



RESEARCH ARTICLE

Development of Marital Forgiveness Scale in Turkish Culture: A Validity and Reliability of the Study

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ARTICLE HISTORY

Received: 28.12.2023

Accepted: 02.04.2024

KEYWORDS

Forgiveness, Married
Individuals, Scale
Development, Turkish
Culture

ABSTRACT

The capacity to forgive is a crucial aspect of marital relationships, as it enables couples to recover emotionally following a hurtful event caused by their spouse. The present study aimed to develop a marital forgiveness scale for Turkish culture, which is essential in cultural sensitivity. Accordingly, two distinct studies were conducted. The initial study utilizing Exploratory Factor Analysis was conducted with a sample of 351 married individuals, comprising 124 males and 227 females. The analysis yielded four dimensions, comprising 23 items, namely avoidance, desire for revenge, conditional forgiveness and unconditional forgiveness. The second study, Confirmatory Factor Analysis, was conducted with a total of 443 married participants, comprising 102 men and 341 women. The results provided support for the structure of the scale. The reliability analysis revealed that Cronbach alpha internal consistency coefficient value for each dimension was between .82 and .93. The criterion-related validity of the scale was examined using rumination as the criterion variable, with significant correlations observed between the developed scale and the rumination scale. Significant correlations were observed between The Marital Offense Specific Forgiveness Scale, the offense's severity, and the offense's significance with the developed scale, thereby supporting the convergent validity of the scale. The findings indicated that the Marital Forgiveness Scale, which had been developed for this purpose, was a reliable and valid measurement of marital forgiveness.

People experience conflicts in their marriages. Such conflicts may be precipitated by everyday events or may arise from destructive events such as infidelity. Unless couples can cope more effectively with the conflict, the marital relationship, including aspects such as intimacy and marital satisfaction, is negatively affected due to emotional injury (Fincham et al., 2004; Gordon et al., 2009). Issues that are not addressed or dismissed by spouses may resurface and potentially give rise to further complications. (Fincham, 2000). These issues have a detrimental impact on the relationship between spouses, impeding communication, intimacy, and emotional sharing between them (Asil et al., 2014). Furthermore, marital conflicts can cause anger (Asil et al., 2014) and adversely affect marital satisfaction and adjustment, as well as the parenting skills of couples (Gordon et al., 2009). However, couples understand each other better and learn to respect their beliefs and wishes if they cope

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with conflict effectively (Leggett et al., 2012). Studies have shown that the efficacy of conflict resolution techniques and communication skills are less effective than expected, particularly for serious problems such as infidelity (Gottman, 2011). It is, therefore, proposed that forgiveness represents an efficacious method of coping with marital problems. (Gordon & Baucom, 2003).

Most effective couple therapies, such as Gottman Couple Therapy and Emotional Focused Therapy (EFT), also benefit from forgiveness interventions, especially to heal serious emotional injuries (Gottman, 2011; Woldarsky et al., 2014). Studies investigating the role of forgiveness in marriage show that forgiveness is positively correlated with marital satisfaction (Asil et al., 2014; Fincham & Beach, 2002; Gordon et al., 2009), commitment (Fincham et al., 2006; Novak et al., 2017), and quality (Fincham et al., 2002), stability (He et al., 2018). In Turkey, studies examining the place of forgiveness in marital relationships have recently increased. The quality of the relationship and the level of marital satisfaction have been identified as significant factors influencing the phenomenon of marital forgiveness (Çelik et al., 2022). The study revealed that individuals who reported higher levels of marital satisfaction demonstrated a greater proclivity to forgive their spouse more expeditiously than those who expressed lower levels of marital satisfaction (Atceken, 2014; Çelik et al., 2022; Şahan, 2021). Furthermore, a positive correlation was observed between marital adjustment and forgiveness. (Yaman-Akpınar & Altunsu-Sönmez, 2021).

Models of Forgiveness

There are a number of different models proposed for explaining forgiveness. For example, Enright and the Human Development Study Group (1996) developed a model that proposes that forgiveness consists of four stages. In the first stage, individuals become aware of their emotional responses to the distressing event. Subsequently, in the second phase, they seek strategies to manage these adverse feelings. When forgiveness is selected as a coping mechanism, the individual in question will undertake a re-evaluation of the hurt experienced and endeavour to empathize with the offender. In the final stage, they realize that everyone can make mistakes and needs forgiveness (Baskin & Enright, 2004).

Worthington et al. (2005) asserted that forgiveness occurs in decisional and emotional stages. Firstly, people decide to forgive the offenders. Subsequently, people are willing to develop positive emotions and attitudes to overcome the adverse effects of offenses. Therefore, they developed a forgiveness model with five steps: Recall, Empathize, Altruism, Committing, and Holding on (REACH). The model posits that people initially remember the traumatic event, empathize with the offenders, and recall the instances when they have been forgiven. Then, they attempt to develop positive emotions by recalling positive memories of the offenders. Finally, they grant forgiveness by disclosing their feelings towards the offenders.

McCullough et al. (1998) developed the Social and Psychological Model of Forgiveness to understand the motivational systems affecting forgiveness. Traumatic events can lead people to feel fear and anxiety and avoid their partners, which may turn into anger and a desire for revenge due to suffering from traumatic events (Gottman, 1993). The probability of forgiveness is diminished when avoidance and a desire for revenge are present. Social, cognitive, and relational factors also exert an influence on forgiveness (McCullough, 2000). For example, positive feelings such as empathy, perspective-taking, and compassion lead people to have fewer avoidant behaviors and a desire for revenge, which increases people's positive behavior toward the offender. McCullough (2000) also emphasized that people are more prone to forgive their partners for the sake of their relationships. However, it depends on relational determinants such as relationship satisfaction, commitment, and intimacy of offenders. Studies indicated that people with higher relationship satisfaction (Palerio et al., 2005), higher marital commitment (Novak et al., 2017), and a closer relationship with the offender (Donovan & Priester, 2020) tend to grant forgiveness to the offender partner.

