



RESEARCH PAPER

Translation and Validation of Marital Scales: Measurement of Intent, Attitudes and Aspects of Marital Relationships

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ABSTRACT

This study aimed to have culturally equivalent and linguistically precise measure of MAES in (Urdu) version. Women desire for autonomy, educational preferences, emphasis on careers are associated with delayed marriages in recent years. Excessive rise of marital problems within Pakistani culture arouses the dire need of an objective instrument to measure people attitude and aspects towards marriage. MAES comprising Intent to Marry Scale, General Attitudes toward Marriage Scale, and Aspects of Marriage Scale (Park & Rosen, 2013) was administered on adults using purposive sampling technique. First model (GAMS) included two factors, positive attitude and doubts towards marriage indicating adequate factor loadings, significant correlation, and appropriate fit. Second model (AMS) constituted three dimensions, aspect of trust, self-completion and compatibility for marriage depicting acceptable factor loadings, strong correlation, and satisfactory fit.

KEYWORDS Adults, Aspects, Attitude, Intention, Marital Attitude and Expectation Scale (MAES)

Introduction

Rate of societal acceptance of divorce has increased in different countries. Non-marriage, marriage delay and advanced worldwide pervasiveness are the variations in marital design found in current years. Psychological sufferings and childlessness are the adverse outcomes of changes in marital design (Raemo et al., 2015; Jones, 2007). All these problems arouse the need of an objective instrument measuring multidimensional marital outcomes.

Attitude towards marriage among adults has been examined in very few research. Shift in marital trend leads to negative consequences that lead many studies to examine attitudinal variations among transversely several inhabitants (Goslin, 2014). Attitude and Expectations towards marriage remained unexplored among Pakistani adults (Muzaffar, et. al., 2018)

Desire for autonomy, educational preferences, emphasis on careers and personal accomplishment, are the major factors associated with delayed marriages in recent years. Moral values, patterns within the family system, nature of friendship and media are also responsible (Shurts & Myers, 2011). Pre-marital sexual intimacy, single ruled families, reduced productivity and delayed marriages are accountable for variations in attitude towards marriage (Nock, 2005; as cited in Park & Stacy, 2013). Chaturvedi & Singh in 2015 viewed positive changes in Indian youth attitude towards marriage.

MAES is proficient in measuring various dimensions for marital relations. Regardless of relationship experiences, sexual preferences, marital status, gender, age and race MAES is used for all persons. Its application lies in multiple domains of marital relations including identification of general attitude towards marriage, hope to get married and assumptions regarding various aspects of married life in future (Park & Rosen, 2013).

Current work emphasized on efficiency of Marital Scale to assess intent to marry, attitudes toward marriage and views for marital relationships. Its wide use prompts an effort to interpret and adapt the MAES in Urdu and to formulate its psychometric properties for Pakistani population.

Literature Review

Previously no scale was formulated to measure intention towards marriage. Items from ATMS were selected to measure individual intentions for marriage (Michelle et al., 2009). Understanding of marital attitudes and expectations among heterosexual married couples included measures such as Locke- Wallace Short Marital Adjustment Scale and the Spanier's Dyadic Adjustment Scale (Cohen, 1985) as cited in (Crowell et al., 2009; McNulty & Karney, 2004). Research on divorce outcomes (Gabardi & Rosén, 1991, 1992) measure general favorable and unfavorable attitude towards marriage such as ATMS (Kinnaird & Gerrard, 1986) and the Marital Attitudes Scale (Braaten & Rosén, 1998). Noteworthy limitations have been found in all previous measures.

Measurement of married and unmarried individual's attitude was brought into consideration through MAS scale developed by Braaten & Rosen, alpha reliability is .85. It fails to assess one's expectations regarding marital outcomes. List of Expectations from Marriage was used in Poland, with internal consistency value .89 (Slosarz, 2002). Measures that exist for assessing attitude towards marriage (Cohen, 1985; Kinnaird & Gerrard, 1986; Gabardi & Rosén, 1991; Braaten & Rosén, 1998; Pearl & Galupo, 2007) or expectations for marriage (Slosarz, 2002), there are limitations with each of these measures.

