely associated with both sexual and emotional satisfaction. Sexual needs are generally classified into two

categories: physiological sexual needs and psychological sexual needs. Furthermore, the fulfillment of sexual needs in marriage is closely linked to the emotional relationship between spouses. In other words, a healthy sexual relationship is one that is free from fear of rejection and deprivation and is instead characterized by security and trust. In summary, a satisfying sexual relationship both strengthens the emotional bond between the spouses and is itself reinforced by that emotional connection (20).

One variable that may influence the relationship between self-differentiation, fulfillment of emotional-sexual needs, and marital adjustment among married students is alexithymia (21). Indeed, alexithymia may play a mediating role in the relationship between these variables. Alexithymia is characterized by difficulty identifying feelings, difficulty describing feelings to others, and difficulty distinguishing between feelings and the bodily sensations associated with emotional arousal (22).

Alexithymia can lead to difficulties in processing emotional information, difficulties in understanding facial expressions, and consequently, a reduced capacity for empathy. The ability to recognize and express emotions is essential for maintaining a loving and satisfying relationship. Research findings indicate a significant positive correlation between mutual emotional expression in couples, greater self-disclosure within the relationship, and the quality of marital life (23). Emotions clearly play a significant role in human life. They are integral to success, health, and strong interpersonal relationships, and are essential for human survival. Individuals' psychological adaptation and adjustment depend largely on how effectively they regulate their emotions. Accordingly, many situations in life pose challenges to emotion regulation, and emotion regulation is considered one of the most critical tasks for physical and psychological well-being within marital relationships. Regulating emotions requires managing both positive and negative emotions in oneself and others according to the prevailing circumstances. Furthermore, emotion regulation has been defined as the use of mood and emotions to resolve personal and interpersonal problems (21).

Research on marital interactions has demonstrated that a reduction in couples' negative emotions and affect during stressful situations can predict marital adjustment over time (24). It has also been shown that a greater expression of positive emotions relative to negative ones during periods of marital stress and conflict is associated with higher marital satisfaction among couples (25). Conversely, emotional inertia—defined as an individual's tendency to remain in a negative affective state—is associated with the development of distress and difficulties in marital life.

Consequently, based on the reviewed literature, it can be concluded that no domestic research has examined marital adjustment and its relationship with emotional-sexual needs fulfillment and self-differentiation while simultaneously examining the mediating role of alexithymia within a modeling framework. Therefore, conducting the present study can help address the existing scientific gaps in this area. Furthermore, given that few studies have investigated emotional-sexual needs fulfillment in couples and married individuals, particularly among married students, the novelty of the present research is further emphasized.

Thus, in light of the provided context, the present study aimed to answer the following question:

Does alexithymia play a mediating role in the relationship between self-differentiation, emotional-sexual needs fulfillment, and marital adjustment among married students at the University of Hormozgan?

Materials and Methods

This study was a descriptive–correlational, cross-sectional study conducted using structural equation modeling with the partial least squares approach (PLS-SEM). The statistical population consisted of all married students at the University of Hormozgan during the 2023–2024 academic year who had been married for at least two years. The proposed model was analyzed using the PLS approach. To determine sample size adequacy, a power-analytic rationale consistent with the model structure in PLS-SEM was employed. Specifically, the maximum number of predictors for any endogenous construct in the model was first identified. In the proposed model, the endogenous construct of marital adjustment had three direct predictors (self-differentiation, satisfaction of emotional–sexual needs, and alexithymia). Therefore, the maximum number of incoming paths was three. Next, assuming a significance level of .05, statistical power of .80, and a small-to-medium effect size based on Cohen's criterion ($f^2 = 0.05$), the minimum required sample size was estimated through power analysis for multiple regression with three predictors to be approximately 222 participants. Allowing for an estimated 15% attrition or incomplete responses, the target sample size was set at approximately 260. Ultimately, 316 complete questionnaires were collected and included in the analyses, exceeding the minimum required sample size.

