	<p>Annals of Social Sciences and Perspective</p> <p>ISSN (Print): 2707-7063, ISSN (Online): 2788-8797</p> <p>Volume 5, Number 2, July-December 2024, Pages 335-349</p> <p>Journal homepage: http://assap.wum.edu.pk/index.php/ojs</p>
---	--

Development and Validation of the Determinants of Marriage Delay Scale for Women

Shumaila Abid^{1*}, Bisma Ejaz²

¹PH.D Scholar, Department of Applied Psychology, Lahore College for Women University, Lahore, Pakistan

²Assistant Professor, Department of Applied Psychology, Lahore College for Women University, Lahore, Pakistan

*Corresponding author's email address: shumaila85@gmail.com

ARTICLE DETAILS	ABSTRACT
<p>History:</p> <p>Received: October 12, 2024 Accepted: November 11, 2024</p> <p>Keywords:</p> <p>Marriage Delay Determinants Women Scale Development EFA CFA</p> <p>DOI:</p> <p>10.52700/assap.v5i2.414</p>	<p>The study was designed to develop and validate the Determinants of Marriage Delay Scale for women in Pakistan. In light of the Exploratory and Confirmatory Factor Analysis, four determinants identified were Family Responsibilities and Financial Dependency, Socioeconomic and Physical Conditions, Cultural Expectations, and Personal and Psychological Concerns. The instrument revealed a highly reliable and content-valid scale with high factor loadings, showing an appropriate representation of each component. The scale thus integrates qualitative and quantitative approaches to provide a comprehensive and culturally sensitive tool for understanding complex influences on delays in the timing of marriage among women. This study explored not only how family-related factors, but also economic, cultural, and personal factors interactively shape the timing of marriage and offered a base for further research and policy interventions. The scale addresses such determinants and supports the formulation of specific strategies that can help women make appropriate decisions about marriage, which would meet both self and societal expectations.</p> <p>© 2024 The Authors, Published by WUM. This is an Open Access Article under the Creative Common Attribution Non Commercial 4.0</p>

1. Introduction

In recent years, people have chosen to delay their marriage worldwide (Bagi, 2023; Yu & Xie, 2015) and therefore a major change could be seen in their conventional lifestyles (Bagi, 2023). This trend does not influence only decision-making and life choices at the individual level but also has wide effects on society (Yu & Xie, 2015). Such trends of delayed marriages may impact birth rates, family structure, and economic stability, which in turn influence social policies and community life (Torabi & Mesgarzadeh, 2017). This is further restated by Tessema, et al. (2015), and Yu and Xie (2015), who mentioned that policymakers, social scientists, and planners need to understand the motives of this change as it would be guiding policies and programs. The studies also revealed that the issues that drive people into delayed marriage are multifaceted, involving economic, social, cultural, and psychological factors. For example, financial constraints, career

ambitions, and a greater level of attainment in education usually bring about decisions on late marriage. Other cultural reasons for delayed marriages include the increased acceptance of cohabitation without marriage and remaining single (Bagi, 2023; Chatratananon, 2007). The changes in cultural norms also play a big role since there is greater acceptance of staying together without marriage or remaining single as pointed out by Lee et al., (2021) and Torabi and Ghahfarokhi (2021). Notwithstanding the growing interest in this topic, most of the available research instruments cannot represent the wide spectrum of reasons for late marriage. This calls for an all-inclusive tool applicable across diverse cultures and populations. This newly developed scale should therefore be able to facilitate the researchers with a valid questionnaire, one that will ensure detailed data on the factors in decisions over marriage. It was developed based on insights provided by sociology, psychology, and economics, thus giving a complete approach to understanding delayed marriage.

Thus, this paper documents the steps taken for the development and validation of the Determinants of Marriage Delay Scale for Women, starting with a review of existing studies and experts' consultation, followed by designing the questionnaire statements. It also describes the validation process, which included thorough testing to ensure the tool's accuracy and relevance. By offering a standardized tool, this study aims to highlight the factors behind delayed marriage, making it easier to compare trends across cultures and over time. The findings may help shape the community programs that support people in making informed decisions about marriage.

2. Literature Review

2.1. Marriage Delay Trends

From 1947 to 1975, the average age of marriage remained unchanged. After 1975, it began to increase. Between 1975 and 1995, the average marriage age for women rose from 24.5 to 27.7 years, while for men it increased from 27.6 to 30.7 years (Lapierre-Adamcyk & Burch, 1974). This shift placed Pakistan among those countries where the average age at marriage was considered to be relatively high (Marphatia et al., 2017). Concurrently with this, the proportion of never married has increased significantly: from 5% to 15% for women, and from 6% to 22% for men (Jiang et al., 2014). This shows a big change from when nearly every one got married, as seen in marriage rates around the world due to changing social reasons. In Pakistan, delaying marriage impacts women's ability to have children because fertility tends to drop with later marriage. The delay shortens the time for having children, which lowers the overall number of children women can have. In the study of Ayaz (2022), ever-married women were interviewed about their age at cohabitation, distinguishing between the nikah (marriage contract) and rukhsati (moving in with the husband). Women become at risk of pregnancy only after cohabitation, which impacts fertility. The PDHS revealed that 25% of women aged 15-19 and 60% aged 20-24 had been married. Almost all women aged 35-49 (98%) were married, with a trend toward later marriages particularly evident among women aged 20-29 (Wulifan et al., 2015).

The trend toward later and fewer marriages was due to a combination of interrelated economic, social, and cultural changes. These include significant educational advancements for women, a large increase in the proportion of women working outside the home, major changes in the marriage market's structure and functioning, a significant rise in the prevalence of premarital sex, and profound changes in values related to marriage and family life.

