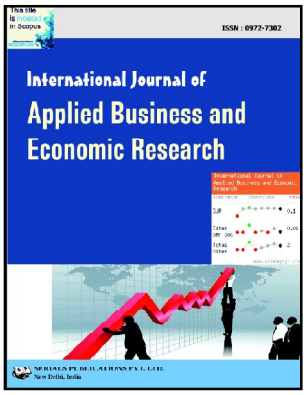

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Validating the *Maqasid Shariah* Prison Quality of Life (MSPQoL) among Drug-Abuse Inmates Using Confirmatory Factor Analysis

Mahadzirah Mohamad, Zainudin Awang and Nor Azman Mat Ali

Faculty of Economics and Management Sciences, Universiti Sultan Zainal Abidin, Kampus Gong Badak, 21300, Kuala Terengganu, Terengganu Darul Iman, Malaysia
E-mails: mahadzirahmd@unisza.edu.my; zainudinawang@unisza.edu.my; azmanma@unisza.edu.my

Abstract: The specific objective of the study was to assess and validate the manifesting items for MSPQoL. The qualitative phase employed focus group interviews with the drug-abuse inmates to generate items measuring the MSPQoL construct. The generated items have underwent the procedure of content validity, face validity and criteria validity by the experts. Data from pilot study was used to explore the dimensionality of items measuring the construct through Exploratory Factor Analysis (EFA). Data from field study was used to assess and validate the measurement model measuring the construct using the Confirmatory Factor Analysis (CFA) procedure. The validation procedure under CFA confirmed the Unidimensionality, Validity and Reliability of the construct.The study found MSPQoL is a third-order construct which consists of five other constructs namely "Religion", "Life", "Mind', "Lineage" and "Property". Every construct has specific number of components while every component has a few number of measuring items. Using MSPQoL, the prison authority could identify the quality of life aspects that require improvements and plan appropriate policies and strategies to enhance inmates' quality of life.

Keywords: *prison quality of life, drug inmate, Maqasid Shariah, measurement model*

INTRODUCTION

The overall assessment of human experience has been commonly expressed by the term Quality of Life (QoL) across disciplines including psychology, medicine, economics, environmental science, and sociology. The QoL as a general term is meant to represent either how well human needs are met or the extent to which individuals or groups perceive satisfaction or dissatisfaction in various life domains (Costanza *et al.*, 2007).QoL is a multidimensional construct emerging from the assessment of various needs of the individual, public, national, and global levels (Costanza *et al.,* 2008). The definition of QoL has been interpreted by various parties according to their field of study. For example, Brown and Brown (2005) defined QoL as

achieving a good life, success and happiness of living in a surrounding. This opinion supports the view by Liu (1975) which states that the QoL consists of a set of individual's needs to several aspects of life, and when this combination of needs is fulfilled simultaneously, it gives the individual a sense of happiness and satisfaction. Researchers have discovered that people's perceptions are largely shaped by culture and circumstance (Diener & Suh 1997). For instance, Uchida *et al.* (2013) compared the empirical findings from a Western cultural context and from the context of East Asia, and found that people from different cultural backgrounds have different perceptions of what is important to their QoL. QoL is an important concept since it is used by various parties for development status, economic growth and political stability.

In the case of drug-abuse inmates in the prisons, past studies indicate that elements of QoL play a pivotal role in promoting specific prevention, care strategies and policies for this marginalized group during rehabilitation (Laudet, 2011; Dore, 2010; De Maeyer, Vanderplasschen, & Broekaert, 2009).Doliñska-Zygmunt & Mokrzyñska (2013) also attempt to study prison quality life that may influence the inmate's satisfaction during imprisonment period. It was reported by the NADA (2015) that 61 per cent of imprisoned inmates were involved with drug-abuse in Malaysian Prisons. Research by Doliñska-Zygmunt & Mokrzyñska (2013);Ammar, El Zein, & El Jor(2011); Zwemstra, Masthoff, Trompenaars, & De Vries (2009); Mooney Maureen, Barry Michael, Friel S, Hannon F(2002)found the level of QoL among inmates is average to low. According to McIntosh & Saville (2006), prison regime and culture; the attitudes of staff towards inmates; and the relationship between officers and inmates are some of the influencing effectsof inmates' life. In fact, inmates also suffer negative effects in life such as employment difficulties, family problems, marginalized by society and the difficulty in getting into the public service after release from prison(Petersilia, 2001).