Process (e.g., Amiri et al., 2020; Orbon et al., 2015) and REACH (e.g., Harper et al., 2014; Özgür & Eldeleklioğlu, 2017) models have been employed in the context of interventions designed to facilitate the development of forgiveness. Social and Psychological Models of Forgiveness have been employed to elucidate the factors that facilitate or impede forgiveness in close relationships (Donovan & Priester, 2020; Novak et al., 2017). Although forgiveness models touch on different points about forgiveness, they have one aspect in

common: negative and positive dimensions of forgiveness (Fincham & Beach, 2002; Gordon et al., 2009). When describing the forgiveness process or steps, reducing avoidance behaviors, the desire for revenge, and increasing feelings of compassion and kindness towards the offending person were emphasized (Enright et al., 1998; Worthington et al., 2005; McCullough, 2000). Studies about forgiveness in Turkey have used the Process and Enright Model as a forgiveness intervention among adults and adolescents (e.g., Taysi & Vural, 2016; Özgür & Eldeleklioğlu, 2017). However, studies about marital forgiveness have generally employed the social and psychological model of forgiveness (Atceken, 2014; Karadoğan & Tagay, 2022; Yaman-Akpınar & Altunsu-Sönmez, 2021).

Forgiveness Measurements

Various forgiveness scales have been developed to measure forgiveness: dyadic forgiveness, offense-specific forgiveness, and dispositional forgiveness (McCullough & Worthington, 1999). Offense-specific forgiveness is related to forgiving others due to a specific offense, while dispositional forgiveness is the tendency of people to forgive others due to various offenses. Dyadic forgiveness is the tendency of people to forgive their partner due to different offenses from their partner toward them (McCullough, 2000).

Scales developed to measure forgiveness in marriage are the Marital Offense Specific Scale (Palerio et al., 2009), Forgiveness Inventory (Gordon & Baucom, 2003), the Marital Forgiveness Scale (Fincham et al., 2004), and Marital Dispositional Scale (Fincham et al., 2002). The Marital Dispositional Scale (Fincham et al., 2002) is a dispositional forgiveness scale. In contrast, other marital forgiveness scales measure a spouse's forgiveness for a specific offense (Palerio et al., 2009). The forgiveness Inventory indicates at which stage people are in the process of forgiveness (Gordon & Baucom, 2003). On the other hand, the Marital Forgiveness Scale (Fincham et al., 2004) and Marital Offense Specific Inventory (Palerio et al., 2009) measure the avoidance, revenge, and benevolence dimensions of forgiveness separately. On the other hand, the Marital Dispositional Scale (Fincham et al., 2002) consists of two dimensions: negative and positive forgiveness. Its negative dimension includes items related to avoidance and revenge. It also measures the presence of negative and positive forgiveness dimensions separately.

The Relationship between Culture and Forgiveness

It was well-documented that coping with a hurtful event and deciding to grant forgiveness change across cultures (Hook et al., 2009; Sandage & Williamson, 2005). The importance given to social norms and expectations affects forgiveness process and decisions (Joo et al., 2019; Karremans et al., 2011). Therefore, it was claimed that cultural factors influenced the process of forgiveness and the motives behind forgiveness (Ho & Fung, 2011). The extant literature on cross-cultural studies has provided support for the proposition that there are cultural differences in the motivations behind forgiveness (e.g., Ho & Fung, 2011; Joo et al., 2019; Sandage et al., 2020). In individualistic cultures, the motivation to forgive is typically rooted in the desire for inner peace and personal well-being. Conversely, in collectivist cultures, forgiveness is often driven by the need to maintain social harmony. (Hu & Worthington, 2020; Joo et al., 2019).

Turkish culture has the characteristics of both collective and individualistic culture (Kararmak, 2008; Karremans et al., 2011; Kılıçarslan & Sahan, 2021). Therefore, it can be pointed out that both cultures have different impacts on forgiveness among Turkish participants. For example, Karremans et al. (2011) investigated the cultural differences between the closeness of offender and forgiveness. They found that the closeness of the offender was positively correlated with forgiveness. However, this correlation for collectivistic cultures was relatively small compared to individualistic cultures. The results of Turkish participants in that study were in line with individualistic culture (Karremans et al., 2011). However, another cross-cultural study revealed that Turkish people consider circumstances such as offense severity, apology, and remorse to decide forgiveness more than French people. Additionally, Turkish people were less willing to accept unconditional forgiveness than French people (Bugay & Mullet, 2013).

It has been well documented that individuals from collectivistic cultures tend to place a high value on the efforts of their spouses, particularly in terms of demonstrating remorse, offering apologies, and making attempts to repair the situation. In such cases, the decision to forgive is often influenced by these factors. (Osei Tutu et al., 2018; Sandilya & Shahnawaz, 2014). Furthermore, the qualitative study about marital forgiveness in Turkish culture revealed that people tended to consider the existence of apology and repair attempts for

offenses, the characteristics of a spouse, and the quality of the relationship when they grant forgiveness (Bıyık Sarı & Cihan, 2024). The findings supported the study conducted by Bugay and Mullet (2013) and the effects of collectivist culture on forgiveness in Turkey.