2.1.1. Determinants of Marriage Delay among Women

These marriage-delaying factors differ greatly at the individual level due to educational, sociocultural, socioeconomic, and personal reasons. Some of the common reasons include the

pursuit of education, career development, attainment of financial stability, and personal growth. It reflects changing societal mores where emotional maturity and economic stability are now prerequisites for marriage. Other desired traits in a spouse, which take time to attain, are educational background, career, and social status (Dush, et al., 2003). Cultural differences further influence these determinants, with societal norms differing by a specific region.

According to Shaw (2007), both parents' literacy and high wedding expenses related to socioeconomic status are some of the reasons for delayed marriages. Similarly, attaining economic security before marriage makes one delay marriage. Another more influential factor is the increased enrolment of women into higher education, as continuation of education increases the opportunity cost of early marriage. According to Wong (2003), women with higher education and strong attachments within their family spheres tend to postpone marriage longer compared to less educated women, a trend observed both in Asia and developing countries globally.

Delayed marriage has become common in Western societies that emphasize self-actualization and personal growth. This trend can also be seen in non-Western societies; for example, in India, modern career goals come into conflict with traditional family expectations (Cherlin, 2010). Urbanization and migration have also changed marriage patterns because cities provide more opportunities for women both in education and employment. A consequence is that marriage is delayed (Yeung et. al., 2018). For example, women who migrate in pursuit of opportunities usually delay their marriage till they reach the goals they set. Just like Ghimire and Axinn 2013; Bajwa & Ali 2016) presented psychological factors come into play as well. Most of them wait for years for a proper age, attitude, and readiness before selecting a groom. The other factor that still captures this trend is that marriage is viewed as a partnership anchored on mutual respect and shared goals. As women's education and economic opportunities continue to improve, and with changing social norms, delayed marriage can only be expected to persist.

2.1.2 Measurement of the Determinants of Marriage Delay

Different methods capture marriage timing to address different aspects. Such as the Singulate Mean Age at Marriage (SMAM) gives the general average age at first marriage (Ruguma, 2015; Suga, 2020). The diverse indicators provide insight into the social and economic factors of marriage, such as higher education and urbanization, which explain the trend of late marriages (Marphatia et al., 2017; Kpessa-Whyte, 2018). Cultural diversity demands measures to look at the roles of parents regarding arranged marriages or how geographic mobility has affected the age at which married individuals get married (Raymo et al., 2015; Choudhury, 2022). Accordingly, while the Marriage Squeeze measure takes into account the sex ratios and age gaps between spouses, the Proportion Never Married reflects broader demographic trends, especially a more recent shift toward later marriages, especially for women (Zang & Zhao, 2017; Sassler & Lichter, 2020).

2.1.3. Need of the Questionnaire for Determinants of Marriage Delay

Marriage patterns are rapidly changing worldwide. Even in Pakistan, there are certain changes observed in the age of females getting married. However, this delay in marriage can be due to certain causes which are required to be highlighted. Therefore, the development of a Marriage Delay Scale becomes of utmost urgency, especially in the context of Pakistan and other similar societies. First and foremost, the rationale behind the urge to develop this scale is related to the fact that such a scale would enable the quantification of the analysis of changing social dynamics that are brought about by urbanization, increasing education, and employment opportunities. A scale like this can also enable a closer approximation of the psychological implications of delayed marriage due to social stigma and psychological burdens (Katiyar & Dhar, 2016;

Quraishi, & Ali, 2020). It would also elaborate on how religious considerations and social customs are impacting marriage delays (Khubaib et al., 2020). This scale would hence carry strong policy implications, thereby making it possible to enforce better public health and social policies, with much relevance to reproductive health and population growth. It would also enable cross-cultural comparisons and help investigate its correlations with other significant life aspects, such as interpersonal competence, religiosity, and psychological well-being. In developing this standardized tool, researchers and policymakers will be better equipped to deal with the complex issues involved in delayed marriage, This will help introduce better ways to support people dealing with changing marriage patterns and expectations in Pakistan and similar societies.

2.2. Objectives of Study

- a) To develop a comprehensive, culturally sensitive Marriage Delay Determinants Scale for Women in Pakistan, enabling a strong assessment of factors contributing to delayed marriages.
- b) To validate a linguistically appropriate scale in Urdu, ensuring its relevance and applicability for the Pakistani population.

3. Study 1 - Development of the Questionnaire

The multiple steps in developing the questionnaire involved a systematic progression from the formulation of the research and data collection down to operationalization. Very importantly, it began with a literature review to gain foundational knowledge and identify key concepts about marriage delay, by establishing a conceptual framework. This was followed by focus group/semi-structured interviews to collect qualitative data and show how the personal and cultural nuances could be brought out. Item generation translated the themes obtained from the literature and interviews into specific, measurable questionnaire items representing the main determinants of marriage delay. Furthermore, social mapping developed the items further in a way to fit social structures and cultural norms, hence further enhancing cultural appropriateness. Lastly, the operationalization defined each of these items in such a way that would be measurable; this indeed set the questionnaire ready for application in practice through surveys. The process yielded a valid, culturally sensitive instrument that was empirically based on the ground and could measure with reliable data on the determinants of marriage delay. Figure 1 depicts the process for scale development.