The target in the Eleventh Malaysia Plan(2015) is to ensure people can enjoy better QoL, regardless of their socio-economic background and place. Accordingly, growth of the country is not measured by GDP growth alone; in fact it also considers the people's growth(Eleventh Malaysia Plan, 2015). In order to achieve this target, drug-abuse inmates are no exception as they are also part of society. After being released, their roles as human capital for national economic growth are required (Petersilia, 2000).A study by De Maeyer *et al.* (2009)is representative of the research among drug-abuse focus on health-related Qo Ldespite several scholars having demonstrated that QoL is an extensive concept.

Acknowledging the fact that "one size does not fit all", the assessment on prison QoL among drug inmates should be done thoroughly to help the relevant parties in drafting suitable policies and constructing coping strategic plans to accommodate the needs of this subgroup (Mohamad; Omar; Mat Ali & Awang, 2016a; Mohamad & Mat Ali, 2016b). Inappropriate tools would provide incorrect information leading to inaccurate, ineffective and inefficient solutions to rehabilitate drug-abuse inmates (Mohamad et. al., 2016d; Mohamad, Karim& Ali (2017). This, in turn, would not help the prison authorities to identify aspects of prison QoL that should be given more attention in order to improve their prisonQoL.

Hence, adequate attention should be given to identify suitable tools measuring prison QoL among drug-abuse inmates to address the QoL development required by this group (Mohamad et. al., 2016a;Mohamad *et. al.,* 2016d). Regarding faith view point, Mohamad *et. al.,* (2016a) applied the*Maqasid* Shariah approach in measuring QoL. According to Mohamad; Omar; Mat Ali & Awang(2016c), measurements of QoL by using the Maqasid Shariah is a holistic approach as it encompasses five main dimensions that cover the needs in life as commanded by Allah; "Religion", "Life", "Mind", "Lineage" and "Property" and all five aspects of life are firmly connected and balance between these five aspects is prioritized.

Therefore, this study was conducted to measure drug inmate prison QoL using the Maqasid Shariah approach (MSPQoL). The MSPQoL approach of measuring quality of life postulates that safeguarding people's wellbeing or quality of life would be achieved through protecting the people's five life-related elements, "Religion", "Life", "Mind", "Lineage"; and "Property" using confirmatory factor analysis (CFA). This paper is one of the most current researches to validate the measurement item of QoL based on Maqasid Shariah principles in Malaysia. This latest research would a key element driving the potential researchers to attempt the QoL research for their future research; in short, it can be a reliable source of information for researchers and practitioners.

METHODOLOGY

Study design

This study is a pioneer in MSPQoL, thus the researchers need to exploremany related studies in this area in order to suggest some valid and reliable instruments measuring MSPQoL for the subsequent analysis in future research. Since there is no established instruments available to measure the newly-found constructs:"Religion"; "Life"; "Mind"; "Lineage"; and "Property". Hence, both qualitative and quantitative studies were carried out to generate, assess, and validate items to measure the main construct, namely MSPQoL. The items were generated through literature review, preliminary interview with the experts as well as focus group interviews with the subjects. Then, the quantitative approach was conducted to assess, filter, and validate the generated items measuring the construct of interest.

Qualitative study

The study begins with the discussion on literature regarding the measuring items covering the five (5) Maqasid Shariah principles: "Religion"; "Life"; "Mind"; "Lineage"; and "Property" which are part of the qualitative study. The study was conducted in three stages in determining the items measuring the MSPQoL. In the first stage, thorough discussion on the relevant literature among researchers was conducted. In the second stage, discussions were made with Maqasid Shariah experts in order to establish content validity and face validity. In the third stage, focus group interviews with the drug-abuse inmates were conducted. The discussion with experts in the Maqasid Shariah assessed the items generated from literature to measure the Religion, Life, Mind, Lineage and Property. In this phase, the experts commented on the relevancy of generated items to the Maqasid Shariah principles and a few amendments were made to the items based on their suggestion. In the last stage the qualitative process, a focus group interview with the inmates was made to gauge their opinion and understanding regarding the MSPQoL items. The study rectified all issues raised during the interview so that the respondents would understand what the items are measuring when the survey is conducted. The study also obtained comments, opinions and suggestion from the measurement experts regarding the scales, method of sampling and method of data collection. Expert comment is important in order to achieve criterion validity whereby proper methodology is required in order to suit with the parametric statistical analysis. This is because certain statistical procedures require data to be independently, identically and normally distributed for the analysis to be valid and acceptable (Awang, 2012; 2014; 2015).