The forgiveness scales utilized in this research pertain to marital forgiveness in Turkish culture and have been adapted from those used in individualistic cultures. The Marital Dispositional Scale (Bugay, 2014), the Marital Offense-Specific Scale (Erkan, 2015), the Forgiveness Inventory (Ozgun, 2010), and the Marital Forgiveness Scale-Event (Durmus & Manap, 2018) were adapted to Turkish and subsequently employed in marital forgiveness studies. The scales were developed within an individualistic cultural context. The scale items developed by an individualistic culture may not reflect marital forgiveness in Turkish culture comprehensively due to the characteristics of a collectivist culture. Turkish culture has not developed a marital forgiveness scale (Kaya, 2019). The objective of this study is to develop a scale for measuring individuals' proclivity to forgive a particular spouse's transgression. The concept of forgiveness in marriage and how forgiveness occurs in Turkish marriage was investigated by a qualitative study. In that study, people reported the importance of apology, showing remorse, and repairing attempts on their forgiveness decision. Furthermore, the respondents indicated that the gravity and frequency of the infraction made forgiveness a challenging prospect. (Bıyık Sarı & Cihan, 2024). Additionally, studies about forgiveness in marriage in Turkey supported the significant relationship between marital satisfaction, adjustment, and forgiveness, which also supported the Social and Psychological Model of Forgiveness (e.g., Çelik et al., 2022; Şahan, 2021; Taysi, 2010; Yaman-Akpınar & Altunsu-Sönmez, 2021). Therefore, the objective was to develop and assess the validity and reliability of a marital forgiveness scale based on the model proposed by McCullough et al. (1998).

Methodology

Participants

The snowball sampling method was employed to identify potential participants for the study. Two studies were conducted to develop the scale. The first study group comprised 351 married participants, of whom 124 were male and 227 were female. The age range was between 21 and 70 years ($M = 37.$, $SD = 9.42$). The duration of marriage ranged from one to 37 years ($M = 10.73$, $SD = 9.51$). Two hundred seventy participants (76.92 %) indicated that they had children. The study population was comprised of 70 participants (19.94%) with a high school diploma or below, 205 (58.4%) with university education, 50 (14.25%) with a master's degree, and 26 (7.42%) with a doctorate.

The second study group was conducted for the purpose of confirmatory factor analysis, establishing convergent and criterion-based validities, and conducting a reliability analysis. The study group included 443 married participants (102 males, 341 females). The participants ranged in age from 21 to 66 years ($M=36.87$ years, $SD=8.58$). The duration of marriage ranged from one to 39 years ($M=9.69$ years, $SD=8.01$). A total of 349 participants (80.6 %) reported having children. The participants were distributed as follows with regard to their level of education: 81 (18.71%) had a high school diploma or below, 272 (62.82%) had a university education, 47 (10.61%) had a master's degree, and 33 (7.62%) had a doctorate.

Scale Development Process

Ethical approval of the study was obtained from the university's Ethics Committee (16/02/2021-2021/51). Following the granting of ethical approval for the study, the scale development process was undertaken in accordance with five key steps: a qualitative study and literature review, item generation for the scale, content-based validity, administration of the developed scale, and psychometric properties assessment of the scale (DeVellis, 2012; Zhou, 2019). The literature on marital forgiveness was initially reviewed. Subsequently, a qualitative study was conducted with the aim of elucidating the phenomenon of marital forgiveness among Turkish married people. Thirteen married people were interviewed via online application. They were asked to describe their strategies for coping with instances of marital transgression, the impact of such transgressions on their relationship with their spouse, the factors that influenced their decision to forgive their spouse, and the challenges they encountered in the process of forgiveness. The interviews were recorded and subsequently

transcribed in their entirety. Thematic analysis was used to analyze the data via the MAXQDA 20 program. Thematic analysis yielded four main themes: avoidance, desire for revenge, conditional forgiveness and unconditional forgiveness. The findings from the thematic analysis, including the identified codes and relevant quotes, were used to generate items representing the four dimensions. Subsequently, these items were integrated with existing scales, including those proposed by Bugay (2014), Durmuş and Manap (2018), Enright et al. (1998), Fincham and Beach (2002), Fincham et al. (2004), Gordon and Baucom (2003), McCullough and Worthington (1999), and Paleari et al. (2009), to generate additional items. This resulted in the creation of an item pool comprising 55 items. The instrument was submitted to five experts in the field of couple and family relations for content-based validity. These experts were selected to represent the following areas of expertise: one in education, two in psychological counseling and guidance, and two in psychology scholarship. Two of the experts also possess expertise in scale development. By the recommendations of the relevant experts, 17 items were excluded from the scale because they were deemed redundant, as they were found to be synonymous with other items. The items and instructions on the scale were amended in accordance with the recommended corrections. The clarity and understanding of items were checked through a pilot study with a small group of 30 married individuals. Accordingly, 38 items with a 5-point Likert scale (1 = Never False of Me to 5 = Always True of Me) were utilized for explanatory factor analysis with the initial cohort. As a result of explanatory factor analysis, 23 items comprising four subscales were applied to the second group for the purposes of confirmatory factor analysis, validities, and reliability analysis. Marital Offense-Specific Forgiveness Scale (Erkan, 2015), the offense's severity, and the offense's significance were employed to assess the convergent validity of the instrument. The Short Version of the Rumination Scale (Erdur Baker & Bugay, 2012) was employed to assess criterion-based validity. For reliability analysis, the Cronbach alpha test was performed.

Measures

Offense Severity and the Significance of Offense. The participants were requested to recall an offense perpetrated by their spouses within the previous year and to rate the severity of the offense and its significance to them on a 5-point Likert Scale ranging from 1 (never) to 5 (very much).