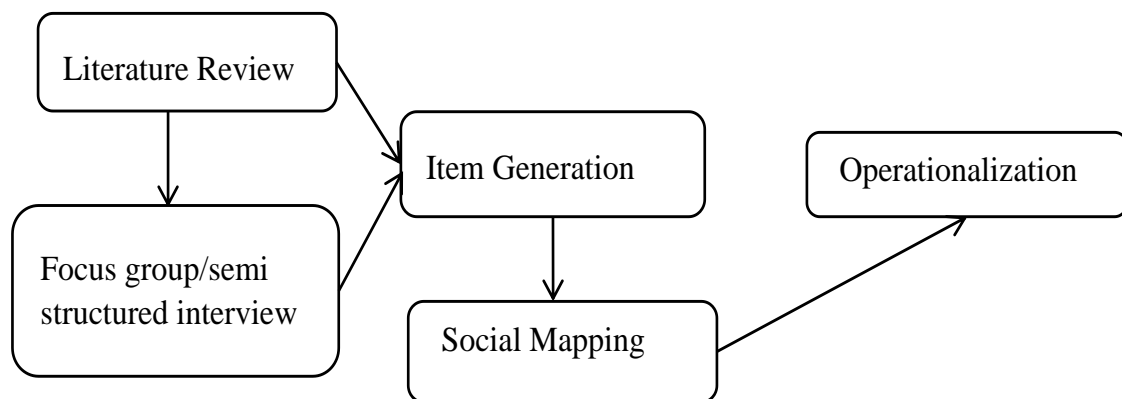


Figure 1: Scale Development Process

Stage 1: Identification and Phenomenology of Construct

To develop a reliable and valid scale for understanding marriage delay determinants among women in Southern Punjab, a structured approach was taken:

Step I: Item Generation through Literature Review

It was initiated with a critical review of demographic surveys such as the PDHS, 2019, and studies concerning changing marriage patterns in Pakistan (Hamid, et al., 2011; Jones, 2017; Maqsood, 2021). There was no specific scale on the determinants of marriage delay; however, the related studies were reviewed on education, cultural biases, and societal pressures on women indicating a culturally sensitive scale. This review met the need for a gap in the holistic approach, which encompasses psychological, social, and biological factors.

Step II: Focus Groups

It was a second step that a focus group was conducted with 4 participants (ages 35-44) experiencing marriage delay. These sessions encouraged open discussion on marriage delay's biological and psychosocial impacts, with emphasis on confidentiality and comfort. The discussions provided diverse perspectives, aided by ethical protocols, and informed the initial set of scale items.

Step III: Semi-Structured Interviews

To gain deeper insights, semi-structured interviews were conducted with 7 working women (ages 27-35), focusing on family roles, health, and demographic aspects of marriage delay. Additional interviews with clinical psychologists and sociologists enriched the understanding of the topic.

All data were transcribed and analyzed through qualitative content analysis. The initial set of 45 items was refined to 37, capturing the key determinants of marriage delay and forming the basis for further scale development.

Stage 2: Validation through Experts

In Stage 2, content validity was established through expert evaluation. Six experts—including clinical psychologists, assistant professors, and sociologists—rated item relevance, clarity, and redundancy using a three-point scale. This feedback refined the scale, ensuring it captured key marriage delay determinants for women. The Content Validity Index (CVI) was then calculated at the item (I-CVI) and scale levels (S-CVI). Items with I-CVI > 0.79 were retained, while those below 0.70 were removed. The S-CVI averaged 0.92, surpassing the 0.90 threshold for excellent validity. Following analysis, 33 items were kept for the final scale, which used a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree), enhancing response sensitivity.

Stage 3: Pilot Study

A pilot study was conducted to assess the face validity and clarity of the newly developed marriage delay scale.

Sample

The study included 320 women with delayed marriages, personally approached, holding at least a master's degree. The sample was diverse: 47% from rural and 53% from urban areas, with socioeconomic backgrounds of 22% low, 44% middle, and 34% high. The mean age was 27 years.

Measure and Procedure

Participants assessed 33 items on the marriage delay scale, rating each on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). They were briefed on the study's purpose, and all queries were addressed to ensure confidentiality.

Analysis

The pilot aimed to finalize items for exploratory factor analysis. Based on participant feedback,

four items were discarded, resulting in a final set of 29 items. SPSS was used to confirm normality before proceeding with further analysis.

Stage 4: Factors Extraction through EFA

Exploratory Factor Analysis (EFA) was conducted to explore the determinants of marriage delay lying within the questionnaires' structure. EFA is widely used in social sciences to identify latent constructs that help explain the relationships among observed variables (Hair et al., 2019).

KMO and Bartlett's Test of Sphericity. The results from the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity are presented in Table 1.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig
.93	3393.17	406	.000

Statistics confirm that the data is highly suitable for factor analysis. The KMO value is 0.93, indicating an excellent sample size and sufficient variable correlations (Hill, 2011). Bartlett's Test of Sphericity produced a chi-square of 3393.17 with 406 degrees of freedom, significant at 0.000, which verifies that the correlation matrix is not an identity matrix, confirming strong interrelationships among variables (Williams, et al., 2010). Factors were extracted based on Eigenvalues and a scree plot, retaining those with Eigenvalues over one, as they account for significant variance. Table 2 details the variance explained by each component in the Principal Component Analysis (PCA).