The sampling method employed in this research was simple random sampling. This procedure was implemented as follows: first, a comprehensive list of all married students at the University of Hormozgan was obtained from the university's administrative affairs unit. Subsequently, 316 individuals were randomly selected using a manual lottery method and were requested to participate in the study by completing the research questionnaires.

Data were analyzed using IBM SPSS Statistics version 24 and PLS-SEM (PLS 4). Normality was assessed using the Shapiro–Wilk test. Sampling adequacy was evaluated using the Kaiser–Meyer–Olkin (KMO) index and Bartlett's test. In PLS-SEM, the measurement model was evaluated using Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and the heterotrait–monotrait ratio (HTMT). The structural model was assessed using path coefficients and t-values

($t > 1.96$), as well as R^2 and Q^2. Statistical significance was set at $P < 0.05$ (two-tailed).

Research Instruments

Marital Adjustment Questionnaire

This scale was developed by Locke and Wallace in 1959. It is a short self-report instrument designed to assess the quality of marital functioning and contains 15 items divided into three sections (26). The first section (Item 1) assesses general happiness and is rated on a 7-point Likert scale ranging from very unhappy to very happy. The second section (Items 2-9) utilizes a 5-point ordinal scale (always agree, almost always agree, frequently disagree, almost always disagree, always disagree). The third section (Items 10-15) consists of multiple-choice items. The total score ranges from 2 to 158. Scores of 100 and above on the Locke-Wallace Marital Adjustment Test indicate satisfactory marital adjustment, while lower scores suggest marital distress. The mean adjustment score for well-adjusted couples is reported to be 135.9, while the mean score for maladjusted couples is 71.7 (27). This instrument measures individuals' subjective perceptions of marital satisfaction. Its advantages include ease of administration, high test-retest reliability, and well-established normative data. Due to these characteristics, it has been frequently used as a screening tool to differentiate between satisfied and dissatisfied couples (28). In the psychological literature, it is widely regarded as a valid measure of marital satisfaction (26, 29).

This instrument was translated into Persian and validated by Mazaheri and administered to an Iranian sample, with split-half reliability reported to be approximately 0.90 (26, 27). Studies examining its reliability and validity have reported favorable results. A high internal consistency coefficient of 0.96 and strong criterion validity have been reported for this scale (30). In the present study, the reliability coefficient obtained for this scale using Cronbach's alpha was 0.81.

Self-Differentiation Inventory-Revised

The Self-Differentiation Inventory–Revised (DSI-R) was originally developed by Skowron and Schmitt in 1998 (31) and later revised in 2004 (32). This instrument focuses on significant life connections and an individual's current relationships with their family of origin. The scale comprises four subscales: Emotional Reactivity (11 items), I-Position (11 items), Emotional Defusion (12 items), and Fusion with Others (12 items). Higher total scores indicate greater levels of self-differentiation, while lowers score indicate lower levels of differentiation.

The reported Cronbach's alpha coefficient for this questionnaire is 0.88 (31). In a subsequent study conducted in 2004, the alpha coefficient was reported as 0.84 (33). Another study reported a reliability coefficient of 0.69 and a validity of 0.85 (34). Additionally, another study reported a reliability coefficient of 0.76 for the questionnaire (35). In the present study, the reliability coefficient obtained using Cronbach's alpha was 0.91. This questionnaire uses a 6-point Likert scale, ranging from 1 (not at all true of me) to 6 (completely true of me). Each item is scored from 1 to 6, resulting in a total score range from 46 to 276. Lower scores on this questionnaire indicate lower levels of self-differentiation (36). Items 4, 7, 11, 15, 19, 23, 27, 31, 37, 41, and 43 are scored directly, while the remaining items are reverse-scored.