Liu et al. in 2015 used MAS to study changes in person attitude towards marriage. Factors such as attitudes toward, and openness to, heterosexual marriage among those in the gay community have also been measured through MAS (Wang et al., 2011). Correlations among marital attitude, conflict and divorce have also been measured (Sergin et al., 2005). Change in attitude towards marriage because of therapy was revealed (Johnson, 2011). Positive correlation of MAS with attitude toward marriage (ATM) was found i.e. ($r = 0.77$) indicating high construct validity (Braaten & Rosen, 1998).

Thus, no current scale can assess these three realms, determination for marriage, attitudes towards marriage, and outlooks for marital relationships. As such, little evidence to suggest that these three realms should be explored as one large construct.

Riggio and Weiser (2008) indicate that marital attitudes, marital prospects, beliefs, and behaviors are interconnected. These relationships were therefore explored in MAES. By translating and validating a comprehensive scale, the field could better examine the formation and dissolution of marital relationships. Application of MAES includes identifying young adults' attitudes, worries, and uncertainties concerning marriage being affected due to interparental conflict, gender and exclusively parental divorce (Christensen, 2014; Yaacob et al., 2016). Beliefs, successive actions such as choice to marry and manner of interaction in intimate relations are affected by highly embedded positive and negative attitudes.

MAES comprises all marital domains. MAES has not yet been translated in Urdu neither it is psychometrically evaluated in Pakistan. Therefore, translation and cultural adaptation of MAES in Pakistani literature was pursued in present study by formulating following objectives. Firstly, to translate and adapt the MAES in Urdu for Pakistani population. Secondly, to establish the factorial structure of translated and adapted MAES in indigenous population. Thirdly, to validate MAES by establishing evidence of construct and concurrent validity.

Material and Methods

Objectives were met in two phases. In first phase, MAES was translated in Urdu. Evaluation of psychometric properties of MAES comprised second phase. Factorial structure of three separate scales of MAES was determined through Confirmatory Factor Analysis. The correlation was also examined for MAE's measure (IMS, GAMS and AMS).

Measures

Park and Rosen in 2013 formulated MAES. It has three subscales and 36 items.

Intent to Marry Scale (IMS)

Individual aim concerning his intent to marry in future is observed through IMS scale. It is comprised of 3 items. Responses options vary from intensely disagree to intensely agree on a 7-point Likert scale. Item 3 is reverse scored. It is valid and has high internal consistency .91(Park & Rosen, 2013).

General Attitudes toward Marriage Scale (GAMS)

GAMS evaluate individual's attitudes towards marriage. It is a 10-item scale which is used to measure three types of attitudes which include positive, negative and doubts and fears. Scoring criteria range from 0 to 6. Items 2, 3, 4, 8, 10 are reverse scored. Scale reliability coefficient is .82(Park & Rosen, 2013). Items (1, 5, 7, 9 measure positive attitude), (3, 7, 8 negative attitude) while (2, 4, 6 fear attitude).

Aspects of Marriage Scale (AMS)

Individual judgment of marital outcomes is measured through AMS. It involves 23 items with seven-point Likert scale. Scores vary in range from 0 to 138 with maximum score indicating favorable outlook of that dimension. It includes six dimensions i.e. love (2, 9, 15), esteem (3, 11, 18, 21, 22), faith (4, 6, 14, 17, 20), money (7, 13, 19), sense (1, 8, 10, 16) and bodily intimacy (5, 12, 23). Items 13, 15, 17 and 23 are reverse scored (Park & Rosen, 2013).

Phase I: Translation and Back Translation

ISPOR standards were used for translation and adaptation into Urdu (Wild et al., 2005). First, approval was taken from the author. By following back-translation procedure three lecturers who were skilled bilingually in the interrelated field were asked to translate MAES into Urdu. It was mandatory for all three lecturers to produce similar, topic-specific and language-specific viewpoint. Expert panel was required for authentic review of all three translations. Accepted version was then back translated into English. Back-translated scale was equal to original scale. Systematic assessment of each item was thoroughly done regarding phrasing, style and syntax in Urdu by appropriate selection of suitable words closest to the original items. Then, pilot study of Urdu version of MAES was conducted on

a sample of 60 college students. Results revealed adequate reliability ($\alpha = .72$). Urdu version was clear, logical and therefore available for additional validation.