Table 2: Eigen Values and Variance of Four Factors of Determinants of Marriage Delay Scale

Factors	Initial Eigen Values			After Rotation Eigen Values		
	Eigen Values	% of Variance	Cumulative %	Eigen Values	% of Variance	Cumulative %
1	11.25	38.80	38.80	5.28	18.22	18.22
2	2.29	7.91	46.71	3.88	13.37	31.59
3	1.33	4.61	51.32	3.48	11.99	43.59
4	1.21	4.18	55.49	3.46	11.91	55.49

In Table 2, four components with eigenvalues above 1 accounted for the variance. The first component's initial eigenvalue of 11.25 explained 38.80% of the variance, which was redistributed to 18.22% after rotation, allowing a more balanced spread across components for better interpretability. The second component increased from 7.91% (eigenvalue 2.29) to 13.37% post-rotation, while the third and fourth components initially explained 4.61% and 4.18%, rising to 11.99% and 11.91%, respectively, with a cumulative variance of 55.49%. The scree plot confirmed the meaningfulness of these four components, as variance beyond them flattened out. In the Rotated Factors Extraction, items with factor loadings over 0.40 were retained, following the guidelines given by Stevens (2002). The Varimax rotation with Kaiser Normalization maximized interpretability by enhancing variance in squared loadings for each factor, with items (MD1 to MD29) distributed across the four components in the PCA.

Table 3: Factor Loadings of 29 Items of DOMD with Rotated Component Matrix

Sr. #	Item #	Factor 1	Factor 2	Factor 3	Factor 4
1	15	.78			
2	16	.73			
3	20	.71			

4	17	.66	
5	3	.59	
6	13.	.57	
7	21	.57	
8	18	.53	
9	29	.50	
10	24		.73
11	14		.68
12	22		.64
13	19		.58
14	6		.55
15	5		.53
16	23		.52
17	2		.63
18	9		.58
19	8		.57
20	4		.55
21	1		.55
22	7		.53
23	12		.43
24	27		.68
25	26		.67
26	25		.66
27	11		.61
28	10		.56
29	28		.54

The Rotated Component Matrix in Table 3 reveals that the first component has factor loadings from 0.50 to 0.78, related to responsibilities and dependencies. The second component, with loadings between 0.52 and 0.73, focuses on social and familial considerations. The third component, with loadings from 0.43 to 0.63, pertains to personal characteristics and conditions, while the fourth component, with loadings between 0.54 and 0.68, captures psychological concerns and past experiences. These loadings indicate the strength of each item within its respective component.

Stage 5: Reliability Analysis

Internal consistency was assessed using Cronbach's Alpha for both subscales and the overall scale. A Cronbach's Alpha > 0.7 indicates satisfactory reliability. In Table 4, the overall scale showed excellent reliability with an alpha of 0.94. Subscale reliabilities were also strong, with Family Responsibilities and Financial Dependency (FRFD) at 0.88, Socioeconomic and Physical Conditions (SPC) at 0.86, and Cultural Expectations (CE) and Personal and Psychological Concerns (PPC) each at 0.80, demonstrating acceptable reliability for each dimension.

Table 4: Internal Consistency of Determinants of Marriage Delay Scale (N=228)

Scales	# of Items	α	M	SD	Actual Range	Potential Range
DMDSW	29	.94	71.85	23.57	29-145	29-125
FRED	9	.88	20.03	8.10	9-45	9-38

SPC	7	.86	18.64	6.92	7-35	7-35
CE	7	.80	17.05	6.74	7-35	7-34
PPC	6	.80	16.13	5.78	6-30	6-30

FRFD = Family Responsibilities and Financial Dependency, SPC = Socioeconomic and Physical Conditions, CE = Cultural Expectations, PPC = Personal and Psychological Concerns

Table 5: Correlation Matrix of Determinants of Marriage Delay Scale with its Subscale

Variables	1	2	3	4	5
Family Responsibilities and Financial Dependency	--				
Socioeconomic and Physical Conditions	.62 ^{**}	--			
Cultural Expectations	.74 ^{**}	.65 ^{**}	--		
Personal and Psychological Concerns	.56 ^{**}	.69 ^{**}	.58 ^{**}	--	
Determinants of Marriage Delay	.88 ^{**}	.86 ^{**}	.87 ^{**}	.80 ^{**}	--

**P < .01

Table 5 displays a correlation matrix showing strong, positive correlations among all subscales of the Determinants of Marriage Delay Scale, including Family Responsibilities and Financial Dependency, Socioeconomic and Physical Conditions, Cultural Expectations, and Personal and Psychological Concerns. For instance, Family Responsibilities and Financial Dependency correlate strongly with Socioeconomic and Physical Conditions ($r = .62$), Cultural Expectations ($r = .74$), and Personal and Psychological Concerns ($r = .56$).

4. Study 2

Establishing the psychometric properties of the Questionnaire

In study 2, the psychometric properties were established with the Confirmatory Factor Analysis while reporting the measurement model fit indices, and construct reliability and validity of the questionnaire.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was conducted to validate the hypothesized factor structure of marriage delay determinants, including Family Responsibilities and Financial Dependency, Social and Cultural Barriers, Personal Attributes and Conditions, and Psychological Concerns and Relationship Experiences. CFA ensures items significantly load onto their respective factors, confirming construct reliability and accuracy (Hair, et al., 2019). It also assesses model fit, checks for convergent and discriminant validity and refines the model by identifying poorly fitting items.

Model Specification and Identification

Before CFA, the researcher specified the factor structure, aligning observed variables with latent factors based on the Exploratory Factor Analysis results. Four observed variables were included, except MD9, which had low communality (0.35). Ensuring identification, each factor had at least three indicators, with the model over-identified for parameter estimation. Four items were removed due to low outer loading or equal loading on multiple components.

Adequate Sample Size

A sufficient sample size is required for stable and reliable estimates in CFA. A common guideline is to have at least 5 to 10 participants per estimated parameter, with a minimum sample size of around 200 being preferable (Westland, 2010). Smaller samples can lead to unstable estimates and reduced statistical power. The final data ready for CFA was 303, representing the adequacy of sample size for model development.