Emotional-Sexual Needs Questionnaire

To measure the emotional-sexual needs of the couples, the Iranian Couples' Emotional-Sexual Needs Questionnaire was used (37). This instrument consists of 32 items measured on a 10-point scale ranging from 0 (Not at all fulfilled) to 10 (Completely fulfilled). The total possible score ranges from 0 to 320, with a cut-off point of 160. Higher scores indicate greater fulfillment of emotional-sexual needs, whereas lower scores indicate poor fulfillment of these needs. The questionnaire includes the following subscales:

- Emotional-Physical Needs (6 items)
- Need for Avoidance of Discouraging Behaviors (4 items)
- Need for the Consistent Presence of Positive Emotions (4 items)
- Need for In-the-Moment Understanding when Experiencing Negative Emotions (3 items)
- Emotional-Sexual Needs (7 items)
- Physical-Sexual Needs (3 items)
- Cognitive-Attitudinal Needs (4 items)

The internal consistency coefficients for the subscales, calculated using Cronbach's alpha, ranged from 0.65 to 0.93. Furthermore, the reliability coefficient obtained using the odd-even split-half method was 0.62, and the first-half-second-half split method yielded a coefficient of 0.65. In the present study, the reliability coefficient for the entire questionnaire using Cronbach's alpha was 0.89.

Several methods were employed to examine the construct validity of this questionnaire. First, exploratory factor analysis was conducted, the results of which indicated satisfactory validity for the instrument. Additionally, to further assess construct validity, the correlation between the dimensions of this questionnaire and Glasser's Basic Needs Questionnaire (2000) was calculated. The obtained coefficients demonstrated that all dimensions of the Emotional-Sexual Needs Questionnaire were significantly and positively related to Glasser's Basic Needs Questionnaire, indicating satisfactory construct validity for the instrument (37).

Twenty-Item Toronto Alexithymia Scale

To measure alexithymia, the Persian version of the 20-item Toronto Alexithymia Scale (TAS-20) was used. This is a self-report instrument originally developed by Taylor (1986) and later revised by Bagby, Parker, and Taylor (1994) (38). It is among the most widely used instruments for assessing alexithymia and arguably the most valid questionnaire, consisting of 20 items and three subscales. The total score ranges from 20 to 100, with higher scores

indicating greater severity of alexithymia (39):

- Difficulty Identifying Feelings (7 items)
- Difficulty Describing Feelings (5 items)
- Externally Oriented Thinking (8 items)

In this study, The Persian TAS-20 translated and validated by Besharat was used, with acceptable internal consistency and test–retest reliability (40). Cronbach's α in the present study was 0.93 (40). Research indicates that the scale has satisfactory internal consistency, test-retest reliability, and factorial, convergent, and discriminant validity (41). For the Persian version, Cronbach's alpha coefficient has been reported as 0.85 for the total scale. The coefficients for the three subscales—Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking—were 0.82, 0.75, and 0.72, respectively, indicating good internal consistency for the scale. The test-retest reliability of the scale, calculated over a four-week interval in a sample of 67 individuals, was 0.80 and 0.87 (40). In another study, Cronbach's alpha coefficients were reported as 0.74 for Difficulty Identifying Feelings, 0.61 for Difficulty Describing Feelings, and 0.50 for Externally Oriented Thinking (42). In the same study, split-half and test-retest reliability coefficients for the total scale were reported as 0.74 and 0.72, respectively (42). In the present study, internal consistency was high, with a Cronbach's alpha coefficient of 0.93, indicating good reliability.

This instrument measures alexithymia across the three dimensions: Difficulty Identifying Feelings (7 items), Difficulty Describing Feelings (5 items), and Externally Oriented Thinking (8 items). Items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (43). The sum of the subscale scores yields the total alexithymia score, with higher scores indicating a greater severity of alexithymia (39).

Results

Descriptive statistics for the sample and study variables indicated that the sample included 316 married university students, of whom approximately 53% were women. The mean age of participants was 28.4 ± 5.1 years, and the mean duration of marriage was 3.4 ± 2.6 years. The mean (SD) scores were 92.3 (19.4) for marital adjustment (range: 45–156), 165.3 (24.1) for self-differentiation (range: 92–246), 204.8 (48.6) for affective–sexual need fulfillment (range: 55–310), and 47.7 (14.3) for alexithymia (range: 22–86).

Preliminary Assumptions

Given that the inferential statistical methods in the present study involved parametric statistical tests, the key underlying assumptions were evaluated prior to data analysis.