Marital Forgiveness Scale. The developed scale comprised 38 items for exploratory factor analysis EFA and 23 items for confirmatory factor analysis CFA. The scale employed a 5-point Likert format, with anchoring responses ranging from "never" to "always." Participants were requested to recall a marital transgression that had occurred within the previous year and to indicate the extent to which each statement applied to them.

Marital Offense-Specific Forgiveness (MOFS). The instrument was initially developed by Paleari et al. (2009) and subsequently adapted to Turkish by Erkan (2015). The scale is designed to assess forgiveness within the context of a specific marital transgression. The scale comprises ten items, which can be grouped into two dimensions: avoidance-resentment and benevolence. The avoidance-resentment dimension has six items (e.g., "Since my wife/husband behaved that way, I get annoyed with her/him more easily"). The benevolence dimension has four items (e.g., "I forgave her/him completely, thoroughly"). It is a 7-point Likert scale, with responses ranging from "strongly disagree" to "agree strongly." A total score is not calculated. A higher score on the avoidance-resentment scale indicates higher motivation for avoidance-resentment, whereas a higher score on the benevolence dimension signifies a higher level of benevolent motivation. The Cronbach alpha coefficients for the avoidance-resentment and benevolence scales were .68 and .70, respectively.

The Short Version of the Rumination Scale. The rumination scale was initially developed by Treynor et al. (2003) and subsequently adapted to Turkish by Erdur-Baker and Bugay (2012). The scale comprises ten items, which are rated on a 4-point Likert scale. It has two dimensions: brooding (e.g., Think, "Why do I always react this way?") and reflection (e.g., "Analyze your personality to try to understand why you are depressed"). A total score can be obtained. Participants indicate the frequency with which they engage in the described behaviors on a scale ranging from almost never to almost always. Its Cronbach alpha coefficient was .90. The Cronbach alpha coefficient for the adapted scale was .72.

Demographic Information Form. A demographic information form was completed by each participant, which requested details regarding their age, gender, level of education, duration of the marriage, and whether they have any children.

Data Collection and Analysis

The present study employed a snowball sampling methodology to identify potential participants. The studies were conducted via an online platform, with participants sourced through social media platforms and through the researchers' own networks. Additionally, participants were requested to disseminate the study to married individuals within their social networks. The questionnaires were completed via Google Forms. The participants were informed that the study was investigating the attitudes of married people towards forgiveness in marriage. Upon acceptance of the informed consent, the participants proceeded to complete the demographic information and respond to the questionnaires. The first study required approximately five minutes, and the second required approximately ten minutes.

For both study groups, the data were subjected to a series of tests to ascertain their compliance with the assumptions of normality and the presence of outliers. The univariate normality of the items was evaluated through the calculation of Skewness and Kurtosis. The univariate outliers of items were identified through the calculation of the Z score of each item. The findings indicated that absolute skewness and kurtosis values for both study groups were below 2, and the standardized z-score of items was between ± 3.29 , indicating a normal data distribution (Kline, 2016). Mahalanobis distance was employed for the identification of multivariate outliers. The Mahalanobis value exceeding .001 was deemed to represent multivariate outliers (Tabanick & Fidell, 2013). Ten participants from the initial study group and 14 participants from the subsequent study group were excluded from the subsequent analysis.

The statistical software package SPSS 27 was employed for the purpose of conducting explanatory factor analysis, criterion-related validity, convergent validity, and reliability analysis. Additionally, correlation analysis was employed to assess convergent and criterion-based validity. A Cronbach's alpha test was conducted to assess the reliability of the data. Confirmatory factor analysis was conducted using AMOS 25.

Results

Explanatory Factor Analysis (EFA)

Principal axis factoring with the rotation of direct oblimin was carried out for EFA. The Kaiser-Meyer-Olkin measure verified the adequacy of sampling for the analysis, with a value of $KMO = .94$. The Barlett test of sphericity ($\chi^2(703) = 9100.06, p < .0001$), indicated that the correlations between items were sufficiently significant. In accordance with the recommendations set forth by Tabanick and Fidell (2013) and Worthington and Whittaker (2006), items with a factor loading of less than .40 or items with a cross-loading difference from their highest factor loading of less than .12 were deemed unsuitable for retention and were subsequently removed. Four factors were extracted. The initial factor accounted for 37.43% of the total variance. The second factor accounted for 14.49% of the variance, while the third factor accounted for 4.57% of the variance. The fourth factor accounted for 3.31 % of the total variance. All four factors collectively explained 61.79% of the variance. Although the explained variance of the third and fourth factors was lower, factor retention was unnecessary. If a factor has at least three items and at least two items with higher factor loadings, it can be retained (Tabanick & Fidell, 2013; Worthington & Whittaker, 2006)

Themes in the qualitative study and the context of items were used to name the factors. The factors were named avoidance, unconditional forgiveness, desire for revenge, and conditional forgiveness sequentially. Table 1 shows the results of EFA and Cronbach alpha values for each factor. The Cronbach alpha values were .93 for avoidance, .88 for unconditional forgiveness, .86 for desire for revenge and .87 for conditional forgiveness.