Quantitative study

The quantitative approach is required to assess the importance of every item measuring the MSPQoL as a construct (Awang, 2012; 2014; 2015). The first stage involved the assessment of items in terms of their factor loadings, their dimensionalities (if any) and the internal reliability for every dimension. The second stage of quantitative study involved the validationof the items measuring every dimension as well validating of the dimensions measuring their construct simultaneously (Awang, 2012; 2014; 2015; Hoque *et al.*, 2017). The first stage involved Exploratory Factor Analysis (EFA) procedure while the second stage involved the Confirmatory Factor Analysis (CFA)procedure.

Exploratory Factor Analysis (EFA)

Once the qualitative procedures were completed, the study conducted a pilot study. The Exploratory Factor Analysis (EFA) procedure was conducted using the data from the pilot study. Based on the EFA results, the study will eliminate any item having a low factor loading (less than 0.6). The study will compute the Cronbach Alpha which reflects internal reliability for every dimension using the retained item. The Cronbach Alpha value should exceed 0.7 in order to reflect adequate internal reliability (Awang, 2012; 2014; 2015; Hoque *et al.*, 2017).

Confirmatory Factor Analysis (CFA)

Once the EFA procedure is completed, the study conducted field study using the new set of questionnaire items where the low factor loading items (if any) were deleted and items were grouped into their respective components. The data from the field study will be used to validate the measurement model of the construct. This validation procedure is called the Confirmatory Factor Analysis (CFA). The CFA procedure will validate instruments measuring the construct in term of Unidimensionality, Validity, and Reliability (Awang, 2014; 2015). The measurement model has to meet three types of validity: Construct Validity, Convergent Validity, and Discriminant Validity (Awang, 2014; 2015; Hoque *et al.*, 2017; Kashif *et al.*, 2015, 2016). As far as reliability is concerned, the study needs to assess the Composite Reliability for the construct. Once the CFA procedure is completed, the study could model all components into their respective construct and execute Structural Equation Modelling (SEM).

Structural Equation Modelling (SEM)

Once the CFA procedurewas completed, the researcher assembled all constructs (both first order and second order construct) into the structural model in order to execute Structural Equation Modelling (SEM). In the structural model, the researchers could model explicitly the measurement error for every item, the residual from the construct to their respective components as well as the residual from one construct to another construct in the model.

Sample

The self-administered questionnaires were distributed by trained enumerators to the inmates in the three prisons located in the east coast of Peninsular Malaysia. The respondents were selected randomly from the sampling frame provided by the prison authority. A total of 150 respondents were involved in the preliminary

stage of the study,also termed thepilot study, and another 248 respondents were involved in final stage of the study,termed thefield study. Respondents were asked to indicate the extent of their agreement or disagreement on the items measuring MSPQoL using an interval scale ranging from 1 (strongly disagree) to 10 (strongly agree). The interval scale is a continuous score and meets the requirement forusing parametric statistical analysis (Awang, 2012).

RESULT

Exploratory Factor Analysis (EFA)

In this study,the EFA procedure was executed separately on five distinct constructs measuring MSPQoL. The underlying constructs were Religion, Life, Mind, Lineage and Property. The items to measure each construct were generated from literature, expert review and focus group interview. Literature search found that the first construct, Religion consists of three underlying components: Islam, Iman and Ihsan. The second construct, Life consists of three underlying components: Basic Needs, Recreation & Sport; and Safety. The third construct, Mind consists of two underlying components namely Attitude and Character. The fourth construct, Lineage consists of three underlying components: Friendship, Law Enforcement and Family Relationships. Lastly, the fifth construct, Property consists of three underlying components: Management, Production and Distribution.

The result from this study is shown in Table 1. The values of KMO (Kaiser-Meyer-Olkin measure of sampling adequacy) for allconstructs measuring MSPQoL ranged between 0.757 to 0.847; and the measures exceeded the threshold value of 0.60 (Awang, 2012; Hoque *et al.*, 2017). Thus, the EFA result is acceptable since the values of KMO have achieved the requirement. The next step is to identify how many components emerged and the items that fell under the respective components.