Assumption of Data Normality

Prior to conducting the statistical analyses, the required assumptions of the parametric tests were first evaluated. Table 1 presents the results of the Shapiro–Wilk test for assessing the normality of the distributions of the study variables' scores. As presented in Table 1, the significance levels for all variables were greater than 0.05 ($P > 0.05$); therefore, the null hypothesis of non-normality was not rejected, confirming the normal distribution of the variables.

The KMO index and Bartlett's test of sphericity were used to assess sampling adequacy and the suitability of the data for factor analysis. The KMO statistic evaluates whether a sample size is adequate based on the magnitude correlations between the variables and their partial correlations. Therefore, KMO values closer to 1 indicate greater sampling adequacy. The cut-off point for the KMO is 0.6; that is, values above 0.6 are generally considered acceptable, indicating that the criterion for sampling adequacy is met.

According to Table 2, all KMO values exceeded 0.7, and Bartlett's tests were statistically significant ($P < 0.01$). This indicates that the sample size was adequate for the variables of alexithymia, self-differentiation, emotional-sexual needs fulfillment, and marital adjustment.

Model Fit

To examine the fit of the conceptual research model, the data were analyzed using the PLS-SEM algorithm. PLS-SEM was preferred over covariance-based SEM because the primary aim of this study was prediction and maximization of the explained variance in the key endogenous construct (marital adjustment). Furthermore, PLS-SEM is less restrictive regarding distributional assumptions and is suitable for complex models involving mediation paths.

In this approach, the model was assessed in two stages: assessment of the measurement model and assessment of the structural model using the relevant evaluation criteria and indices.

Measurement Model Fit

Convergent Validity

The measurement model was assessed using three

Table 1. Shapiro–Wilk Normality Test for Study Variables

Variables	Statistic	Significance Level (*P*-value)
Alexithymia	0.977	0.143
Self-Differentiation	0.970	0.082
Emotional-Sexual Needs Fulfillment	0.995	0.221
Marital Adjustment	0.991	0.193

Table 2. Results of Bartlett's Test and KMO Index for the Study Variables

Variables	KMO	Bartlett's Test of Sphericity		Results
		Chi-Square Statistic	*P*-value	
Alexithymia	0.742	4653.37	<0.001	Confirmed
Self-Differentiation	0.806	11489.13	<0.001	Confirmed
Emotional-Sexual Needs Fulfillment	0.756	2733.30	<0.001	Confirmed
Marital Adjustment	0.892	4153.11	<0.001	Confirmed

Note. KMO: Kaiser–Meyer–Olkin.

criteria: indicator reliability (Cronbach's alpha and CR), convergent validity (AVE), and discriminant validity. The results are presented in Table 3.

As observed in Table 3, the reliability values of Cronbach's alpha and CR values for all research variables (alexithymia, self-differentiation, emotional-sexual needs fulfillment, and marital adjustment) exceeded 0.7, indicating appropriate reliability of the model. Furthermore, the AVE values for all variables were above 0.5, which confirms that this criterion is met and the convergent validity of the constructs is established.

Discriminant Validity

To assess discriminant validity, the square root of the AVE (√AVE) for each construct should be greater than the correlations shared between that construct and all other constructs in the model (i.e., the √AVE should be greater than the correlation coefficients). The results pertaining to discriminant validity are presented in Table 4.

Discriminant validity was assessed using the HTMT. HTMT is considered more sensitive than the Fornell–Larcker criterion for detecting deficiencies in discriminant validity. Discriminant validity is considered acceptable when HTMT values are below 0.85. As shown in Table 4, all HTMT values are below 0.85, supporting that the discriminant validity of the constructs was adequately established.

Structural Model Fit

Following confirmation of the adequacy of the measurement model's fit, the fit of the structural model was also examined. The following criteria were used to evaluate the structural model fit:

1. t-statistic associated with the path coefficients, with values greater than the critical value of 1.96 indicating statistical significance at the 95% confidence level,
2. Coefficients of determination (R^2) for the endogenous variable(s); and
3. Stone–Geisser's predictive relevance index (Q^2), which indicates the predictive power of the model all endogenous variables.

