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Cross-cultural adaptation and factor structure investigation of the Marital Forgiveness Scale

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Abstract: Forgiveness is essential in marriage as it can bring a sense of satisfaction to married life. This study aims to adapt and examine the factor structure of the Marital Forgiveness Scale (MFS), a forgiveness instrument in the context of marriage. After the process of adaptation to the Indonesian language and culture, validity and reliability tests were conducted, and a MIMIC model was developed. In an online and offline survey, 330 millennials (128 husbands, 202 wives, M-marriage age = 25.33, SD-marriage age = 3.12) completed the Indonesian version of the MFS. The validity test was conducted using confirmatory factor analysis, with the results showing that the values obtained were satisfactory (CFI & TLI ≥ .95; RMSEA = .06; SRMR < .08). The multidimensionality measurement of the Indonesian version of the MFS consists of two dimensions, a positive and a negative. The omega coefficient for the Indonesian version of the MFS is .694 (positive dimension) and .787 (negative dimension), indicating satisfactory reliability in the millennial sample. The results of the MIMIC model show that items 2 and 3 in the negative dimension have gender variance in the MFS. The scale is a suitable measure for evaluating individuals' dispositional forgiveness in Indonesian millennial marital couples. It is hoped that the instrument will contribute to the advancement of the study of forgiveness in the marital context in Indonesia.

Keywords: forgiveness; Marital Forgiveness Scale; MIMIC model; reliability; validity

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Introduction

Reviews have found that there is a correlation between forgiveness and mental health and well-being (Toussaint et al., 2016; Webb & Toussaint, 2020) as well as physical health (Harris & Thoresen, 2005; Lee & Enright, 2019; Rasmussen et al., 2019; Worthington et al., 2005). Forgiveness also has a significant impact on relationship outcomes (Worthington & Wade, 1999). This can be seen in the context of marriage, where forgiveness is closely related to the outcome of marriage in the form of marital satisfaction (David & Stafford, 2015; Eyring et al., 2021; Fincham & Beach, 2002; Kachadourian et al., 2004; Paleari et al., 2005; Rose et al., 2018). Forgiveness is useful not only for overcoming major marital conflicts, such as infidelity (Gordon et al., 2005), but also for feelings of being wronged or injured that arise from daily interactions with partners (Fincham et al., 2004). This means that forgiveness in a marital context is important, as it can lead to marital happiness and longevity since it can resolve conflicts.

Unfortunately, little research on marital forgiveness has been conducted (Fincham et al., 2006). One of the reasons is related to the availability of marital forgiveness instruments (Fincham & Beach, 2002). Among those available is the Marital Offence-Specific Forgiveness Scale (MOFS) developed by Paleari, Regalia and Fincham in 2009. Conceptually, offence-specific forgiveness is interpreted as a reduction in the motivation to take revenge or to avoid the offender or an increase in the motivation to be benevolent to the offender. It is the tendency to forgive the partner in response to specific hurtful behavior. The results of the validity test show that the instrument consists of two dimensions, a positive (benevolence) and a negative (resentment-avoidance), with both dimensions having satisfactory internal consistency (Paleari et al., 2009).

Previously, in 2002, Fincham and Beach developed the Marital Forgiveness Scale (MFS) instrument (Fincham & Beach, 2002). The similarity between the MOFS and MFS instruments is that they are multidimensional, each consisting of the two positive and negative dimensions. Fincham (2000) emphasized the importance of both dimensions in measuring forgiveness. First, forgiveness cannot be understood comprehensively only by studying unforgiveness alone. Second, the positive and negative dimensions of forgiveness have different determinants, correlations and consequences. For example, research by Fincham and Beach (2002) found a relationship between the negative dimension and psychological aggression of both the husband and wife, whereas the positive dimension correlated only with the constructive communication of the husband.

Fincham et al (2006) added that uni-dimensional forgiveness can be applied to non-continuing relationships; however, multi-dimensional forgiveness, both positive (benevolence) and negative (unforgiveness), is more appropriately applied to continuing relationships. The difference between the MOFS and MFS instruments is that in the MFS forgiveness is shown for any wrong/injury that occurs in various interpersonal relationships and situations (Paleari et al., 2009). In other words, the MFS is aimed at measuring the general tendency to forgive a partner.

The availability of forgiveness instruments adapted to languages and cultures other than the original language remains limited within the context of marriage. Adaptations of the MOFS have been made into Spanish (Kasprzak & Martínez-Díaz, 2025); German (Haversath et al., 2017); Turkish (Erkan, 2015); and Indonesian (Abdat, 2016; Khoirunnisa, 2013). In contrast, the MFS has only been adapted and validated for the Turkish language and culture (Bugay, 2014). The

significant interest among researchers in conducting empirical studies on forgiveness within marriage has resulted in a diversity of forgiveness measurement tools, which is particularly evident in Indonesia.