Phase II: Determination of the Psychometric Characteristics of the Marital Scales

Reliability estimates of each subscale were calculated for MAES. The construct validity of the dimensions of Marital Scales was validated through Exploratory (SPSS25) and Confirmatory Factor Analysis (AMOS 21) Analysis of Moment Structure was run to evaluate construct validity of MAES.

Sample

Inclusion Criteria

Inclusion criteria for the present research were individual's with 18 years of age or above 18, those who were involved in intimate relationship which include friendship/engaged/committed / married and educated.

Exclusion Criteria

Individuals below 18 years of age, those who were not engaged in intimate relationship and uneducated individuals were excluded from the study

Demographic Characteristics

The present study comprised of 500 adults, age range (18 to 40) years from different colleges and universities of Abbottabad and Mansehra. Purposive sampling technique was used. 500 adults with 268 males (53.6%) and 232 females (46.4%). Education was categorized as BS/MS (435) and MS/PHD (65). Socioeconomic status as low (204), middle (293) and high (3). Relationship status was divided into four categories including Engaged (130), committed (56), and married (79) and Friends (235).

Procedure

Research was conducted in accordance with APA ethical standards. Initially questionnaires were distributed to 650 adults. Informed consent was taken, and participants were briefed about the nature of research. Respondents were asked to rate their responses on each item honestly. Response rate was almost seventy six percent.

Results and Discussion

Data Analyses

SPSS 26 and Amos 21 were used to determine psychometric properties of MAES. Exploratory factor analysis resulted in primary axis factoring with varimax alternation. To observe extracted factors, confirmatory factor analysis was used. Worthington & Whittaker reported $N=300$ to be generally adequate sample size as cited in Cabrera-Nguyen (2010). The current study analyzed data with 500 sample size.

Composite Reliability

Reliability estimates of each sub scale were computed. Results depicted satisfactory reliability for IMS = .70, and good for GAMS = .82, AMS = .87. MAES also revealed good internal consistency .87. Table revealed satisfactory reliability values of all five factors

(PAM, NAM, ATM, ASCM and ACM) indicating composite reliabilities as .98, 0.86, 0.88, 0.93 and 0.74.

Exploratory and Confirmatory Factor Analysis

Most frequently used statistical method to observe existing model for fit is Confirmatory Factor Analysis (CFA). CFA demonstrated the relationships between the observed indicators with original factors for validation of fundamental factors. All examined factors had adequate standardized regression weights, based on initial criteria (Field, 2009).

Data for MAES sub scales was reduced using factor analytic technique. Initially MAES comprised of ten factors. Latent concepts revealed through CFA produced six factors. To get convergent validity, statistical significance of each item dimension model was checked, and secondly total variance elucidated which should be greater than or equal to 0.5. AVE refers to total proportion of variation explained by items in a concept. Appropriate level for construct validity was indicated by model fit index. In addition to the overall evaluation of goodness of fit, the standardized factor loadings were examined to identify the misspecification for model modification. Factor loading of more than 0.3 is acceptable. Discriminant validity is achieved when the measurement model is free from redundant items.

Jackson et al. (2009) gave following guides of fit for CFA model as cited in Cole & Dong (n.d.). These include (GFI) goodness of fit index, (CFI) comparative fit index, (TLI) Tucker Lewis Index, (RMSEA) root mean square error of approximation and (χ^2/df) relative chi-square and total variance explained (TVE). Standard for acceptance of fit index is .9 or greater than .9. RMSEA should be less than .08. Uniformity of factor loadings was also observed. In present study .0.3 factor loading was considered adequate.

Original MAES scale along with translated MAE's measure was given at the same time to study participants. Criterion validity was achieved through correlation.