Table 1
The KMO measure for Sampling Adequacy

Construct	*KMO measure of sampling adequacy*
Religion	0.813
Life	0.779
Mind	0.847
Lineage	0.825
Property	0.757

Table 2 presents the EFA results for all five constructs measuring MSPQOL. The output show the component for every construct, the items in the respective components and the factor loading for every item.

Table 3 present the Internal Reliability Score for every component. This information is extremely important since it indicates the reliability of the measuring items to be employed in the field study later.

Confirmatory Factor Analysis (CFA)

In this study, the MSPQo Lconstruct is measured using five distinctive constructs: Religion; Life; Mind; Lineage; and Property. The EFA results have shown that these five constructs have emerged as second

Table 2
The rotated component matrix, the component and items

Construct 1: Religion			
Items	*The Components of Religion*		
	Islam	*Ihsan*	*Iman*
I read the Holy Quran everyday (A1)	0.640		
I perform the five daily obligatory prayers (A4)	0.657		
I always perform the optional voluntary prayers (A5)	0.793		
I fast for a full month during Ramadan (A6)	0.606		
I refrain from hurting others (A12)		0.661	
I smile when I deal with others (A14)		0.620	
I forgive others for their wrongdoings (A16)		0.581	
I will admit my mistakes (A17)		0.609	
I love Prophet Muhammad SAW (A18)			0.529
I believe in the existence of the Day of Judgement (A19)			0.820
	The Components of Life		
Construct 2: Life	*Health*	*Sport and Recreation*	*Basic needs*
I practice the sunnah dietary habits as a form of medicinal treatment (e.g: honey,black cummin and zam-zam water) (N1)		0.685	
I practice the readings of the verses from the Holy Quran for health (N2)		0.899	
I practice the readings of the verses from the Holy Quran for safety (N3)		0.838	
I am actively participating in recreation programmes (N4)	0.810		
I exercise to keep fit (N5)	0.873		
I fill my free time with exercising (N6)	0.815		
Exercising can calm my mind (N8)	0.687		
The food that my family consumes is halal (N11)			0.770
Clean food is my priority (N12)			0.838
Safe food is my priority (N13)			0.827
	The Components of Mind		
Construct 3: Mind	*Attitude (Att)*	*Characteristic(Chrc)*	
I practice time management so that I will not be stressed (AK2)	0.722		
I give admonition to those committing bad deeds (AK3)	0.762		
I share my views regarding everyday life to others (AK4)	0.679		
I respect the views of others (AK5)	0.527		

contd. table 2

I am careful in making decisions so as to not break the commandment of Allah SWT (AK6)	0.717		
I contribute my views in discussion regarding matters of everyday life (AK8)	0.626		
I strive to complete my tasks within the allocated time (AK9)	0.617		
Seeking knowledge that does not contradict with the shariah can draw oneself closer to Allah SWT (AK13)		0.831	
Seeking knowledge that does not contradict with the shariah is a form of worship (AK14)		0.905	
Seeking knowledge is a lifelong effort (AK15)		0.637	

	The Components of Lineage		
Construct 4: Lineage	*Family*	*Friend*	*Guideline (Guide)*
I choose my life partner from good lineage (K2)			0.564
I choose my life partner because of her religion(K3)			0.546
Marriage can strengthen the relationship between families (K4)			0.670
I fulfil my responsibilities as husband/wife (K5)			0.514
I pray for the well-being of my parents every day (K7)	0.610		
My friends help me when I am in need (K8)	0.674		
I protect my friends' dignity (K9)	0.772		
I never betray my friends (K11)	0.624		
Loyalty is very important in a relationship between husband and wife (K13)		0.588	
Not paying attention to the family will affect the relationship between family members (K14)		0.666	
Not respecting partner will affect the relationship between husband and wife (K15)		0.716	
It is forbidden for unmarried couple to be alone in a secluded place(K16)		0.733	