In Indonesia, studies of marital forgiveness employing various instruments. A search on the Garuda portal (garuda.kemdikbud.go.id) found five instruments reported by researchers in their articles. Three studies used the MOFS (Aiyuda, 2017; Atmasari, 2016; Ginartha & Setiawan, 2022) and two studies used the 12-item Transgression-Related Interpersonal Motivation Inventory (TRIM-12) (Damariyanti, 2020; Hadriami & Samuel, 2016). Meanwhile, five studies used the 18-item Transgression-Related Interpersonal Motivation Inventory (TRIM-18) (Junita et al., 2023; Khairani & Sari, 2019; Komariyah et al., 2020; Nurhayati, 2017; Steven & Sukmaningrum, 2018), while one study used the Rye Forgiveness Scale (Nancy et al., 2014). However, only one study used the MFS (Herawati & Farradinna, 2017). These findings show that compared to the MOFS and TRIM-18 instruments, that have been adapted and validated for the Indonesian population (Abdat, 2016; Agung, 2015), use of the MFS, which has yet to be adapted and validated for the Indonesian population, remains limited.

The MFS includes six items, with three containing statements of benevolence and three ones of unforgiveness. In their development of the MFS instrument, Fincham and Beach (2002) tested whether the items reflected one or two dimensions. They found that when they conducted one-dimensional measurements for the six MFS items, they obtained a model with a poor fit, but with statistically significant factor loadings. These results strongly motivated the researchers to conduct multidimensional testing. The two-factor model they obtained had a high model fit, also with significant factor loadings. After comparing the two models, they found that the two-factor solution had a better model fit than the one-factor version, with the former including both positive and negative dimensions.

In addition, the Life Orientation Test-revised (LOT-R), a tool for measuring optimism, was created by Scheier, Carver and Bridges in 1994. To minimize response bias in psychometric measurements, LOT-R employs a common method of balancing positive and negative statement items. However, this technique often leads to researchers obtaining bivariate structures instead of the intended bi-dimensional ones in accordance with the instrument developers' design (Cano-García et al., 2015). Alessandri et al. (2010, as cited in Cano-García et al. 2015) successfully demonstrated that method effects such as acquiescence can account for the bi-factorial structure of the LOT-R.

A systematic literature review carried out by Fernández-Capo et al. (2017) found a wide range of forgiveness measurements. This variation arises from the absence of a consensus on the definition of forgiveness (Fernández-Capo et al., 2017) and the lack of a cohesive framework that integrates all perspectives (Fehr et al., 2010). Fincham and Beach (2002) criticize the tendency of many experts to measure forgiveness from the unidimensional construct of unforgiveness. In response to this criticism, the two researchers developed a forgiveness scale in the context of marriage, known as the Marital Forgiveness Scale (MFS)(Fincham & Beach, 2002), which consists of two factors, namely positive dimensions and negative dimensions. Bugay (2014), who adapted the MFS for married couples in Turkey, replicated the methodology employed by Fincham and Beach (2002) by performing confirmatory factor analysis on both a one-factor model and a two-factor model. The findings from Bugay (2014) align with those reported by Fincham and Beach (2002), indicating that the two-factor structure demonstrated a fit model. Nevertheless, some studies use the MFS by aggregating the six MFS items into a single score.

In this study, seven models were designed to address the issue of the factorial structure of the MFS. This study replicates the methodology employed by Cano-García et al. (2015) to examine the dimensionality of the scale. Furthermore, differential item functioning (DIF) analysis was incorporated using the MIMIC model (Chang et al., 2016; Tsaousis et al., 2023). By employing this method, it is expected that this study will not only address the gap in the literature concerning the adaptation and validation of the MFS in the Indonesian language and culture, but will also make a significant contribution to the advancement of knowledge in the areas of psychometrics, marriage and family psychology, and positive psychology. Based on the background overview, this study aims to adapt and examine the factor structure of the Marital Forgiveness Scale (MFS) for millennial husbands or wives.

Methods

Participants

The study involved millennial husband or wife participants who were born between 1982 and 1999. Experts have set various limits on the beginning and end of the millennial generation period (Karashchuk et al., 2020; Parry & Urwin, 2011). In this study, the opinion of Twenge et al. (2010), who stated that the millennial generation comprises those born between 1982 and 1999, was adopted. Based on Erikson's stages of psychosocial development, presently the millennial generation is at its sixth stage (intimacy vs. isolation) (Ellison, 2011). Erikson (1968) explained that intimacy is the one's capacity to commit genuinely to building affiliations and collaborating, as well as developing ethics to affirm such commitment, even though this requires considerable sacrifice and compromise.

Based on the study data obtained, the demographic characteristics of the study participants are as follows. The number involved was 330, consisting of 128 husbands (38.79%) and 202 wives (61.21%). A total of 155 participants had graduated with a bachelor's degree (46.97%); 93 had completed senior high school (28.18%); while the remainder had various educational attainments. Their age at marriage was mainly 25 (53 participants or 16.06%) or 26 (48 participants or 14.55%), while the remainder had various ages at marriage, ranging from 18 (two participants) to 35 (two participants). In terms of number of children, 129 participants (39.10%) had two children, and 124 (37.58%) had one child. The majority of the participants (247; 74.85%) were Javanese.