Procedure

The model fit indices for the CFA model were analyzed using multiple criteria. Following

guidelines by Hair, et al., (2019), various indices were utilized to assess the model fit, including the CMIN/DF ratio, Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA).

4. Results

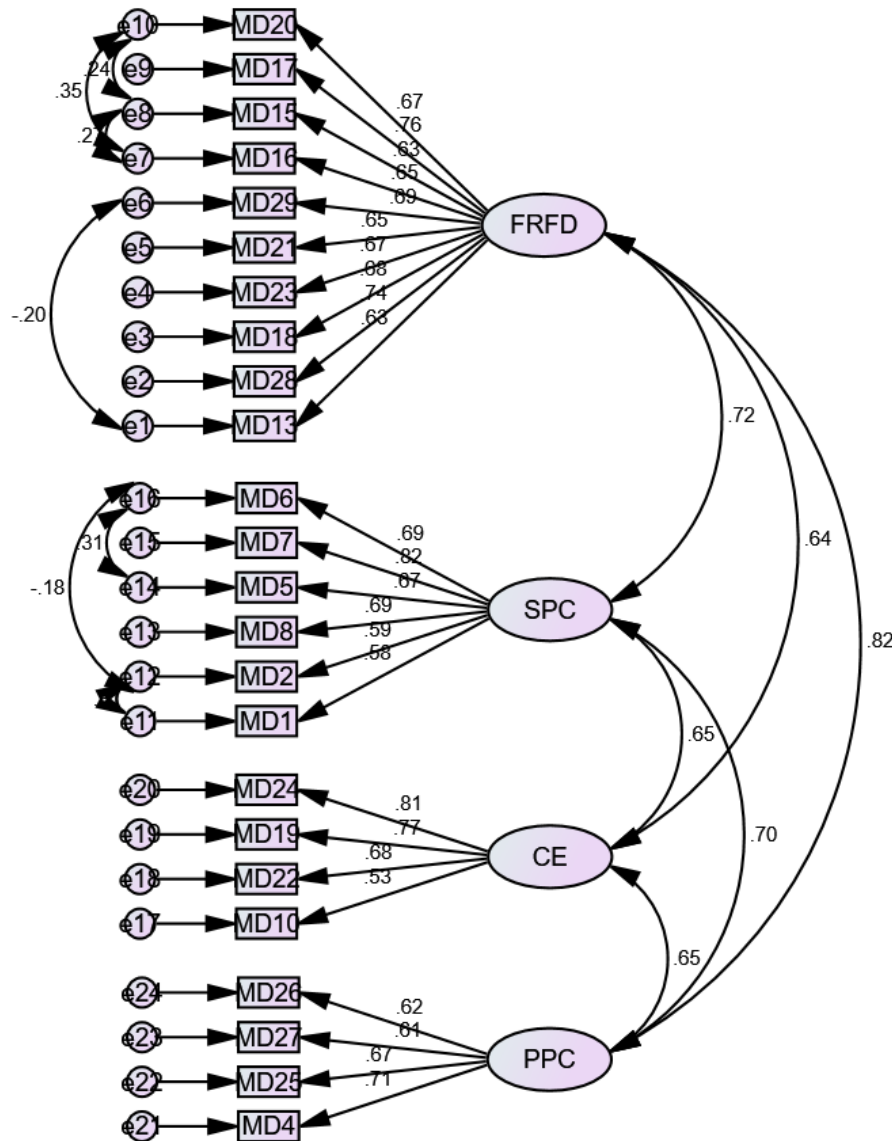
At this stage, 05 items (3, 9, 11, 12, and 14) were removed as they did not contribute to a clear factor structure. As a result, the scale kept 24 components. Table 6 and Figure 2 depict the cluster of items based on the specific four final determinants of Marriage Delay.