Table 1. The Results of EFA and Reliability Analysis

No	Items	Factor loading			
		1	2	3	4
5	I was cold to my spouse.	.91			
9	I physically distanced myself from my spouse.	.87			
8	I didn't want to talk to my spouse.	.83			
4	I emotionally distanced myself from my spouse.	.82			
30	I withdrew myself from my spouse.	.73			
6	I resent my spouse for what she/he did.	.72			
16	I avoided doing anything in common with my spouse.	.71			
12	It was hard for me to be warm to my spouse.	.69			
11	I lived as if my spouse did not exist, as if she/he was not around me.	.57			
27	I felt like my spouse was a stranger.	.45			
31	I left it all behind because she/he was my spouse.		.88		
33	I preferred to accept what happened and moved on.		.87		
38	I thought it was useless to prolong what she/he put me through.		.74		
35	I felt compassion for my spouse.		.59		
24	I chose to forgive my spouse because of her/his positive qualities.		.55		
13	I accepted the situation, thinking that my spouse had faults and flaws like every human being.		.54		
36	I wanted to make my wife pay for what she/he put me through.			.94	
28	I wanted to see my spouse suffer.			.85	
14	I wanted him/her to be unhappy if I was unhappy.			.65	
23	My spouse hurt me, so I wanted to hurt her/him.			.47	
37	I forgave my spouse for trying to make amends.				.87
2	I forgave my spouse for admitting her/his mistake.				.80
10	I forgave my spouse because I saw that she/he regretted what had happened.				.77
Explained variance		37.43	16.49	4.57	3.30
Eigenvalues		8.99	4.16	1.39	1.11
Cronbach Alpha		.93	.88	.86	.87

Confirmatory Factor Analysis (CFA)

A confirmatory Factor Analysis was carried out to evaluate the construct validity of the scale, which consisted of 23 items derived from the results of the Exploratory Factor Analysis. (EFA). The fit indexes, including χ^2 statistic, the chi-square-to-degrees-of-freedom ratio (χ^2/df), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root-mean-square error of approximation (RMSEA), were employed to assess the suitability of the model (Hu & Bentler, 1999; Tabachnick & Fidell, 2013) The acceptable fit criteria are as follows: the CFI and TLI values must be equal to or greater than .90, the value of χ^2/df must be equal to equal to or lesser than 5, and the values of SRMR and RMSEA must be equal to or less than .08 (Hu & Bentler, 1999; Kline, 2016).

Table 2. The Goodness of Fit Indexes for CFA Models

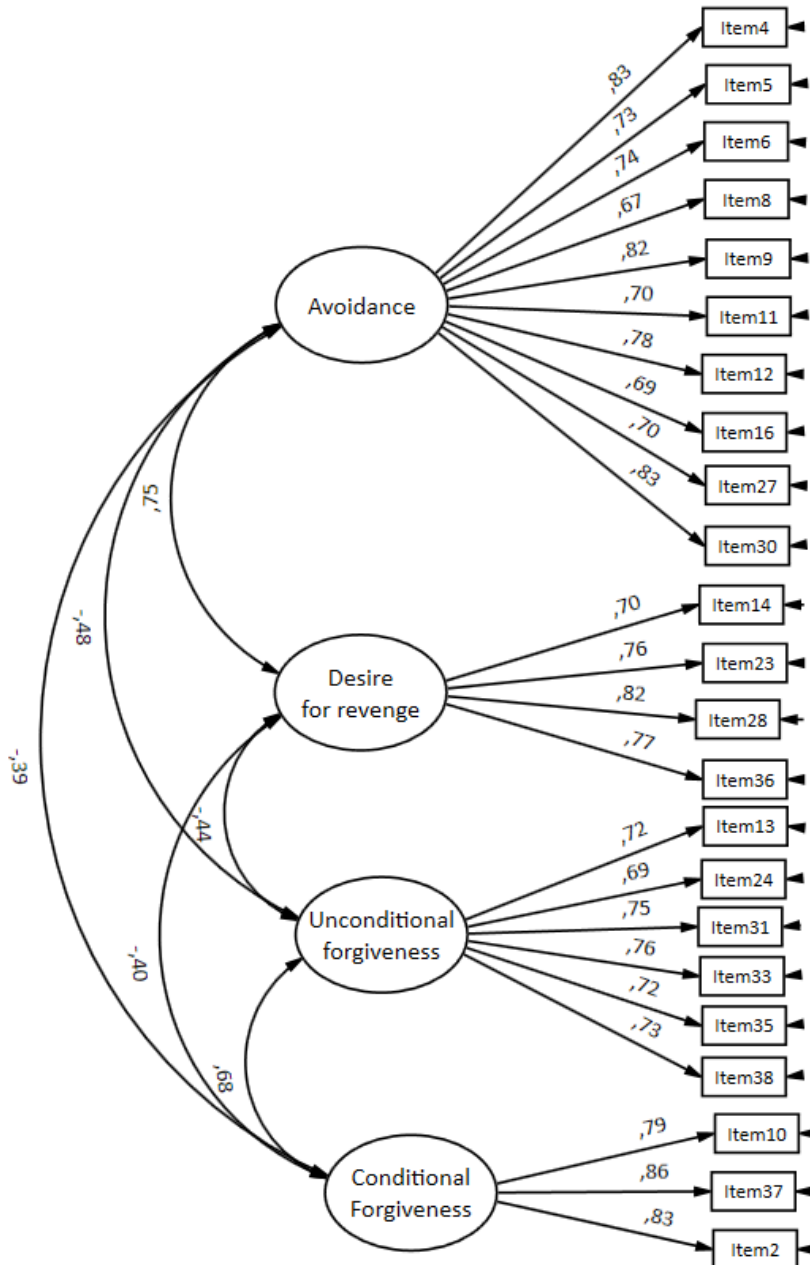
Models	χ^2	χ^2/df	CFI	TLI	SRMR	RMSEA
One Factor CFA Model	1976.16*	8.59	.69	.66	.11	.13
Four Factors CFA Model	655.97*	2.95	.93	.92	.05	.07
Second-order CFA Model	793.75*	3.53	.91	.90	.08	.08