Procedures

The data collection was conducted online through Google Forms and offline in schools at kindergarten and elementary levels. The researcher visited the schools to ask permission for the data collection. Once the schools granted this, the researcher explained the purpose of the study and told the principal and teachers how the questionnaire should be completed. Next, the teachers distributed the questionnaire to the parents. In terms of online data collection, researchers disseminated research announcements through registration links. Those interested in participating completed a registration questionnaire, after which the researcher sent a questionnaire link via WhatsApp or email based on the details provided in the Google form. Telephone and email contacts were provided to give the opportunity for potential participants to ask questions about the research on the Google Form and questionnaire. The research explanation was conveyed through a questionnaire booklet distributed to children's parents, as well as on the Google online participant registration form. Those taking part in the study gave informed consent to show their willingness to participate in the research.

Measures

The measure to be adapted and validated was the Marital Forgiveness Scale (MFS). Fincham and Beach (2002), the developers of the MFS instrument, had different opinions from most experts at the time. Many researchers (McCullough et al., 1998) measured forgiveness on the basis of unforgiveness, which is the motivation to seek revenge and/or to avoid the offender. Fincham and Beach (2002) believed that unforgiveness only reflected one of the dimensions of forgiveness. Forgiveness per se is a positive attribute, as it becomes a motivational foundation to make a behavioral approach to the offender. This means forgiveness cannot be understood simply by studying the motivation to avoid the offender, or the motivation to take revenge on them. Therefore, Fincham and Beach (2002) emphasized the importance of incorporating the positive dimension of forgiveness into the construct because a reduction in the negative motivation towards the partner becomes a critical point for understanding forgiveness in marital relationships. Therefore, forgiveness is seen as bidimensional, with a positive dimension (forgiving) and a negative one (avoiding the partner or taking revenge).

The forgiveness dimensions are evaluated in light of situations in which the participant's partner had violated or hurt them. The participants were asked to determine the level of agreement or disagreement with six statements, measured on a 6-point Likert scale with scores ranging from 1 = Strongly Disagree to 6 = Strongly Agree. A higher score indicates a higher level of agreement with the statement (Fincham & Beach, 2002).

Fincham and Beach (2002) explained that a two-factor model solution provided a better fit to the data than a single-factor one. The resulting two forgiveness indices yielded alpha coefficients that were acceptable for research instruments (positive dimension, wives = .79, husband = .78; negative dimension, wives = .81, husband = .78). The responses for both the positive and negative dimensions were aggregated across the stimulus items, resulting in a singular measure for each dimension. Higher scores signified an increased level of forgiveness and a heightened tendency for retaliation, respectively.

Adaptation Process

The review conducted by Cruchinho et al. (2024) concluded by emphasizing the importance of cross-cultural adaptation and validation of instruments to be used in research, as these will increase the reliability and validity of the instrument, as well as facilitating cross-cultural comparisons. Cross-cultural adaptation is not limited to translating instruments, but also includes adaptation and validation according to the cultural context in which the instrument will be used. Furthermore, Cruchinho et al.'s (2024) review found that the adaptation and validation process required methodological guidelines proposed by experienced researchers. However, the review conducted by Cruchinho et al., as well as the study of Epstein et al. (2015), found that the methodological guidelines put forward by experts were diverse, and there was no evidence of any guidelines being superior.

This can be seen, for example, in the review conducted by Guillemin et al. (1993), which reached conclusions about the importance of adapting measuring instruments and recommended adaptation guidelines, but only based on the Health-related Quality of Life instruments reviewed. Gudmundsson (2009) also proposed adaptation guidelines, but these were intended for clinical use or other applied use in a particular country, not for comparison between cultures or countries. In 2017, the International Test Commission issued the second edition of methodological guidelines for researchers undertaking the instrument adaptation process

(International Test Commission, 2018). A review conducted by Hernández et al. (2020) found that these covered a broad scope; in some cases this is important, but can lead to ambiguity and makes the guidelines difficult to implement.

In this study, the guidelines proposed by Beaton et al. (2000) were followed. The advantage of these is that they are based on reviews of cross-cultural adaptation articles in the fields of medicine, sociology and psychology. In addition, Beaton et al. (2007) provided a concrete step-by-step explanation of the guide they developed in 2000, making it easier for researchers to conduct the adaptation process.

The first stage was forward translation, an initial translation performed by two translators. As stated by Beaton et al. (2000), the first translator understands the concept being translated, while the second does not, or is not informed about it. In this study, the first translator was a psychology lecturer with more than 10 years' experience of teaching social psychology and had lived in the United States for 10 years. The second translator was a professional translator with more than 15 years' experience of teaching English and translating. The two translators translated the instructions, response options, and instrument items (T1 and T2).

The second stage involved synthesis of the translation conducted by the two translators in collaboration with the researcher in order to evaluate the similarity of the instructions, items and response options translated by Translator 1 and Translator 2. The result of this process was a written document detailing the synthesis process, the arising disagreements, and how these were resolved (T12). One of the important notes taken at this stage concerned the agreement of the two translators to translate the word "partner" as "husband/wife" after considering the Indonesian culture and marriage context of the study.

The third stage was back translation. At this stage, two other translators retranslated the documents produced in the second stage into English. Beaton et al. (2000) state that the two translators should not be familiar with or be informed about the concept being measured, and that they should not have a scientific background in the concept being translated. At this stage, both were professional translators from the United States and Australia who had been living in Indonesia for more than 10 years and working as English teachers and professional translators. Their task was to translate the instructions, response options, and items (T12) into the source language of the instrument (BT1 and BT2).