Table 6: Factor Loadings for 24 Items of Questionnaire with CFA

Sr. Item #	Item #		Factor	Factor	Factor	Factor
			1	2	3	4
1	20	میرے والدین کی وفات کے بعد بڑے بہن بھائیوں کی عدم دلچسپی میری شادی میں تاخیر کی بڑی وجہ ہے۔	.757			
2	17	خاندان کا مجھ پر معاشی / مالی انحصار میری شادی میں تاخیر کا باعث ہے۔	.700			
3	15	میرے والد کے نشہ کے عادی ہونے کی وجہ سے میری شادی میں تاخیر ہو گئی ہے۔	.684			
4	16	میرے والد / والدہ کی وفات کی وجہ سے وقت چھوٹے بہن بھائیوں کی پرورش میں وقت گزر جانا میری شادی میں تاخیر کا باعث ہے۔	.682			
5	29	رشتے میں وٹے سٹے کا تنازع میری شادی میں تاخیر کا باعث ہے۔	.667			
6	21	میرے بوڑھے والدین کا خیال رکھنے کے لئے خاندان کے کسی اور فرد کا دستیاب نہ ہونا میری شادی میں تاخیر کا باعث ہے۔	.637			
7	23	ہمارے وراثتی /خاندانی جائیداد کا بٹوارہ نہ کرنا میری شادی میں تاخیر کا باعث ہے۔	.589			
8	18	میری بڑی بہن کے شادی کے بعد باقی بہنوں کا بھی اس کے مالی معیار کے مطابق رشتہ نہ ملنا شادی میں تاخیر کا سبب ہے۔	.588			
9	28	میرے رشتے کا طے ہو کر ٹوٹ جانے کے بعد انجانا ڈر اور خوف میری شادی میں تاخیر کا باعث ہے۔	.562			
10	13	میرے والدین کا اپنا کمائی کا ذریعہ برقرار رکھنے کیلئے میری شادی کے مواقع کو حیلے بہانوں سے ٹالنا میری شادی میں تاخیر کا باعث ہے۔	.555			
11	6	میرے گھر کا چھوٹا ہونا اور جدید سہولیات سے آراستہ نہ ہونا شادی میں تاخیر کا باعث ہے۔	.733			
12	7	جہیز کا اچھا انتظام / جہیز کے متعلق لڑکے والوں کی فرمائشیں نہ پوری کر پانا میری شادی میں تاخیر کا باعث ہے۔	.717			
13	5	میرے گھر کا پوش علاقہ میں واقع نہ ہونا میری شادی میں تاخیر کا سبب ہے۔	.668			
14	8	میرا برسرروزگار نہ ہونا میری شادی میں تاخیر کا سبب ہے۔	.651			
15	2	میرے وزن کا زیادہ ہونا میری شادی میں تاخیر کا باعث ہے	.575			
16	1	میرے قد کا چھوٹا ہونا میری شادی میں تاخیر کا باعث ہے۔	.562			
17	24	میرے خاندان کے ہم پلہ خاندان کا رشتہ دستیاب نہ ہونا میری شادی میں تاخیر کا باعث ہے۔	.748			
18	19	مناسب روزگار کا حامل رشتہ نہ آنا میری شادی میں تاخیر کا باعث ہے۔	.688			
19	22	خاندان / برادری / ذات میں رشتہ کرنے کی ہماری خاندانی روایت میری شادی میں تاخیر کا باعث ہے۔	.687			
20	10	اچھے لوگ نہ ملنے کا خوف میری شادی میں تاخیر کا سبب ہے۔	.621			
21	26	میرے روزگار/پیشہ کے معیار کے مطابق لڑکے کا روزگار نہ ہونا میری شادی میں تاخیر کا سبب ہے۔	.703			
22	27	میرے ذہن میں شادی کا منفی تاثر شادی میں تاخیر کا باعث ہے۔	.686			

23	25	میرا محبت میں ناکام ہو کر دل برداشتہ ہونا میری شادی میں تاخیر کا باعث ہے۔	.627
24	4	میری عمر کا زیادہ ہونا شادی میں رکاوٹ کا باعث ہے۔	.492

Figure 2: The Final Factor Structure Model of the Questionnaire on Determinants of Marriage Delay Scale



5. Measurement Model Fitness

The model fit indices for the CFA model provide a generally positive assessment of model fit.

Table 7: Model Fit Indices of CFA

Model	Df	χ^2	χ^2/df	CFI	SRMR	RMSEA
4-factors Solution	239	583.50	2.44	.91	.06	.06

Table 7 shows a χ^2/df ratio of 2.44, indicating an excellent model fit within the 1 to 3 range. The CFI is 0.91, slightly below the ideal 0.95 but still indicating an acceptable fit (Hair, et al., 2019). The SRMR value of 0.06, below the 0.08 threshold, suggests an excellent fit, indicating small,

standardized residuals. The RMSEA is 0.06, which is within the acceptable range, reflecting a reasonable degree of approximation error. Overall, these indices suggest that the model fits the data well, with some potential for improvement.

Validation of the Questionnaire on Determinants of Marriage Delay

Table 8 shows the performance in terms of Convergent Validity and Reliability as well as Discriminant validity for the determinants of the Marriage Delay scale among women.

Table 8: Convergent and Discriminant Validity and Reliability of DMDSW Scale

Variables	CR	AVE	MSV	MaxR(H)	1	2	3	4
1. FRFD	0.91	0.50	0.56	0.91	-			
2. SPC	0.86	0.52	0.44	0.88	0.67***	-		
3. CE	0.80	0.50	0.39	0.83	0.62***	0.62***	-	
4. PPC	0.82	0.53	0.56	0.82	0.73***	0.62***	0.63***	-

***p < .001

Reliability of the Scale:

The composite reliability (CR) values indicate good to excellent internal consistency across subscales. FRFD has a CR of 0.91 (excellent), SPC and PPC show good reliability with CRs of 0.86 and 0.82, and CE has acceptable reliability at 0.80. These CR values confirm that items within each subscale reliably measure the underlying concept (Hair et al., 2019).

Convergent Validity:

All constructs have AVE values above the 0.50 threshold, indicating adequate convergent validity. FRFD, SPC, CE, and PPC have AVEs of 0.50, 0.52, 0.50, and 0.53, respectively, suggesting strong correlations between items and their latent variables (Fornell & Larcker, 1981) cited in Hair, et al, (2019).

Discriminant Validity:

Discriminant validity was checked by comparing AVE to MSV. SPC and CE showed adequate discriminant validity (SPC: AVE = 0.52, MSV = 0.44; CE: AVE = 0.50, MSV = 0.39). However, FRFD and PPC exhibited potential issues, with MSV values (FRFD: 0.56, PPC: 0.56) exceeding AVEs (FRFD: 0.50, PPC: 0.53), indicating some overlap with other constructs (Fornell & Larcker, 1981) cited in Hair, et al, (2019).

Maximal Reliability (MaxR(H)):

MaxR(H) values close to 1 for all subscales (FRFD: 0.91, SPC: 0.88, CE: 0.83, PPC: 0.82) confirm high reliability, affirming the robustness and consistency of the constructs (Hair et al., 2019).

6. Discussion

The process of study 1-EFA and study 2-CFA has confirmed 4 factors of the Determinants of Marriage Delay scale reported four distinctive components that bear a significant impact on marriage delays, with strong loadings in each factor and acceptable model fit indices.