Table 3. Results of Convergent Validity and Reliability Assessment

Variables	Cronbach's Alpha	CR	AVE
Emotional-Sexual Needs Fulfillment	0.788	0.855	0.569
Self-Differentiation	0.875	0.910	0.670
Marital Adjustment	0.795	0.840	0.546
Alexithymia	0.779	0.816	0.610

Note. CR: Composite reliability; AVE: Average variance extracted.

The results of all these indices are presented in Table 5.

According to the results in Table 5, the R^2 values for the endogenous variables of marital adjustment and alexithymia were 0.671 and 0.805, respectively. Based on the criterion (0.67 = substantial, 0.33 = moderate, 0.19 = weak), these findings indicate a high level of predictive accuracy for the model. The R^2 values are also illustrated in Figure 1.

Furthermore, the Q^2 values for marital adjustment and alexithymia were 0.353 and 0.381, respectively. According to the criterion (0.35 > 0.3153 > 0.02), these values indicate a strong model fit, as the Q^2 values for both marital adjustment and alexithymia exceeded the 0.30 threshold.

In summary, the assessment of the overall model fit demonstrated that both the measurement model and the structural model were satisfactory. Consequently, the overall fit of the proposed model was confirmed.

Research Hypothesis

Alexithymia mediates the relationship between self-differentiation and emotional-sexual needs fulfillment with marital adjustment among married students at the University of Hormozgan.

To investigate the effects of the mediating variable, the model was subsequently analyzed by incorporating alexithymia as a mediator. A t-value model was also generated to determine their statistical significance. As shown in Figure 1, alexithymia functions as a mediating variable in the proposed relationships. The path coefficients, along with their corresponding t-values indicating statistical significance, are presented in Figure 1.

As seen in Table 6, the results of the path analysis for the direct effects and their corresponding t-values are presented. Given that all t-values related to the direct path coefficients exceeded the critical value of 1.96, these relationships were considered statistically significant. Consequently, the direct path coefficients from emotional-sexual needs fulfillment to marital adjustment and to alexithymia were 0.220 and -0.553, respectively, with corresponding t-values of 3.77 and 8.57 ($P < 0.001$). Furthermore, the direct path coefficients from self-differentiation to marital adjustment and to alexithymia were 0.598 and -0.298, respectively, with corresponding

Table 5. Results of the Structural Model Fit Indices for the Endogenous Variables

Variables	R^2 0.67 > 0.33 > 0.19	Q^2 0.35 > 0.3153 > 0.02
Marital Adjustment	0.671	0.353
Alexithymia	0.805	0.381

Table 4. Discriminant Validity Assessment Using HTMT

Constructs	Emotional–Sexual Needs Fulfillment	Self-Differentiation	Marital Adjustment	Alexithymia
Emotional–Sexual Needs Fulfillment	—	0.812	0.836	0.783
Self-Differentiation	0.812	—	0.829	0.845
Marital Adjustment	0.836	0.829	—	0.821
Alexithymia	0.783	0.845	0.821	—

Note. HTMT: Heterotrait–monotrait ratio of correlations.