The fourth stage involved an expert committee, consisting of the four translators; a doctor of psychology with expertise in psychometrics; a lecturer in family psychology with more than 20 years' teaching experience; a teacher of the Indonesian language with more than 10 years' experience; and the researcher. The committee evaluated T1, T2, T12, BT1 and BT2. Their task was to produce the prefinal version to be tested on participants who had the same characteristics as those in the study. The overall process in the fourth fifth stage was documented by a minute taker who was a psychology graduate. The proposal from the second stage to translate the word "partner" as "husband/wife" was agreed upon by all the experts in consideration of the Indonesian culture and marriage context.

The fifth stage was to test the prefinal version. Beaton et al. (2000) explain that the trial should involve 30 to 40 participants tasked to complete the instrument and then be interviewed about the instructions, response options, and each item. In practice, the number of participants involved in the trial was 30, consisting of 12 husbands and 18 wives. Table 1 compares the original and Indonesian versions of the MFS instrument.

Ethical Approval

The researcher was granted permission from the instrument developer, Professor F. D. Fincham, via email on October 11, 2022, to adapt the MFS instrument. Before the data collection, an ethical clearance application was submitted to the Research Ethics Committee of the Faculty of Psychology of Gadjah Mada University, which received ethical approval on January 24, 2023 (No. 750/UN1/FPSi.1.3/SD/PT.01.04/2023).

Data Analysis

The first analysis was of dimensionality, performed using confirmatory factor analysis (CFA). A CFA analysis is conducted to provide evidence of validity based on internal structure. This indicates that the analysis can be used as evidence that the interpretation of the scores produced by the measurement being analyzed has structural evidence that is identical to the underlying theoretical structure (Rios & Wells, 2014). In other words, a CFA analysis is equivalent to the process of construct validation (Lewis, 2017; Umar & Nisa, 2020). Five indexes were used in the analysis: values of the comparative fit index (CFI) and Tucker-Lewis index (TLI) of ≥ .95 (Hu & Bentler, 1999) or ≥ .90 (Hair Jr et al., 2009); value of the root mean square error of approximation (RMSEA) of < .06 (Hu & Bentler, 1999); standardized root mean squared residual (SRMR) of < .08 (Hu & Bentler, 1999); small and insignificant chi-squared values (Hair Jr et al., 2009); and the smaller Bayesian information criteria (BIC), which indicate that a model is more fit than the others (McDonald, 2013).

Table 1

Marital Forgiveness Scale in the Original and Bahasa Indonesia Versions

Dimension/No.	Original version	Bahasa Indonesia version
Positive/1	When my partner wrongs me, I just accept their humanness, flaws, and failures.	*Ketika suami/istri melakukan kesalahan terhadap saya, saya menerima sisi manusiawi, kekurangan, dan kegagalannya.*
Positive/2	I try to live by the motto "let bygones be bygones" in my marriage.	*Saya mencoba hidup dengan moto "yang lalu biarlah berlalu" dalam pernikahan saya.*
Positive/3	I am quick to forgive my partner.	*Saya cepat memaafkan suami/istri saya.*
Negative/1	When my partner hurts me, I want to see them hurt and miserable.	*Ketika suami/istri menyakiti saya, saya ingin melihat dia terluka dan menderita.*
Negative/2	I think about how to even the score when my partner wrongs me.	*Saya memikirkan cara membalas dengan setimpal ketika suami/istri melakukan kesalahan terhadap saya.*
Negative/3	If my partner treats me unjustly, I think of ways to make them regret what they did.	*Jika suami/istri memperlakukan saya dengan tidak adil, saya memikirkan cara untuk membuat dia menyesali perbuatannya.*

The second analysis was a method effect investigation conducted following guidelines from Alessandri et al. (2010) and Cano-García et al. (2015). The analysis was conducted to investigate seven models: a) the single-factor model; b) the two-uncorrelated factor model; c) the two-correlated factor model; d) the second-order model; e) the bi-factor model with method effect on negative wording items and single-factor model for the main construct; f) bi-factor model with method effect on positive wording items and single-factor model for the main construct; and g) the bi-factor model with method effect for both positive and negative wording items.

The third analysis comprised a reliability test using omega reliability (Hayes & Coutts, 2020), while the fourth was differential item functioning (DIF) to ensure the absence of bias across genders using the Multiple Indicators Multiple Causes (MIMIC) model (Tsaousis et al., 2023). MIMIC is an alternative method to evaluate measurement invariance (Willse & Goodman, 2008) initially developed by Joreskog and Goldberger in 1975. It is used to explain observed variables that are indicators of an unobserved latent variable which is influenced by exogenous variables that cause and affect the latent factors. In the MIMIC model, dichotomous group comparisons can be made using causal indicators as exogenous variables (Teo, 2010). In this study, the exogenous variable assumed to influence the latent factor (marital forgiveness) was gender. Multigroup CFA was not employed since the participant count in each group fell short of 250 (D'Urso et al., 2021). The software used to analyze the data was R using Lavaan (Rosseel, 2012) and semTools (Jorgensen et al., 2022).