Family Responsibilities and Financial Dependency (FRFD): This component consists of articulating 10 items, ranging from 0.56 to 0.76 factor loadings, of familial obligation, which influences the timing of marriage. This component involves family responsibilities, financial dependence, and issues concerning the social problems of the family, which usually delay the age of marriage. Examples include the death of parents, reliance on family finances, and issues

with family property, hence stating how marriages become affected by other external pressures exerted by the family unit.

Socioeconomic and Physical Conditions (SPC): This factor consists of 6 items with loadings ranging from 0.56 to 0.73 and reflects how the status of socioeconomic and physical conditions influences one's marriage timing. The significant features of financial status, physical appearance, and material conditions refer to dowry demands, job status, and the kind of body one possesses. These aforementioned factors reveal how economic and physical conditions impel one toward a postponement of marriage.

Cultural Expectations: Cultural expectations play a significant role in shaping the timing of marriage in Pakistan, with variations across different regions. These expectations, which range from 0.62 to 0.75 for four key items, reflect the influence of caste, community ties, and concerns about finding a suitable partner. In urban areas, the influence of caste and community may be less pronounced due to exposure to modern ideas, while in rural regions, family traditions and the need to marry within one's caste or community hold greater importance. This can lead to delays in marriage if a suitable match is not found. Provincial differences also highlight these variations; in Punjab and Sindh, marrying within the same biradari is common, whereas in Khyber Pakhtunkhwa and Balochistan, tribal customs are more influential. Economic factors further shape marriage decisions, with individuals in more developed areas prioritizing financial stability, while in less affluent regions, cultural norms are stricter, and marriages may be delayed if a match meeting family expectations is not available. Religious beliefs, though generally uniform, also blend with cultural traditions, particularly in conservative regions, causing further delays if families seek to maintain cultural values. Overall, the fear of not finding a compatible match within cultural boundaries often leads to delayed marriages across Pakistan.

Personal and Psychological Concerns (PPC): This factor comprises 4 items with a factor load ranging from 0.63 to 0.70. It means the personal and psychological levels may delay marriage, such as bad perceptions about marriage, love failures, concerns related to aging, and the challenge of finding a matching profession. These reflect the personal and psychological barriers to individual marriage choices.

7. Practical and Policy Implications

Based on the study's findings, several targeted policy interventions can be implemented to address marriage delays among women in Southern Punjab, Pakistan. Economic empowerment programs can provide job opportunities and vocational training, helping women achieve financial independence and reducing delays caused by financial instability. Family support services, such as affordable childcare and elderly care, can alleviate caregiving burdens, allowing women to consider marriage without the pressure of family responsibilities. Cultural sensitization campaigns can promote more flexible attitudes towards marriage, encouraging acceptance of inter-community marriages and reducing delays caused by rigid cultural norms. Psychological counseling services can address personal concerns, such as fear of not finding a suitable partner, helping women navigate the emotional aspects of marriage decisions. Additionally, legal and policy reforms supporting women's autonomy in marriage decisions and promoting education and career advancement can give women greater control over their choices. These interventions, grounded in the study's insights, can address the complex factors contributing to marriage delays, helping women make decisions aligned with their personal and societal aspirations.

8. Conclusion

This research developed and validated the Determinants of Marriage Delay Scale for Women in Pakistan, and highlighted four major determinants, such as Family Responsibilities and Financial Dependency, socioeconomic and Physical Condition, Cultural Expectations, and Personal and Psychological Concerns. The factor loadings were impressively high, and reliability was similarly good as evidenced by exploratory and confirmatory factor analyses of the scale. That could be considered a strong tool in understanding the complex interaction of family, economic, cultural, and personal factors affecting marriage delays. This scale combines both qualitative and quantitative methods; hence, it addresses a gap in the literature with its culturally sensitive measure that is appropriate for further research and policy development. This will, in turn, help the policymakers and practitioners address the multidimensional causes of marriage delay in developing targeted interventions that help these women make choices regarding marriage in a manner that is consistent with both their personal and societal aspirations.

References

- Ayaz, P. (2022). *Marriage, Pundor and Modernity (A case study of a village in Hunza)*. (Master of Science in Anthropology), Quaid i Azam University, Islamabad.
- Bagi, M. (2023). Reasons for Delayed Marriage and Its Determinants in Iran. *Journal of Applied Sociology*, 34(1), 31-50. DOI:10.22108/JAS.2022.134561.2312
- Bajwa, R., Bibi, H., & Ali, H. (2016). Life of Happiness, and Life Satisfaction among Married and Unmarried Families. *South Asian Journal of Banking and Social Sciences*, 2(1), 24-30.
- Chatratananon, O. (2007). *Factors influencing decisions to stay single or delay marriage of working singles aged between 30-50 years old*. Master Thesis, Thammasat University, (No. 110865)
- Cherlin, A. J. (2010). Demographic trends in the United States: A review of research in the 2000s. *Journal of Marriage and Family*, 72(3), 403-419. DOI:10.1111/j.1741-3737.2010.00710.x
- Choudhury, P. (2022). Geographic mobility, immobility, and geographic flexibility: A review and agenda for research on the changing geography of work. *Academy of Management Annals*, 16(1), 258-296. DOI:10.5465/annals.2020.0242
- Dush, C. M. K., Cohan, C. L., & Amato, P. R. (2003). The relationship between cohabitation and marital quality and stability: Change across cohorts? *Journal of marriage and family*, 65(3), 539-549. DOI:10.1111/j.1741-3737.2003.00539.x
- Ghimire, D. J., & Axinn, W. G. (2013). Marital processes, arranged marriage, and contraception to limit fertility. *Demography*, 50(5), 1663-1686. DOI: 10.1007/s13524-013-0221-5
- Hair Jr, J. F., LDS Gabriel, M., Silva, D. D., & Braga, S. (2019). Development and validation of attitudes measurement scales: fundamental and practical aspects. *RAUSP Management Journal*, 54(4), 490-507. DOI: 10.1108/RAUSP-05-2019-0098
- Hamid, S., Stephenson, R., & Rubenson, B. (2011). Marriage decision making, spousal communication, and reproductive health among married youth in Pakistan. *Global health action*, 4(1), 5079. DOI: 10.3402/gha.v4i0.5079
- Hill, B. D. (2011). *The sequential Kaiser-Meyer-Olkin procedure as an alternative for determining the number of factors in common-factor analysis: A Monte Carlo simulation*. Oklahoma State University. UMI: 3474663
- Jiang, Q., Feldman, M. W., & Li, S. (2014). Marriage squeeze, never-married proportion, and mean age at first marriage in China. *Popul Res Policy Rev*, 33(2), 189-204.