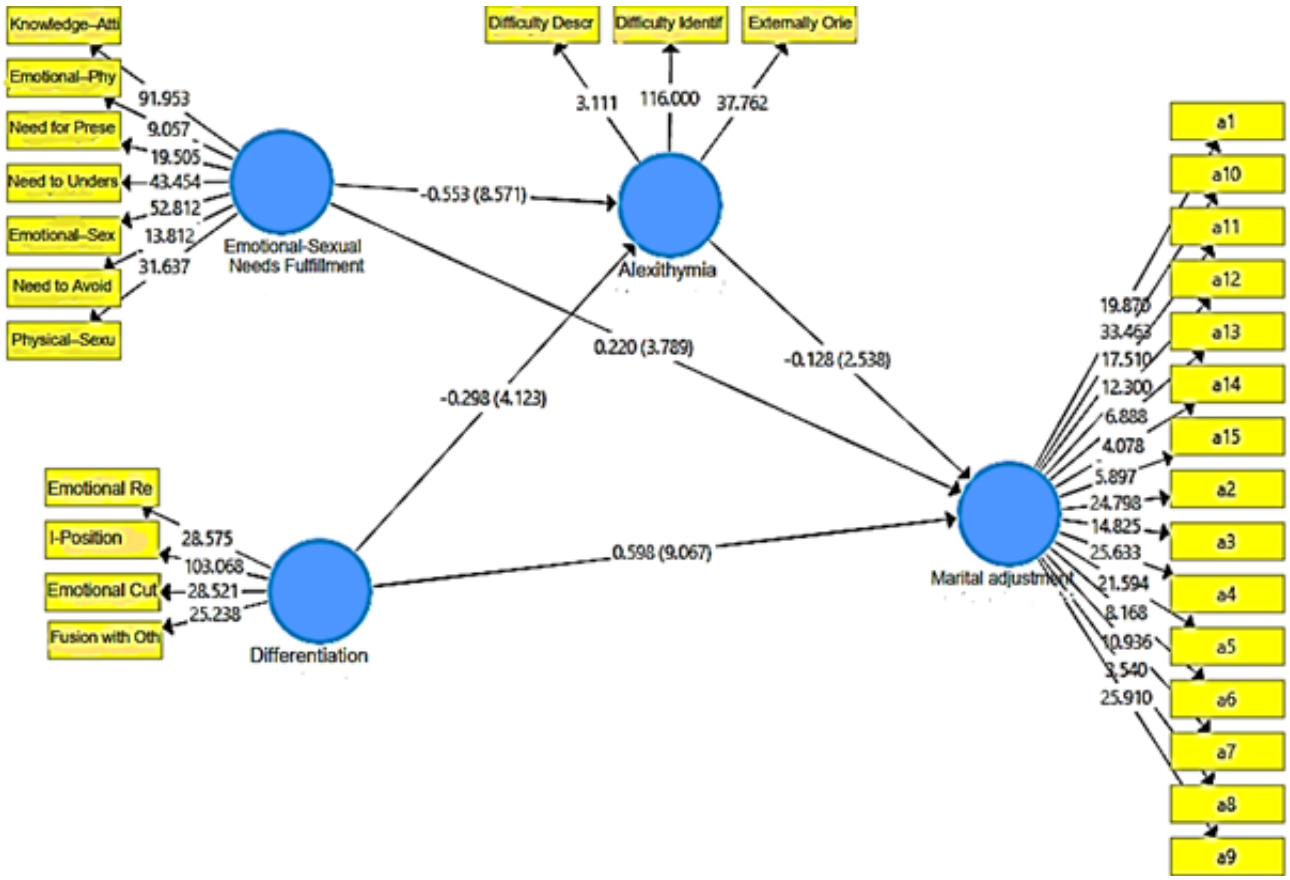

Figure 1. Structural Model with Path Coefficients and *t*-values

Table 6. Direct Path Coefficients for the Research Variables in the Final Model Including the Mediating Variable of Alexithymia

Paths in the Model	With the Mediating Variable		Significance
	Coefficient	*t*-value	*P*-value
Emotional-Sexual Needs Fulfillment → Marital Adjustment	0.220	3.77	<0.001
Emotional-Sexual Needs Fulfillment → Alexithymia	-0.553	8.57	<0.001
Self-Differentiation → Marital Adjustment	0.598	8.96	<0.001
Self-Differentiation → Alexithymia	-0.298	4.15	<0.001
Alexithymia → Marital Adjustment	-0.128	2.52	<0.001

t-values of 8.96 and 4.15 ($P<0.001$). Additionally, the direct path coefficient from alexithymia to marital adjustment was -0.128, with a t-value of 2.52 ($P<0.001$).

As observed in Table 7, emotional-sexual needs fulfillment and self-differentiation also demonstrated a statistically significant indirect relationship with marital adjustment through the mediating role of alexithymia. Specifically, the indirect path from emotional-sexual needs fulfillment to marital adjustment via alexithymia was statistically significant ($\beta=0.075$, $t=2.30$, $P<0.01$), indicating a significant indirect relationship with marital adjustment. Similarly, the indirect path from self-differentiation to marital adjustment, mediated by alexithymia, was statistically significant ($\beta=0.041$, $t=2.35$, $P<0.01$), demonstrating a significant indirect relationship with marital adjustment.