* $p < .001$

As illustrated in Table 2, the results also demonstrated the outcomes of the CFA models. Three CFA analyses were carried out. The results of the one-factor model revealed poor fit, as evidenced by the following indices:

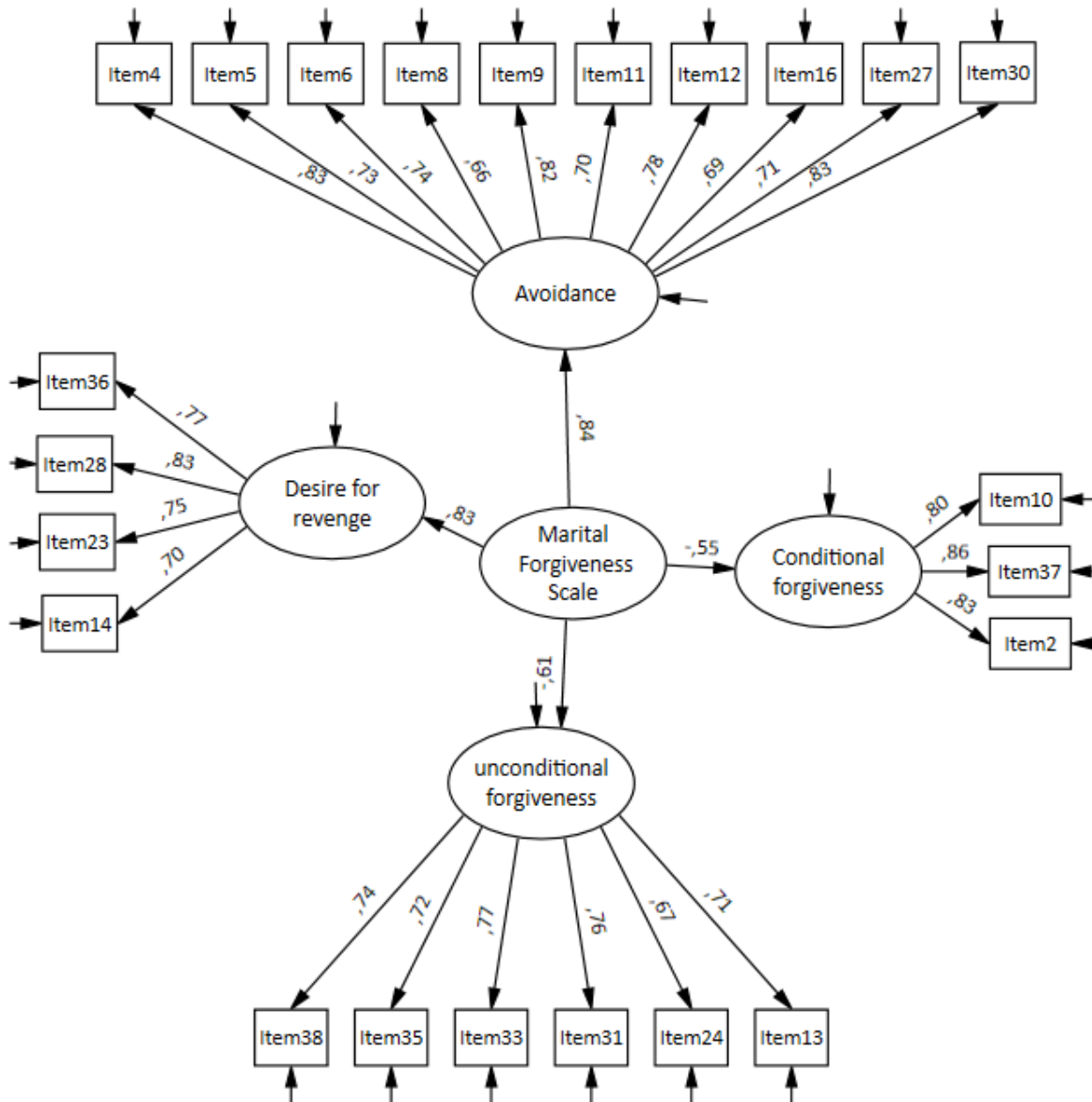
$\chi^2=1976.16$, $\chi^2/df = 8.59$, $p <.001$, CFI=.69, TLI=.66, SRMR=.11, RMSEA =.13. However, the four-factor and second-order models demonstrated an adequate fit to the data. The four-factor model yielded the following results: $\chi^2=763.34$, $\chi^2/df = 3.41$, $p <.001$, CFI=.91, TLI=.90, SRMR=.06, RMSEA =.07. In accordance with the recommendations set forth in the modification indices, the following correlations were incorporated: those between the error terms of item 5 and item 8, as well as the error terms of items 28 and 36.. The modified four-factor CFA yielded a satisfactory fit to the data, as indicated by the following fit indices: $\chi^2=655.97$, $\chi^2/df = 2.95$, $p <.001$, CFI=.93, TLI=. 92, SRMR=. 05, RMSEA =.07 (see Figure 1).

Figure 1. The Four Factors CFA Model



The results of the second-order CFA demonstrated an acceptable fit for the data with $\chi^2=793.75$, $\chi^2/df = 3,53$, $p <.001$, CFI=.91, TLI=.90, SRMR=.08, RMSEA =.08. As illustrated in Figure 2, the total score can be calculated by summing all the sub-dimension scores after reversing the coding of the items pertaining to the avoidance and desire for revenge dimensions.