	The Components of Property		
Construct 5: Property	*Management (Mgt)*	*Production (Prod)*	*Distribution (Dist)*
Saving money is for future use (H2)	0.819		
Savings can ensure life prosperity (H3)	0.886		
Savings can generate profit (H4)	0.694		
The division of property in accordance with Faraid can avoid disputes among heirs (H8)	0.566		
I set aside a portion of my money for charitable causes (H11)		0.608	
I make personal budget (H12)		0.866	
I make personal financial planning (H13)		0.675	
I gain money legally (H14)			0.786
I make a living through working (H15)			0.758

Table 3
The Internal Reliability for every Component (Cronbach Alpha)

Construct 1	*Islam*	*Ihsan*	*Iman*
Religion	0.875	0.829	0.802
Construct 2	*Health*	*Sport & Rec*	*Basic Needs*
Life	0.870	0.770	0.906
Construct 3	*Attitude*	*Characteristics*	
Mind	0.926	0.858	
Construct 4	*Family*	*Friend*	*Guideline*
Lineage	0.915	0.871	0.873
Construct 5	*Management*	*Production*	*Distribution*
Property	0.863	0.901	0.810

order; thus, MSPQoL is automatically a third-order construct. The MSPQoL is a third-order construct, with five distinctive constructs, and 14 components. The main construct (MSPQoL), the five distinctive constructs of MSPQoL, and their respective components are shown in Figure 1. Based on the output in Figure 1, the study needs to assess the three types of validity: Construct Validity, Convergent Validity, and Discriminant Validity together with Composite Reliability for MSPQoL construct. The construct has to achieve all validity and reliability requirements before it can be released into practice.

The Construct Validity is achieved when the model achieves all three types of model fit categories: Absolute Fit, Incremental Fit and Parsimonious Fit (Awang, 2014; 2015; Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017). The Convergent Validity is achieved when the Average Variance Extracted (AVE) exceeds the threshold value of 0.5 (Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017). The Discriminant Validity is assessed through Discriminant Validity Index Summary where the diagonal values (square root of AVE) are greater than any other values in their rows or columns (correlation between constructs). Composite Reliability is achieved when the CR values for all components and all constructs exceeds 0.6 (Awang, 2014; 2015; Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017).

The Construct Validity assessment using the Fitness Indexes is made in Table 4. The Convergent Validity and Composite Reliability are shown in Table 4 and Table 5 respectively, while the Discriminant Validity among constructs is shown in Table 6.

The assessment for Construct Validity is made in Table 4. According to Awang (2014; 2015), once the measurement model of a construct achieved three categories of model fit, namely absolute fit, incremental fit and parsimonious fit, the construct validity is reached. Thus, based in Table 4, the study concludes thatthe Construct Validity of MSPQoL has been achieved.

Table 5 and Table 6 present the value of Average Variance Extracted (AVE) for MSPQoL. All values of AVE in both tables have exceeded the threshold value 0.5 which indicate the Convergent Validity for the construct is achieved. The values of CR in both tables also exceeded 0.6 which indicate that Composite Reliability for the MSPQoL construct has been achieved (Awang, 2014; 2015; Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017).