Results

Descriptive Analysis

Before confirmatory factor analysis (CFA) was performed, the researcher ensured that the data could be treated as continuous (interval data). A descriptive analysis was conducted using the skewness method to determine whether or not the data were normally distributed. Mishra et al. (2019) state that values ranging from -1 to +1 indicate that the data distribution is not too deviant from the normal curve; therefore, the curve is assumed to be equivalent to a normal one. Kim (2013) also argued that values between -2 to +2 can still be categorized as a distribution resembling a normal curve. The findings in Table 2 show that the skewness value obtained ranged between -1.519 and +1.421. This shows that the data obtained in the study can be categorized as data that are distributed like a normal curve. Based on these findings, CFA was performed using maximum likelihood estimation (MLE).

Dimensionality

The measurement of marital forgiveness consists of two dimensions: positive (forgiveness, benevolence) and negative (unforgiveness, avoidance, revenge, retaliation), with each consisting of three items. The model used in the analysis was the two-correlated factor model.

Table 2

Descriptive Statistics

Item		M	SD	Skewness	Pearson Correlation				
					1	2	3	4	5
1	FNE_01	2.021	1.168	1.421	-				
2	FNE_02	1.942	1.077	1.406	.723	-			
3	FNE_03	3.045	1.558	0.147	.430	.538	-		
4	FPO_01	4.852	0.895	-1.519	-.160	-.236	-.228	-	
5	FPO_02	4.548	1.215	-0.922	-.167	-.240	-.158	.452	-
6	FPO_03	4.958	0.922	-1.135	-.301	-.385	-.299	.427	.385

Furthermore, six alternative models (the unidimensional model; two-uncorrelated factor model; second-order model; bi-factor model with method effects on negative wording items and single-factor model for the main construct; bi-factor model with method effect on positive wording items and single-factor model for the main construct; and bi-factor model with method effect for both positive and negative wording items) were examined for comparison alongside the MFS two-correlated factor model.

Table 3 summarizes the factor analysis of the unidimensional model (Model A), two-factor model (Models B – C), second-order model (Model D) and bi-factor model for investigating the method effect (Models E – G). The results show that the unidimensional model did not fit with the data since CFI and TLI were far from the criteria (< .95 or < .90), and RMSEA and SRMR were above the tolerated criteria (> .08). Similarly, the two-uncorrelated factor model had CFI, TLI, RMSEA and SRMR that did not meet the criteria. Conversely, the two-correlated factor model produced satisfactory results, as the CFI, TLI, RMSEA and SRMR values all met the criteria. To compare the possibility of higher order, examination of the second-order model (CFI = .982, TLI = .966, RMSEA = .062, SRMR = .045) model elicited very similar results to the two-correlated factor models. However, a correlation between the positive and negative dimensions showed a moderate effect of -.477 ($p < .05$; see Table 3). Therefore, this higher-order model was not supported. For more comprehensive understanding, please refer to the path analysis diagram shown in Figure 1.

In addition, the Bayesian information criterion indicated that the two-correlated factor model had the lowest value than those of the unidimensional model, the two-uncorrelated model and the second-order model (Model A – D). Therefore, it was determined that the multidimensional model, particularly the two-factor correlated model, was suitable for the forgiveness construct.

Method Effect

The findings shown in Figure 2 indicate that adding the method effect factor to the negative wording item (FNE_01 – FNE_03) represented by Model E made it a better-fitting model. It is also shown the CFI, TLI, RMSEA and SRMR met the criteria. In addition, in Model F (see Figure 2), adding the method effect factor to positive wording (FPO_01 – FPO_03) elicited similar results. However, chi-square testing for Model F illustrated a better fit, at $p > .05$. Moreover, in Model G, the method effect for the six items indicated a fit model. These three models demonstrate that the presence of the method effect can influence the measurement model. We then examined the BIC and chi-squared value to determine a best-fit model for the method effect and compared it to the measurement model described in Table 3.

Table 3

Summary of the Fit Indices and Statistics of the Model Fit for the Dimensionality and Method-Effect Tests

Model	χ^2	df	p-value	CFI	TLI	RMSEA	SRMR	BIC
A	124.421	9	< .001	.798	.663	.197	.120	5,667.195
B	66.089	9	< .001	.900	.833	.139	.165	5,608.863
C	18.310	8	.019	.982	.966	.062	.045	5,566.883
D	18.310	8	.019	.982	.966	.062	.045	5,566.883
E	14.401	6	.025	.985	.963	.065	.039	5,574.572
F	6.341	6	.386	.999	.999	.013	.025	5,566.512
G	16.341	8	.038	.985	.973	.056	.040	5,564.914

Figure 1

Internal Structure for Unidimensional Model (Model A), 2-uncorrelated Model (Model B), 2-correlated Model (Model C), and Second-order Model (Model D)