Content Validity

Specialists obtained content validity of translated MAES. 10 subjects, experiencing intimate relationship were asked to have detailed analysis of MAES scale. They were asked to rate each item based on its precision, sequence, understanding and appearance. Subjects reported clarity regarding all aspects of the scale.

Normality Assessment

Data was subjected to univariate normality analysis and multivariate outliers to access normality of the data. Analysis revealed data of 500 to be normally distributed.

Construct Validity

For GAMS measure two models were produced obtaining acceptable fit. Model 1 initially revealed unacceptable fit. Following three items were removed due to factor loading <0.3 . Model thus comprised of 7 items. In the next step modification indices was raised which indicated link between $e_2 \leftrightarrow e_3$. This modification was applied but still P value was not significant, $p < .05$. MI was again subjected to analyze the items which suggested $e_5 \leftrightarrow PAM$. This linkage raised p value to fit criteria and thus model fit for GAMS was obtained with two factor structures.

For AMS measure five models were produced to achieve adequate model fit. Here also initial model indicated unacceptable fit. Only 11 items were retained out of 23, rest of the items were rejected due to factor loading <0.3 . Modification indices was followed next which correlated $e_{10} \rightarrow e_{11}$, $e_2 \rightarrow e_5$, $e_6 \rightarrow \text{ATM}$, $e_1 \rightarrow e_8$ and finally $e_4 \rightarrow \text{ASCM}$, thus raising the P value to meet the standard for model fit.

Discriminant Validity

Oblique value appearing in bold is greater which appear in its row and its column, shows discriminant validity. Discriminant validity was obtained as crosswise values appearing in bold were greater than all correlation values.

Convergent validity

Statements that are linked with the anticipated concept depict convergent validity. Items convergence is revealed through summary of average variance explained. Convergent validity for all six factors is shown in table 2 and 3.

Fit index for GAMS data was revealed through EFA. Favorable values of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (KMO value = .852) and Bartlett's Test of sphericity (Test value = 1925.518, $p < .001$) indicate that EFA is appropriate for this data. Appropriateness of two-factor structure of GAMS was given by total variance explained 65.96%, observing eigenvalues and scree plot. Factor loading of all items for factor 1 (range from .73 to .86) and for factor 2 (range from .69 to .84).

Further AMS data was subjected to meet the baseline criteria for fit index. Analysis revealed acceptable values for (KMO=.866) and Bartlett's Test of sphericity (Test value = 9950.061, $p < .001$). Evidence for three factor structure of AMS was given by total variance explained 77.29% and examining eigenvalues and scree plot. Factor loading of all items for factor 1 (range between .58 to .83), for factor 2 (range between .91 to .91) and for factor 3 (range between .58 to .80)

Confirmatory Factor Analysis (CFA)

Progression towards confirmatory factor analysis CFA was made as all baseline assumptions for EFA were met for GAMS and AMS. IMS data was not subjected to CFA as it comprised of only one factor. Satisfactory fit to the data was shown by two factor model of GAMS. Where GFI= .992, AGFI= .980, TLI = .995, NFI= .991, CFI = .997, RMSEA = .026, $\chi^2/df = 1.358$ and $P = .18$. Overall, the CFA result suggested that the factor structure of GAMS is stable and reliable (see figure 1 & table 5).

AMS model also revealed accepted fit to the data, where GFI= .984, AGFI=.969, TLI=.995, NFI= .988, CFI= .997, RMSEA= .027, $\chi^2/df=1.357$ and $P = .07$ (see figure 2 & table 5).

Table 1
CFA, Validity and Reliability Values for GAMS Model

Construct	Item	Factor Loading	Cronbach Alpha	CR	AVE
F1.PAM	1	.824	.86	0.98	0.97
	5	.862			
	7	.737			
	9	.847			

F2.D/FM	2	.848	.74	0.86	0.69
	4	.695			
	6	.781			

Note. PAM = Positive Attitude towards Marriage; D/F = Doubts/Fear towards Marriage; CR = Composite Reliability; AVE = Average Variance Extracted.