Figure 2. The Second-order CFA Model



Discriminant Validity

The discriminant validity of the scale was examined through the values of maximum shared variance (MSV) and the square root of the average variance extracted (AVE) based on the results of CFA. The square root of AVE must be greater than correlations across factors. Additionally, the AVE value of a factor must be greater than the MSV value of that factor (Fornell & Larcker, 1981). The results are presented in Table 3. The results indicated that the AVE values were greater than the MSV for each factor, and the square root of AVE for each

factor was greater than all correlations between factors. In light of these findings, it can be concluded that the scale exhibits discriminant validity.

Table 3. CR, AVE, The Square Root Of AVE (In Bold), And Correlations Across Factors

	CR	AVE	MSV	1	2	3	4
1. Avoidance	.93	.56	.56	.75			
2. Desire for revenge	.85	.58	.56	.74*	.76		
3. Conditional forgiveness	.87	.69	.46	-.39*	-.40*	.71	
4. Unconditional forgiveness	.87	.53	.46	-.48	-.44	.68	.73

* $p < .001$

Convergent Validity

The severity, significance, and modus operandi (MOF) of the offense were employed to assess the convergent validity of the developed scale. Consequently, a Pearson Momentum Correlation Coefficient analysis was conducted. The results showed that the MOFS subscales, the offense's severity, and the offense's significance exhibited a statistically significant correlation with avoidance, desire for revenge, conditional forgiveness, and unconditional forgiveness at the .001 level of significance. Additionally, AVE and composite reliability (CR) were calculated to examine the convergent validity of the results obtained from the CFA. The criterion for convergent validity is that the AVE values for each factor exceed .50, and the CR values for each factor must be greater than .70 (Fornell & Larcker, 1981). The results demonstrated that the AVE and CR values provided evidence of convergent validity.

Table 4. The Descriptive Statistics and Correlations across Variables

Variable	M	SD	1	2	3	4	5	6	7	8
1. Offense severity	4.13	1.01	-							
2. Offense significance	4.22	0.95	.71*							
3. Rumination	22.45	4.94	.34*	.30*						
4. Avoidant-Resentment	19.94	7.45	.46*	.40*	.43*					
5. Benevolence	14.43	4.48	-.25*	-.22**	-.16*	-.42*				
6. Avoidance	30.03	10.14	.54*	.50*	.37*	.72*	-.46*			
7. Desire for revenge	10.74	4.97	.34*	.31*	.34*	.63*	-.42*	.66*		
8. Unconditional forgiveness	19.78	5.62	-.24*	-.23*	-.14*	-.44*	.72	-.44*	-.36*	
9. Conditional forgiveness	10.45	3.30	-.17*	.56*	-.25*	-.35*	.47*	-.35*	-.31*	.59*

* $p < .001$

Criterion-Related Validity

The rumination scale was employed to assess the criterion-related validity of the developed marital forgiveness scale. The results of the Correlational analyses are shown in Table 4. The results revealed that rumination was significantly correlated with avoidance ($r=.37, p<.001$), desire for revenge ($r=.34, p<.001$), unconditional forgiveness ($r=-.14, p<.001$) and conditional forgiveness ($r=-.25, p<.001$). These findings indicate that individuals exhibiting heightened avoidance, desire for revenge, and lower levels of both conditional and unconditional forgiveness tend to engage in more frequent rumination.

Reliability

The internal consistency for the reliability of the scale was examined with Cronbach's alpha coefficient. As Kline (2016) notes, a Cronbach alpha value of .70 or above is indicative of a highly reliable scale. The results indicated that the Cronbach's alpha coefficient values were .93 for the avoidance dimension, .84 for the desire for revenge, .87 for unconditional forgiveness and .87 for the conditional forgiveness dimension. The Item-total correlation values ranged from .67 to .79 for the avoidance dimension, from .64 to .74 for the desire for revenge dimension, from .62 to .72 for the unconditional forgiveness dimension, and from .76 to .78 for the

conditional forgiveness dimension. The alpha coefficient for the entire scale was .93. The item-total correlation results are presented in Table 5.

Table 5. The Results of Item-Total Correlation and Alpha

Dimension	Items	M	SD	Item-Total Correlation
Avoidance	Item 4	3.31	1.27	.77
	Item 5	3,59	1.12	.60
	Item 6	3.18	1.33	.67
	Item 8	3.36	1.30	.64
	Item 9	3.14	1.33	.79
	Item 11	2.41	1.32	.67
	Item 12	2.98	1.32	.77
	Item 16	2.59	1.29	.67
	Item 27	2.59	1.42	.71
	Item 30	2.86	1.36	.78
Unconditional forgiveness	Item 13	3.24	1.13	.65
	Item 24	3.42	1.15	.62
	Item 31	3.24	1.21	.72
	Item 33	3.66	1.05	.70
	Item 35	3.30	1.24	.66
	Item 38	3.44	1.20	.68
Conditional forgiveness	Item 2	3.44	1.23	.78
	Item 10	3.48	1.25	.76
	Item 37	3.54	1.22	.76
Desire for revenge	Item 14	2.52	1.35	.64
	Item 23	2.70	1.39	.66
	Item 28	1.98	1.28	.74
	Item 36	1.96	1.27	.69

Discussion

The present study aimed to develop the Marital Forgiveness Scale in accordance with the Social and Psychological Model of Forgiveness (McCullough et al., 1998) within the context of Turkish culture. Consistent with this model, the developed scale comprises four factors, each representing a distinct motivation: avoidance, desire for revenge, unconditional forgiveness, and conditional forgiveness. In contrast to other scales, such as the MOFS (Erkan, 2015) and the Marital Dispositional Scale (Bugay, 2014), this scale includes two positive dimensions of forgiveness: unconditional and conditional forgiveness. The items pertaining to unconditional forgiveness exhibited similarities with those found in existing scales (Bugay, 2014; Erkan, 2015). However, the items pertaining to conditional forgiveness were new in comparison to those included in existing marital forgiveness scales. Additionally, the conditional forgiveness dimension comprised items about the efforts of their spouse about offenses, such as showing remorse and repairing attempts, which supported forgiveness in a collectivist culture (Bugay & Mullet, 2013; Osei Tutu et al., 2018; Sandilya & Shahnawaz, 2014).