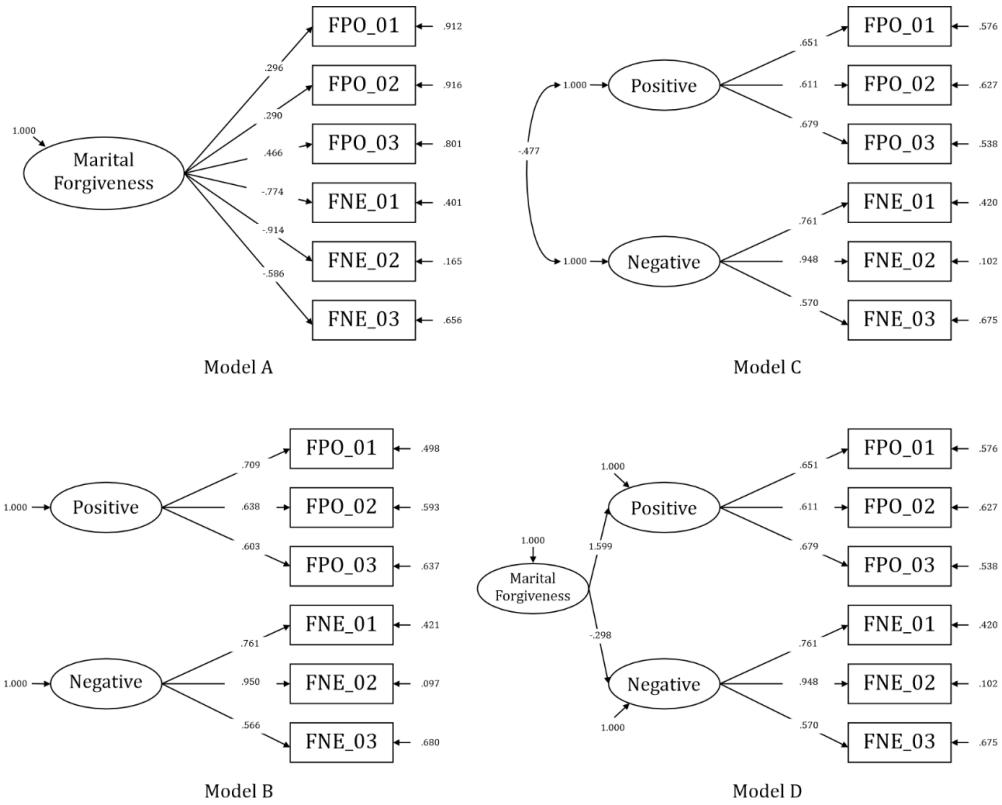

Table 3 shows that Model G had the lowest value of BIC, but higher values of RMSEA and SRMR compared to Model F. In addition, the CFI and TLI values of Model G were lower than those of Model F. Furthermore, Model D had lower values of CFI and TLI and higher values for chi-square, BIC, RMSEA and SRMR. In conclusion, we found that Model F was the best-fit model. It meant that there was a method effect, especially on positive wording items that influenced the factor.

Reliability

The omega for positive dimensions was .671, which is slightly below the acceptable criterion of less than .70 (Nunnally & Bernstein, 1994). The negative dimension showed an omega value of .772, which met the acceptable value. However, our understanding is that the omega was primarily influenced by the number of items (i.e., three). Furthermore, it is important to note that reliability coefficients pertain to the test scores and not the instrument itself (Thompson & Vacha-Haase, 2000). Therefore, considering the good construct validity results, a slightly lower omega should not pose a problem.

Differential Item Functioning (DIF)

The findings shown in Table 4 indicate that the positive dimension had no items with a presence of DIF, as demonstrated by the significance level of each item on the regression coefficient (β, beta), which were above .05. Nevertheless, the results

indicate that items 2 and 3 within the negative dimension exhibited DIF. Item 2 (FNE_02) showed a value of -.368 ($p < .01$), indicating that male participants were more likely to respond "agree" than female ones. In addition, for item 3 (FNE_03), the beta value of .575 meant that female participants tended to respond "more agree" than males for this item.

Figure 2

Factor Structure of Model with Method Effect on the Negative Dimension (Model E); Factor Structure of Model with Method Effect on the Positive Dimension (Model F); and Factor Structure of Model with Method Effect on Marital Forgiveness (Model G)