- DOI:10.1007/s11113-013-9283-8
- Jones, G. W. (2017). Changing marriage patterns in Asia. In *Routledge handbook of Asian Demography* (pp. 351-369). Routledge.
- Kpessa-Whyte, M. (2018). Aging and demographic transition in Ghana: State of the elderly and emerging issues. *The Gerontologist*, 58(3), 403-408. DOI: 10.1093/geront/gnx205
- Lapierre-Adamcyk, E., & Burch, T. (1974). Trends and differentials in age at marriage in Korea. *Studies in Family Planning*, 5, 255-260. doi:10.2307/1964895
- Lee, B. S., Klein, J., Wohar, M., & Kim, S. (2021). Factors delaying marriage in Korea: an analysis of the Korean population census data for 1990–2010. *Asian Population Studies*, 17(1), 71-93. doi:10.1080/17441730.2020.1781380
- Maqsood, A. (2021). Love as understanding: Marriage, aspiration, and the joint family in middle- class Pakistan. *American ethnologist*, 48(1), 93-104. DOI: 10.1111/amet.13000
- Marphatia, A. A., Ambale, G. S., & Reid, A. M. (2017). Women's marriage age matters for public health: a review of the broader health and social implications in South Asia. *Frontiers in Public Health*, 5, 278464. DOI: 10.3389/fpubh.2017.00269
- Quraishi, U., & Ali, H. (2020). Different Aspect of the Status of the Women in Pakistan: A Case of District Multan. *Journal of Historical Studies*, VI(II), 115-131.
- Raymo, J. M., Park, H., Xie, Y., & Yeung, W.-j. J. (2015). Marriage and family in East Asia: Continuity and change. *Annual Review of Sociology*, 41, 471-492. DOI: 10.1146/annurev-soc-073014-112428
- Ruguma, T. F. (2015). Changes in marriage practices among the Bafumbira of Western Uganda. *Journal of Geography and Regional Planning*, 8(2), 16-25. DOI: 10.5897/JGRP2014.0473
- Sassler, S., & Lichter, D. T. (2020). Cohabitation and marriage: Complexity and diversity in union- formation patterns. *Journal of Marriage and Family*, 82(1), 35-61. DOI: 10.1111/jomf.12617
- Stevens, J. (2002). *Applied Multivariate Statistics for the Social Sciences* (Vol. 4). Mahwah, NJ: Lawrence Erlbaum Associates. ISBN-13: 978-0-8058-5903-4 (0)
- Suga, K. (2020). Lowest-Low fertility in Singapore: Current state and prospects. *Low Fertility in Japan, South Korea, and Singapore: Population Policies and Their Effectiveness*, 39-66. DOI: 10.1007/978-981-15-2830-9_3
- Tessema, B., Ayalew, S., & Mohammed, K. (2015). Modeling the determinants of time-to-age at first marriage in ethiopian women: A comparison of various parametric shared frailty models. *Sci J Public Health*, 3(5), 707-718. DOI: 10.11648/j.sjph.20150305.27
- Torabi, F., & Ghahfarokhi, S. Z. (2021). Factors affecting marriage delay in Iran and around the World. *Journal of Population Association of Iran*, 16(32), 141-175.
- Torabi, F., and Mesgarzadeh, S. (2017). Risky society and the mean age at first marriage of women and men in Iran. *Women in Development and Politics*, 14(4), 493- 512. DOI: 10.22059/jwdp.2016.60966
- Westland, J. C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications*, 9(6), 476-487. DOI: 10.1016/j.elerap.2010.07.003
- Williams, B., Onsmann, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8, 1-13. DOI: 10.33151/ajp.8.3.93
- Wong, O. M. (2003). Postponement or abandonment of marriage? Evidence from Hong Kong. *Journal of Comparative Family Studies*, 34(4), 531-554. DOI: 10.3138/jcfs.34.4.531

Wulifan, J. K., Brenner, S., Jahn, A., & De Allegri, M. (2015). A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle income countries. *BMC Women's Health, 16*, 1-15. DOI: 10.1186/s12905-015-0281-3

Yu, J., & Xie, Y. (2015). Changes in the determinants of marriage entry in post-reform urban China. *Demography, 52*, 1869-1892. DOI: 10.1007/s13524-015-0432-z

Zang, X., & Zhao, L. X. (2017). State of the field: the family and marriage in China. *Handbook on the Family and Marriage in China*, 1-19. DOI: 10.4337/9781785368196.00006