Table 2
CFA, Validity and Reliability Values for AMS Model

Construct	Item	Factor Loading	Cronbach Alpha	CR	bAVE
F1.ATM	3	.813	.70	0.88	0.57
	4	.835			
	20	.768			
	21	.585			
	22	.750			
F2.ASCM	1	.911	.88	0.93	0.62
	8	.913			
	16	.918			
F3.ACM	10	.588	.78	0.74	0.49
	11	.804			
	18	.700			

Note. ATM = Aspect for Trust in Marriage; ASCM = Aspect for Self-Completion in Marriage; ACM = Aspect for Compatibility in Marriage; CR = Composite Reliability; AVE = Average Variance Extracted

Table 3
Fitness level of GAMS (1-2) and AMS (1-5) Model

Model	χ^2/df	GFI	AGFI	TLI	NFI	CFI	RMSEA	p
GAMS M1	1.473	.971	.966	.982	.987	.976	.06	.012
GAMS M2	1.358	.992	.980	.995	.991	.997	.026	.185
AMS M1	2.353	.969	.947	.981	.977	.986	.052	.000
AMS M2	1.788	.976	.959	.989	.983	.992	.040	.002
AMS M3	1.593	.980	.963	.992	.985	.994	.034	.012
AMS M4	1.475	.982	.966	.993	.987	.996	.031	.03
AMS M5	1.357	.984	.969	.995	.988	.997	.027	.077

Note. χ^2/df = Chi-squared/ degree of freedom; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; TLI = Tucker Lewis Index; NFI = Normative Fit Index; CFI = Comparative fit Index; RMSEA = Root Mean Square Error of Approximation.

Table 4
Model fit index of GAMS and AMS Model

Model	Scale	KMO	TVE	GFI	TLI	CFI	AGFI	RMSEA	χ^2/df	p
1.Model	GAMS	.84	65.96%	.99	.99	.99	.98	.02	1.35	.18
2.Model	AMS	.86	77.29%	.98	.99	.99	.96	.02	1.35	.07

Note. KMO = Kaiser-Meyer-Olkin; TVE = Total Variance Extracted; GFI = Goodness of Fit Index; TLI = Tucker Lewis Index; CFI = Comparative fit Index; AGFI = Adjusted Goodness of Fit Index; RMSEA = Root Mean Square Error of Approximation; χ^2/df = Chi-squared/ degree of freedom.

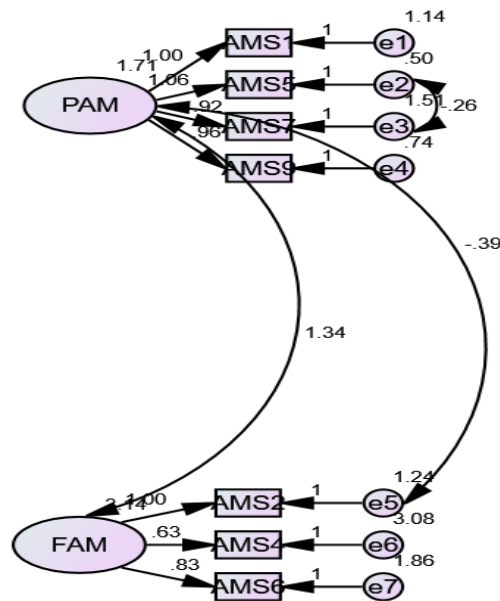


Figure 1. Confirmatory Factor Analysis of the two Factors of GAMS.

Note. PAM = Positive Attitude towards Marriage; FTM = Fear towards Marriage; AMS = Attitude toward Marriage Scale.