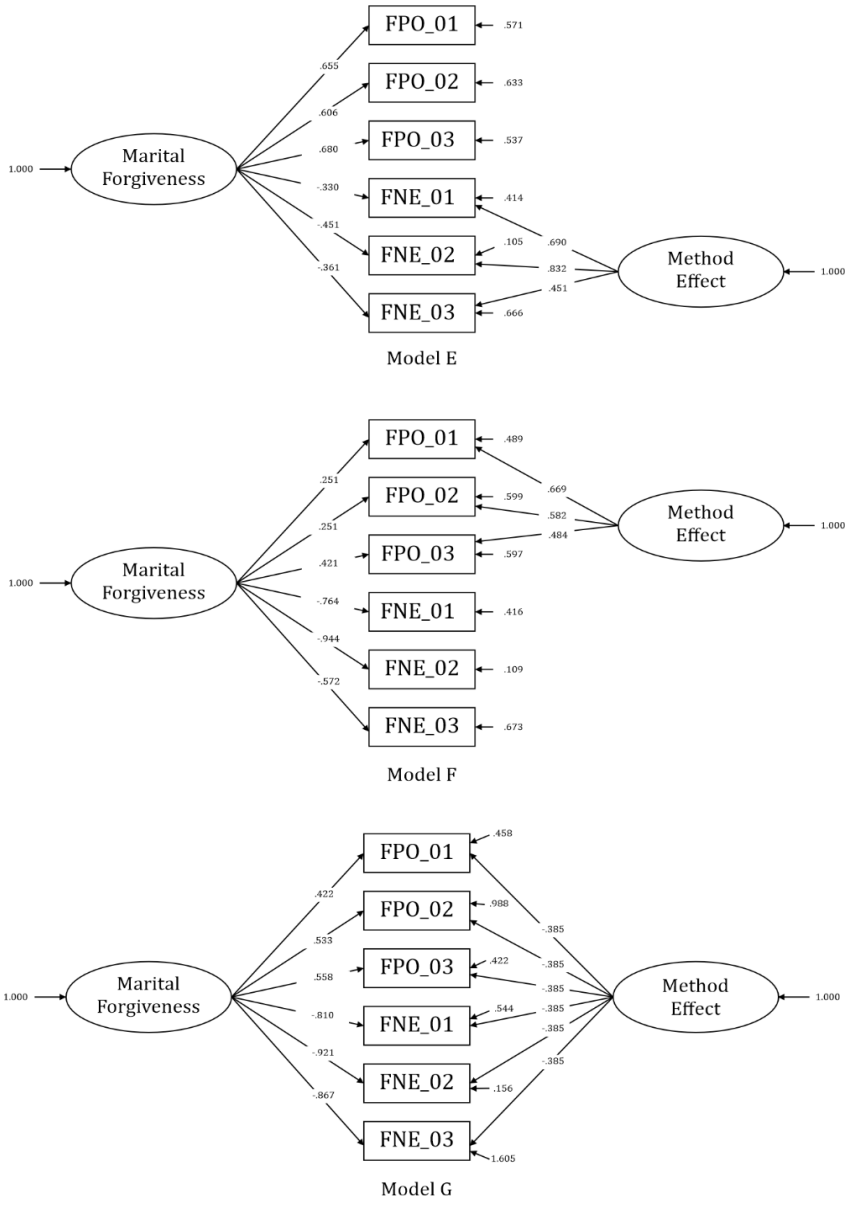

Table 4

Summary of the MIMIC Model to Detect DIF for the Measurement Invariance Based on Gender

Item	β	SE	z-value	p
Positive dimension				
PF0_01	.009	.106	0.085	.932
PF0_02	.069	.139	0.499	.618
PF0_03	-.062	.102	-0.608	.543
Positive dimension				
FNE_01	.103	.098	1.045	.296
FNE_02	-.368	.123	-2.990	.003
FNE_03	.575	.150	3.840	.000

Discussion

Forgiveness is an important element in marriage because it is inevitable that husbands and wives will hurt each other. According to Fincham and Beach (2002), engaging in discussion is more likely to be encouraged by forgiveness. On the other hand, the absence of forgiveness encourages repeated hurtful behavior between partners. Therefore, this study has sought to provide an instrument for forgiveness in the context of marriage. It is hoped that the availability of such instruments will encourage more research related to forgiveness. The Marital Forgiveness Scale developed by Fincham and Beach (2002) was adapted and validated.

The results of the analysis show that the psychometric properties of the MFS instrument are satisfactory. First, the dimensions obtained from the measurement of the two-factor correlated model indicate that the instrument consists of two dimensions, with fulfilling the criteria of CFI, TLI, RMSEA and SRMR indices. These results are in line with the findings of Fincham and Beach (2002) and Bugay (2014). Fincham and Beach (2002) emphasized the importance of two dimensions in the measurement of marital forgiveness because the positive and negative dimensions of forgiveness each have different determinants, correlations and consequences. They also stated that the positive dimension is a critical point in understanding marital forgiveness.

The results of Fincham and Beach's (2002) research show that the correlations obtained from each MFS dimension were different. From study 1, it is acknowledged that in husbands there is a negative correlation between the positive and negative dimensions; similarly, there is a negative correlation between the two dimensions in wifes. In addition, the husband's forgiveness negatively correlates with the wife's psychological aggression towards him, whereas the wife's forgiveness positively correlates with the husband's psychological aggression towards her. The wife's unforgiveness correlates with the psychological aggression of the husband. In addition, the husband's forgiveness becomes a significant predictor of the psychological aggression of the wife. In addition, the wife's forgiveness is a significant predictor of the couple's marital satisfaction.

The results of study 2 conducted by Fincham and Beach (2002) show that unforgiveness significantly correlates with psychological aggression in both the husband and wife. In addition, the wife's forgiveness is a significant predictor of the psychological aggression of the husband. The husband's forgiveness is a strong predictor of the constructive communication of the wife. Finally, the positive dimension

contributes to the variance of the wife's satisfaction, but the negative dimension contributes to the variance in that of the husband.

Similar findings were made by David and Stafford (2015), with forgiveness positively correlating with marital satisfaction. In contrast, unforgiveness negatively correlated with marital satisfaction. These findings demonstrate the importance of distinguishing the dimensions of forgiveness.