Total effects were also computed and reported in Table 8. The results showed that emotional–sexual needs fulfillment had a positive and significant total effect on marital adjustment ($\beta\approx0.295$) and a significant negative effect on alexithymia ($\beta\approx-0.553$). Likewise, self-differentiation exhibited a stronger positive total effect on marital adjustment ($\beta\approx0.639$) and a negative effect on alexithymia ($\beta\approx-0.298$). Moreover, alexithymia indicated a negative total effect on marital adjustment ($\beta\approx-0.128$). Overall, these findings support the mediating role of alexithymia in transmitting part of the effects of the predictor variables to marital adjustment.

Discussion

The present study aimed to test an alexithymia-based model linking self-differentiation and emotional–sexual need fulfillment to marital adjustment among married students at the University of Hormozgan. The results of the PLS-SEM analysis indicated that alexithymia played a significant mediating role in the relationships between (a) emotional–sexual need fulfillment and marital adjustment and (b) self-differentiation and marital

Table 7. Indirect Path Coefficients Through the Mediating Variable (Alexithymia)

Indirect Paths	With the Mediating Variable		Significance Level (*P*)
	Coefficient (β)	*t*-value	
Emotional-Sexual Needs Fulfillment → Marital Adjustment (via Alexithymia)	0.075	2.30	<0.01
Self-Differentiation → Marital Adjustment (via Alexithymia)	0.041	2.35	<0.01

Table 8. Total Effects in the Final Model

Relationship	Direct Effect (β)	Indirect Effect via Alexithymia (β)	Total Effect (β)	*t*	*P*
Emotional–Sexual Needs Fulfillment→ Marital Adjustment	0.220	0.075	0.295	4.413	<0.001
Emotional–Sexual Needs Fulfillment → Alexithymia	-0.553	0.000	-0.553	8.570	<0.001
Self-Differentiation → Marital Adjustment	0.598	0.041	0.639	9.263	<0.001
Self-Differentiation → Alexithymia	-0.298	0.000	-0.298	4.150	<0.001
Alexithymia → Marital Adjustment	-0.128	0.000	-0.128	2.520	<0.012

adjustment. Overall, these findings suggest that factors that enhancing partners' capacity to process, recognize, and express emotions within the relationship may strengthen pathways leading to marital adjustment.

The finding that emotional–sexual need fulfillment is associated with marital adjustment is consistent with previous domestic research suggesting that greater attention to emotional–sexual needs is related to marital quality and adjustment (44–46). However, some studies have not reported a strong direct association between sexual aspects and marital satisfaction or adjustment. These studies suggest that when variables such as sexual/relational communication quality, intimacy, or interaction patterns are included in analytical models, the predictive role of sexual variables may diminish. In other words, the effect of emotional–sexual needs on marital adjustment may be conditional and may depend on communicative and emotional processes (47, 48). Therefore, the convergence of our findings with the substantial body of literature—alongside some inconsistent reports—implies that emotional–communicative mechanisms, such as alexithymia and emotion regulation, may help explain why direct effects sometimes appear weaker or inconsistent across studies.

Alexithymia is commonly characterized by three components: difficulty identifying feelings, difficulty describing feelings, and an externally oriented thinking style (38). In Iran, the validity and reliability of the Persian version of this construct have also been documented (40). According to the process model of emotion regulation, emotional regulation unfolds through a sequence of stages, including situation, attention, appraisal, and response, and individuals may regulate emotions via strategies such as cognitive reappraisal or expressive suppression (49, 50). More recent scholarship further suggests that alexithymia can be conceptualized as a deficit in emotion processing and as intertwined with attentional and appraisal stages in emotion-regulation models (51). Accordingly, when individuals cannot accurately identify or express emotions, the likelihood of relying on maladaptive strategies such as avoidance, withdrawal, or suppression during marital interactions increases. Such patterns may undermine intimacy, mutual support, and constructive conflict resolution. Evidence also indicates that alexithymia is associated with reduced quality of social support in romantic relationships (52).