According to the Social and Psychological Model of Forgiveness (McCullough et al., 1998), offenses lead people to avoid offenders, feel anger and hatred, and desire revenge on offenders. These emotional situations are negatively correlated with forgiveness. It is asserted that the motivation of avoidance and desire for revenge decreases when the tendency for forgiveness increases. However, it does not mean forgiveness occurs only when avoidance and desire for revenge ends. Forgiveness, avoidance, and desire for revenge coexist. It means that people tend to have lower avoidance and lower desire for revenge when they forgive the offended spouses (McCullough et al., 1998). Findings from studies supported the Social and Psychological Model of Forgiveness. It was found that lower avoidance and desire for revenge were correlated with higher conditional and unconditional forgiveness. The study demonstrated the impact of forgiveness on motivational changes.

The construct validity of the scale was investigated through EFA and CFA. The results of the exploratory factor analysis (EFA) indicated that the scale had four underlying dimensions: avoidance, desire for revenge, unconditional and conditional forgiveness. The results of the CFA were in alignment with those of the EFA. Subsequently, an investigation was conducted into the psychometric properties of the scale, including its convergent, criterion-based, and discriminant validities. Based on the findings of the CFA, the AVE, CR, and MSV were calculated. The results demonstrated the scale's convergent and discriminant validity.

MOFS, offense severity, and significance of offense were used to assess the convergent validity of the developed scale. The results demonstrated that the avoidance, desire for revenge, unconditional forgiveness, and conditional forgiveness subscales exhibited a significant correlation with the dimensions of the MOFS, offense severity, and significance of offenses. It has been well-documented that forgiveness was negatively correlated with offense severity (Palerio et al., 2009; Taysi, 2010) and the significance of the offense to the offended party (Goztepe & Kislak, 2019). The present study revealed a negative correlation between offense severity and the significance of the offense to offended party and both conditional and unconditional forgiveness. Conversely, a positive correlation was observed between these variables and avoidance and the desire for revenge. The findings in the present study were consistent with those of previous studies, thereby supporting the convergent validity of the scale.

The Rumination Scale was employed to assess the criterion-related validity of the scale. The results demonstrated that rumination exhibited a moderate correlation with avoidance and desire for revenge while exhibiting a low correlation with conditional and unconditional forgiveness. These results supported those previously reported by Palerio and her colleagues (2009). The correlation between rumination and the dimension of avoidant-resentment was found to be more robust than its correlation with benevolence. In light of these findings, it can be concluded that the criterion-related validity of the developed scale is supported. In literature, a number of studies have demonstrated a significant relationship between forgiveness and rumination (Karreman & Smith, 2010; McCullough et al., 2007; Palerio et al., 2009).

Finally, the results of the reliability analysis revealed that the Cronbach alpha coefficients for EFA and CFA were higher than .70 for each dimension. It can therefore be concluded that the scale measuring marital forgiveness is sufficiently reliable.

Conclusion

The Marital Forgiveness Scale has contributed to the body of literature by testing and supporting the construct validity with both EFA and CFA in two separate data sets. It was significantly correlated with MOFS and rumination. Based on the analysis results, the scale has significant validity and reliability values in the Turkish sample due to the satisfactory level of the EFA and CFA results of the Marital Forgiveness Scale.

Finally, it was well-documented that forgiveness is essential for close relationships. Additionally, studies emphasized the role of forgiveness in couple therapy. Therefore, the developed scale will be helpful for couples and family therapists in Turkey to find out the motivations of married individuals after any offenses caused by their spouses.

Limitations and Suggestions

The present study had three limitations. One of them was related to the participants. The use of snowball sampling methods to identify participants may introduce bias into the results, as participants may share similar backgrounds. A second limitation was about the issue of gender. The number of male participants was relatively low compared to the number of female participants. A third one was about the educational levels of the participants. The majority of participants in both studies had attained at least a high school diploma. In light of these three limitations, future studies may be conducted to assess the validity and reliability of the scale by utilizing diverse sample groups, including those with lower education attainment, residing in different cities, and comprising an almost equal number of female and male participants.

The findings supported the validity and reliability of the scale. Nevertheless, in order to check the psychometric properties of the scale, it would be beneficial to investigate the relationship between the developed scale and other relational determinants, such as marital adjustment, commitment, and satisfaction (McCullough, 2000).

Author Contributions: This study was produced from doctoral thesis titled “The relations of marital forgiveness with emotional intelligence, conflict resolution styles and alexithymia: Actor-partner interdependence mediation model” prepared by the first author under the supervision of the second author.

Funding Disclosure: The authors received no financial support for the study and authorships

Conflicts of Interest: No potential conflict of interest was reported by authors.

Data Availability: The data used in the research are not available due to ethical issues.

Ethics Approval and Consent to Participate: Social and Human Sciences Ethics Committee of the Ankara Yıldırım Beyazıt University approved the study (16/02/2021-2021/51). Informed consent was obtained from all participants in the study.

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