The reliability value obtained in this study indicates that the two-factor correlated MFS instrument demonstrates reliability, as assessed by the omega coefficient. Reliability measurement is important in understanding the quality of psychological variables (Deng & Chan, 2017). It is crucial to conduct such measurements as they determine the extent to which an instrument can be replicated and generalized (Hancock & An, 2020).

The goal of measurement invariance is to assess whether a construct has the same meaning when measured in different groups or at different times. It indicates that the construct maintains its meaning across different groups and measurement times, while measurement variance suggests that the construct has a different structure or meaning in different groups or at different measurement times within the same group (Putnick & Bornstein, 2016). Differential item functioning (DIF) is a method used to assess the psychometric equivalence of an item (Ekermans et al., 2011). It is also employed to evaluate the equivalence of translated instruments (Hulin & Mayer, 1986).

The CFA framework offers two methods for detecting DIF: multi-group confirmatory factor analysis (MGCFA) and multiple indicators multiple causes (MIMIC) (Chun et al., 2016). According to Cheng et al. (2016), experts believe that the primary advantage of the MIMIC model lies in its flexibility. It is adaptable for use with both dichotomous and polytomous items and can accommodate multiple grouping variables, both observed and latent. Additionally, MIMIC models can control for covariates and are suitable for both categorical and continuous variables. This flexibility has contributed to the widespread popularity of the MIMIC model as an approach.

In the MGCFA, Chun et al. (2016) point out a limitation, namely the ability to define a comparison group using only one categorical variable. In contrast, MIMIC estimates a series of model parameters using the entire sample of participants and examines DIF by adjusting variables associated with the group containing the item being tested. Because parameters are estimated using the entire sample, MIMIC requires a smaller sample size to detect DIF (Muthen, 1989, as cited by Chun et al., 2016). D'Urso et al. (2021) state that each group using MGCFA needs a minimum sample of 250 participants.

The analysis results indicate that there were no statistically significant regressive paths in the positive dimension, suggesting that gender did not have an impact in it. However, in the negative dimension, significant results were obtained for items 2 and 3, suggesting that they were influenced by gender. Specifically, male partici-pants are more inclined to agree with item 2, while female participants are more likely to agree with item 3.

Fincham and Beach (2002) highlight such variance. The role of the positive dimension is seen in male participants, such as in study 1, where the husband's forgiveness is a significant predictor of the wife's psychological aggression. Similarly, in study 2, the husband's forgiveness is a significant predictor of the wife's constructive communication. In addition, a study by Bugay (2014) involving husband and wife participants in Turkey employing a paired sample t-test found that the wives had lower scores for the negative dimension, but higher ones for the positive. Gender invariance can also be caused by cultural differences. Referring

to Jeong and Lee (2019), unequal measurements can be caused by differences in the traits and characteristics of a cultural group based on differences in the underlying socio-cultural contexts. The meaning of items is understood differently according to the collective experience, points of view, interests, and uniqueness of the group.

The adaptation and validation of the MFS in Indonesia has many significant implications for the development of forgiveness research within the context of marriage. First, the Indonesian version will enhance research on forgiveness and marital dynamics in the country. Second, it will provide valuable insights into the factors associated with forgiveness in the Indonesian context. Given that forgiveness is linked to various determinants and consequences (Davis et al., 2013; Fehr et al., 2010; Riek & Nania, 2012) and demographic variables (Miller et al., 2008) and marital variables (Mendes-Teixeira & Duarte, 2021). as well as being deeply embedded in the Indonesian socio-cultural framework, such understanding is crucial. Finally, the adaptation will enable cross-cultural comparisons in forgiveness research. Hence, the adapted scale will support research initiatives in the field of marital/family psychology and positive psychology in Indonesia.

However, it is important to also acknowledge the limitations inherent in the current study. First, it involved husbands or wives of the millennial generation who were born between 1982 and 1999. This suggests that the study does not reflect larger population groups. In addition, when collecting the data, the researcher did not provide an instrument to measure social desirability. Furthermore, the data was collected through self-rating, which possibility meant the participants displayed bias in their ratings. Finally, almost 75% of the participants were Javanese. Although not all these lived in Java, it is likely that Javanese cultural values were still embedded in them. One of the values of Javanese culture is to appreciate and uphold harmony in relationships.

Conclusion

The availability of a reliable and valid scale is a prerequisite for any scientific research. This study has examined the adaptability and validity of the Marital Forgiveness Scale with the help of rigorous statistical measures. Research on the adaptation and validation of forgiveness instruments in the context of marriage remains limited. The outcomes of this study replicate and extend those of previous studies, showing that the Indonesian version of the MFS can be used to assess forgiveness in a marital context. Two subscales can be used for the assessment of forgiveness in married Indonesian millennials. However, the results show that there is variance based on gender in two items in the negative dimension.[]

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Author Contribution Statement

Endah Puspita Sari: Conceptualization; Validation; Writing Original Draft; Writing, Review & Editing. **Avin Fadilla Helmi:** Conceptualization; Data Curation; Formal Analysis; Methodology; Validation; Writing, Review & Editing. **Arum Febriani:** Conceptualization; Data Curation; Formal Analysis**;** Methodology; Validation; Writing, Review & Editing.

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