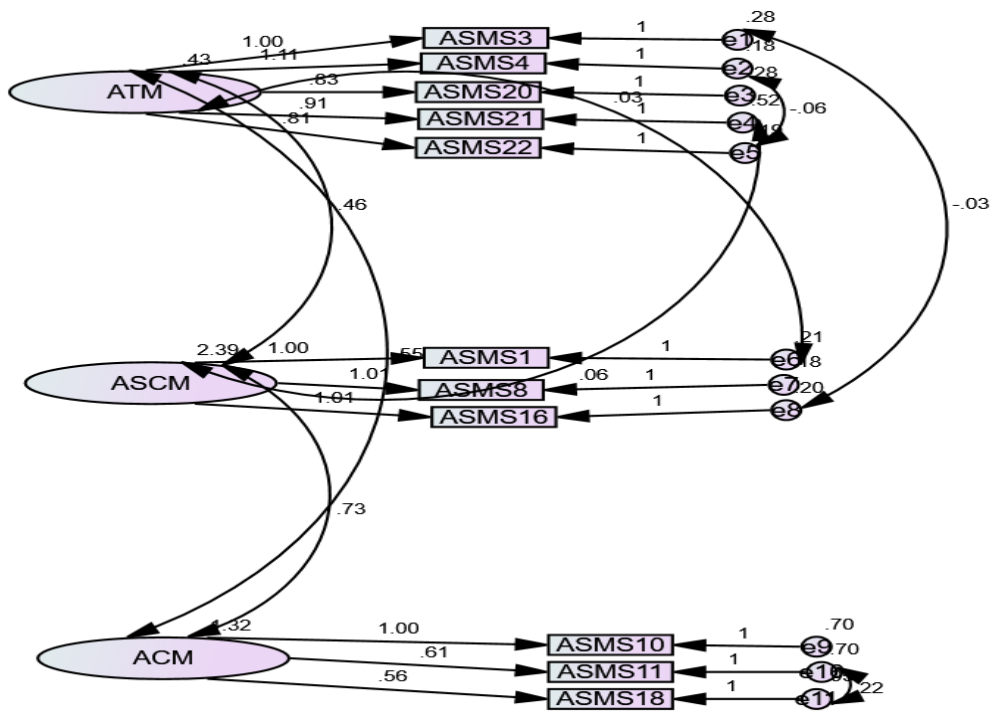


Figure 2: Confirmatory Factor Analysis of the three Factors of AMS.

Note. ATM = Aspect of Trust in Marriage; ASCM = Aspect of Self Completion in Marriage and ACM = Aspect of Compatibility in Marriage.

Discussion

Translation and validation of MAES measure into Urdu language was successfully accomplished in the present study. Therefore, it can be used to measure intent, attitude and aspect for marriage from married as well as unmarried individuals (involved in intimate relationship). Forward and backward translation procedure depicted correspondence between original and translated version in terms of clarity and construct.

MAES consists of three sub scales, including ten different factors namely, intent to marry, positive attitude towards marriage, negative attitude towards marriage, doubts, trust, physical, romance, meaning, finance, respect. Analysis of MAES Urdu version revealed only six factors including intention to marry, positive attitude toward marriage, negative attitude toward marriage, trust, compatibility and self-completion verified on Pakistani culture by applying CFA. In IMS measure, as only 3 items were present which comprised one factor therefore it was not possible to obtain model fit for only one factor. However, it met all other criteria of EFA. EFA for IMS revealed Kaiser-Meyer-Olkin (KMO value = .733) and Bartlett's Test of Sphericity (Test value = 1877.626, $p < .000$). Total variance explained was 91.85%.

For GAMS scale two out of three factors were revealed. Positive attitude toward marriage which include items (1, 5, 7, 9) and doubts toward marriage which include items (2, 4, 6). In the original model of GAMS positive and doubt dimension comprise the same items that appeared on factor loading. Thus, giving strength and validity to these two factors. Items 3, 8 and 10 were not included in model fit due to inadequate factor loading. These three items are related to negative outcome of marriage. Individuals might be reluctant to be open to such responses especially for those who have no such experiences.