The findings of the present study showed that emotional–sexual needs fulfillment, through the mediating role of alexithymia, can influence marital adjustment. To explain this pathway, emotional–sexual need fulfillment typically fosters positive affect, relational security, and emotional closeness. At the interpersonal level, it also provides greater opportunities for emotional labeling, emotion-focused dialogue, and supportive feedback. When these emotional–sexual interaction cycles are activated within the relationship, partners' emotional competencies may gradually improve and alexithymia may decrease. As a result, expressions of affection, satisfaction, and personal needs are conveyed more transparently, thereby enhancing marital adjustment. This interpretation aligns with perspectives emphasizing that the quality of sexual and emotional communication—alongside sexual satisfaction—plays a critical role in marital satisfaction and adjustment (47, 53). Thus, our findings suggest that part of the effect of emotional–sexual need fulfillment on marital adjustment operates not merely through sexual content or behavior itself, but through improved emotional processing and regulation, reflected in reduced alexithymia.

In addition, the findings indicated that self-differentiation influenced marital adjustment via the mediating role of alexithymia. The present results regarding self-differentiation are consistent with previous domestic studies (54, 55) and are also in line with international research demonstrating an association between differentiation and dyadic adjustment (10). Nevertheless, the effects of self-differentiation may vary by gender, actor-partner effects, and specific components of differentiation (e.g., emotional cutoff). Therefore, increases in differentiation may not necessarily operate identically for both partners (10).

From a theoretical perspective within Bowen's family systems theory, self-differentiation is conceptualized as the capacity to distinguish thoughts from feelings while

maintaining a balance between autonomy and intimacy within close relationships (56). Individuals with higher levels of differentiation typically exhibit less emotional fusion and less extreme withdrawal under relational stress. They are also more capable of identifying, regulating, and expressing emotions more effectively during interpersonal interaction and are therefore less likely to exhibit alexithymia characteristics. This interpretation is consistent with the conceptual foundations of differentiation measures (31). As alexithymia decreases, maladaptive relational cycles of misinterpretation, emotional silence, and unresolved conflict are less likely to emerge. This, in turn, facilitates empathy, constructive conflict resolution, and effective communication, thereby enhancing marital adjustment. This relationship pathway can also be explained from an emotion-regulation perspective, as higher differentiation may increase individuals' capacity to employ more adaptive emotion-regulation strategies within couple interactions (52).

Conclusion

Based on the findings of the present study, focusing solely on "behaviors(e.g., merely increasing interaction or providing general advice) in couple-therapy interventions and premarital education is insufficient. Instead, targeted interventions aimed at reducing alexithymia and enhancing emotion-regulation capacities are necessary. For example, interventions involving training in emotional labeling, emotion-identification exercises, empathic feedback, and strengthening emotional–sexual dialogue may function as a bridge through which emotional–sexual needs fulfillment and self-differentiation translate into improved marital adjustment.

This study has several limitations, including its correlational and cross-sectional design, reliance on self-report measures, and sampling from married students at a single university, all of which may restrict causal inference and the generalizability of the findings. Future research should employ longitudinal or experimental designs and utilize dyadic data (reports from both spouses) in order to test interpersonal mechanisms more precisely.

In sum, the results indicate that alexithymia is a key mechanism explaining the relationship between individual and relational resources, including self-differentiation and emotional–sexual need fulfillment, and marital adjustment. Accordingly, strengthening emotional capacities (e.g., emotion recognition, emotional expression, and emotion regulation), alongside greater attention to emotional–sexual needs and differentiation components, may provide practical pathways for improving marital adjustment among young and student couples.

Authors' Contribution

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Competing Interests

The authors declare no conflicts of interests.

Ethical Approval

This study received ethical approval from the Faculty of Humanities, Islamic Azad University, Bandar Abbas Branch, Hormozgan University, Iran, and written informed consent was obtained from all participants prior to participation in the study.

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