Similarly for AMS measure 3 factors were revealed instead of original 6 factors. Items that were left were 2,5,6,7,9,12,13,14,15,17,19, 23 and excluded from model fit as they did not met criteria of factor loading. In the present study translated version of MAES combined items 3, 4, 20, 21, and 22 into a single factor. However, in original MAES item no 3, 21 and 22 including 2 other items (11, 18) comprised respect factor whereas item 4, 6 and 3 other items (14, 17, 20) comprised trust factor. Results were contradictory in the Urdu translated version of MAES as three items from respect (3, 21, 22) and two items from trust (4, 20) were loaded on a single factor, F1, named ATM (aspect for trust in marriage). Similarly, second factor included three items 1, 8 and 16. All these items measure aspect of meaning or self-accomplishment for marriage. However original model involves four items 1, 8, 10 and 16. Item no 10 was excluded in the present study. Item no 10 was related to rating of compatibility to be important for successful marriage. Detailed examination of original MAES revealed item 10 to be more closely related to compatibility rather than self-accomplishment and therefore was included in third factor in the present study. Next factor 3 included 3 items 10, 11 and 18 which were named aspect of compatibility in marriage. In original version item 10 was included in meaning factor whereas items 11 and 18 were included in respect factor. However again discrepancy was obtained in the Urdu translated version and these three items were loaded to give a single factor named aspect of compatibility factor as all these three items are very closely related to meaning aspect. MAES Urdu version when applied in Pakistan revealed six factors of MAES to be confidently applied to gain understanding of marital attitude and expectation of Pakistani population.

As this research was conducted in KPK, Pakistan where individuals mostly belong to Hazara (Pathan community), and therefore do not have preferences for such needs especially in revealing romance or physically intimacy. GAMS model indicated adequate model fit, comprised of 7 items and factor loading indicated two dimensions (GFI = .992, TLI = .995, CFI = .997, RMSEA = .026). Model fit of GAMS appropriately met all base line

fit indices criteria, and therefore model is strengthened (see table 4). Study conducted by Yaacob et al. (2016) in Malaysia also revealed two factor structures of GAMS which provide evidence to this model.

AMS model comprised of 11 items which were grouped into three factors through factor loading, demonstrating suitable model fit (GFI=.984, CFI=.997, TLI=.995, RMSEA=.027), thus reinforcing the model fit.

Conclusion

Urdu version of MAES instrument was developed and validated using a sample composed primarily of college and university participants within Pakistan. The results indicate (GAMS and AMS model) have good fit index and psychometric properties. Theoretical models for future research need to be explored as well as factorial structure also need to be validated.

Recommendations

The present study met with following limitations. First, IMS scale comprising of only one factor (3 items) could not be subjected to factor loading. Secondly, Urdu version of MAES did not reveal same factor structure as of MAE's original measure due to cultural variations. Dimensions in the Urdu version was reduced to six. Thirdly, 15 items were excluded in the current model fit.

The sample was recruited from two cities only. Indisputably, results of the study cannot be generalized elsewhere. Few participants informed trouble in responding to certain items based on close similarity in them. It seemed as if same aspect was assessed twice in few items. It is therefore suggested to further analyze and explore factor model of MAES.

Present study did not include sample from divorced or broken families. MAES use therefore is recommended with such sample. Prolonged data may be obtained through such studies, which will extend psychometric properties of MAES Urdu version. It may also be proficient in generating opening for an innovative line of search by addressing change across different samples.

MAES is beneficial for individuals who are in intimate relationships as it enables them to realize their own values and surrounding issues of relationship within their own lives.

Consequently, Urdu MAES stood a highly consistent and effective self-report measure for the assessment of attitude and aspects towards marriage. Moreover, it has adequate convergent validity. Since Urdu version of MAES has been translated and validated psychometrically in the present study, it can be used positively as measurement of attitudes and aspects for marriage on both married as well as unmarried sample particularly in Urdu-speaking populations.

Urdu version of MAES may be applied in assessing intentions, attitudes and aspect towards marriage in Pakistani subcultures. Its use is also recommended for adults belonging to divorced families to get valuable insight for strategy development and implementation and to reduce the likelihood of intergenerational spread of divorce.

It will be useful in counseling and therapy sessions especially for those who have negative intentions or attitudes towards marriage. It is evident to further examine factorial

structure of Urdu version of MAES to strengthen its psychometric evidence. Future studies could further extend knowledge of relationship among intent to marry, attitudes and aspects for marital relations through MAES instrument.

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