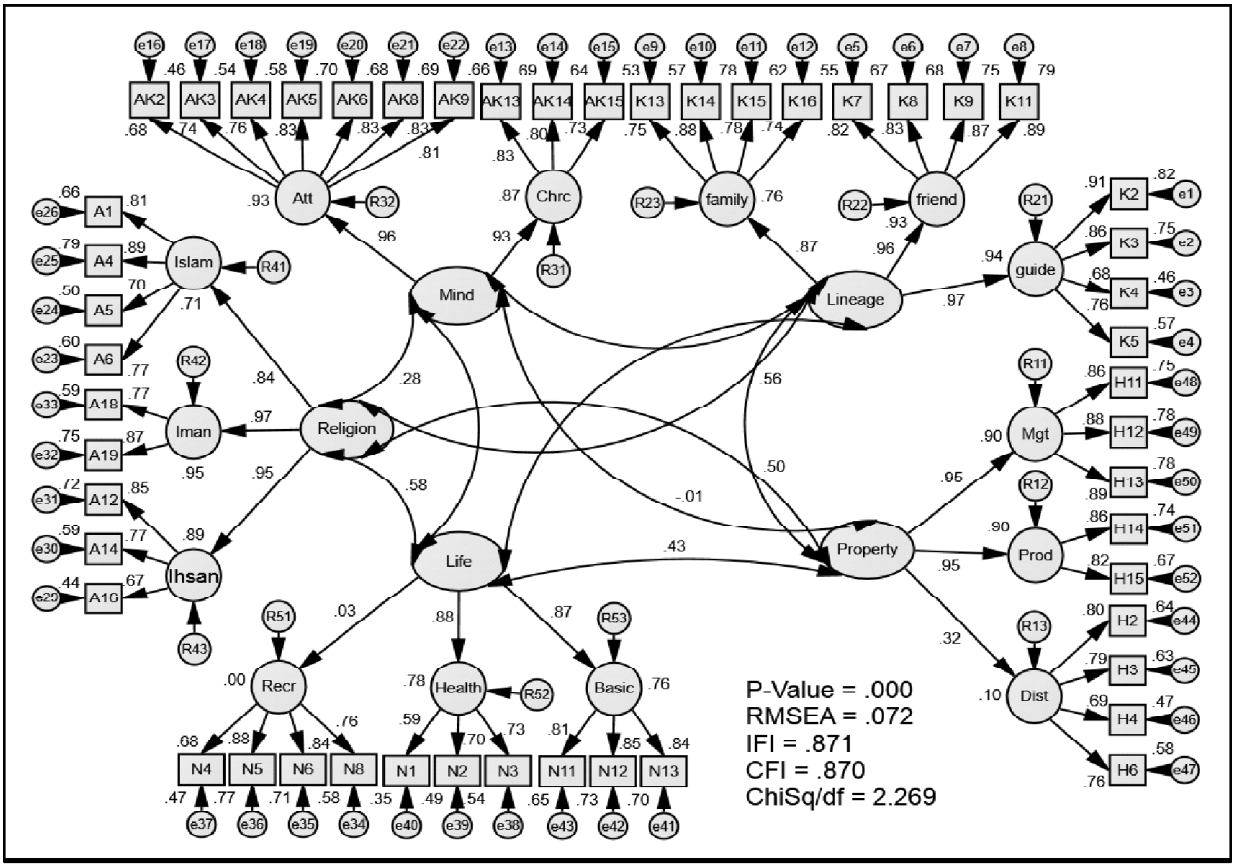

Figure 1: The Measurement Model for MSPQoL Construct

Table 4
The Assessment for Construct Validity of MSPQoL

Name of category	*Name of index*	*Index value*	*Comments*
1. Absolute fit	RMSEA	0.073	The required level is achieved
2. Incremental fit	CFI	0.863	The required level is achieved
3. Parsimonious fit	Chisq/df	2.326	The required level is achieved

Table 5
The Assessment of Convergent Validity and Composite Reliability of MSPQoL

Main Construct	*MSPQoL*						
Construct	*Religion*	*Life*	*Mind*	*Lineage*	*Property*	*AVE*	*CR*
Factor Loading	0.70	0.96	0.99	0.98	0.84	0.81	0.96

Table 6 presents the AVE and CR for every construct (Religion, Life, Mind, Linage, and Property) measuring MSPQoL as well as for every component measuring their respective construct.

Table 6
The Assessment of Convergent Validity and Composite Reliability of MSPQoL

Construct	*Religion*				*Life*			*Mind*		*Lineage*			*Property*	
CR >0.60	*0.95*				*0.82*			*0.96*		*0.93*			*0.86*	
AVE>0.50	*0.87*				*0.61*			*0.92*		*0.81*			*0.68*	
Sub construct	*Islam*	*Iman*	*Ihsan*	*Recr*	*Health*	*Basic*	*Att*	*Chrc*	*Family*	*Friend*	*Guide*	*Mg*	*Prod)*	*Dist*
CR *>0.60*	0.88	0.83	0.83	0.87	0.78	0.91	0.93	0.86	0.87	0.91	0.87	0.9	0.82	0.86
AVE*>0.50*	0.65	0.71	0.62	0.63	0.55	0.77	0.66	0.68	0.63	0.71	0.64	0.75	0.69	0.60

Figure 2 present the measure of correlation among five constructs measuring MSPQoL. The correlation between any construct should not exceed 0.85, otherwise the discriminant validity for the construct is not achieved or in other words, the model is not free from multicollinearity problems(Awang, 2014; 2015; Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017). The study found none of the correlation value between any two constructs, as indicated by double-headed arrow, exceeded 0.85.Thus, the model does not have a multicollinearity problem.

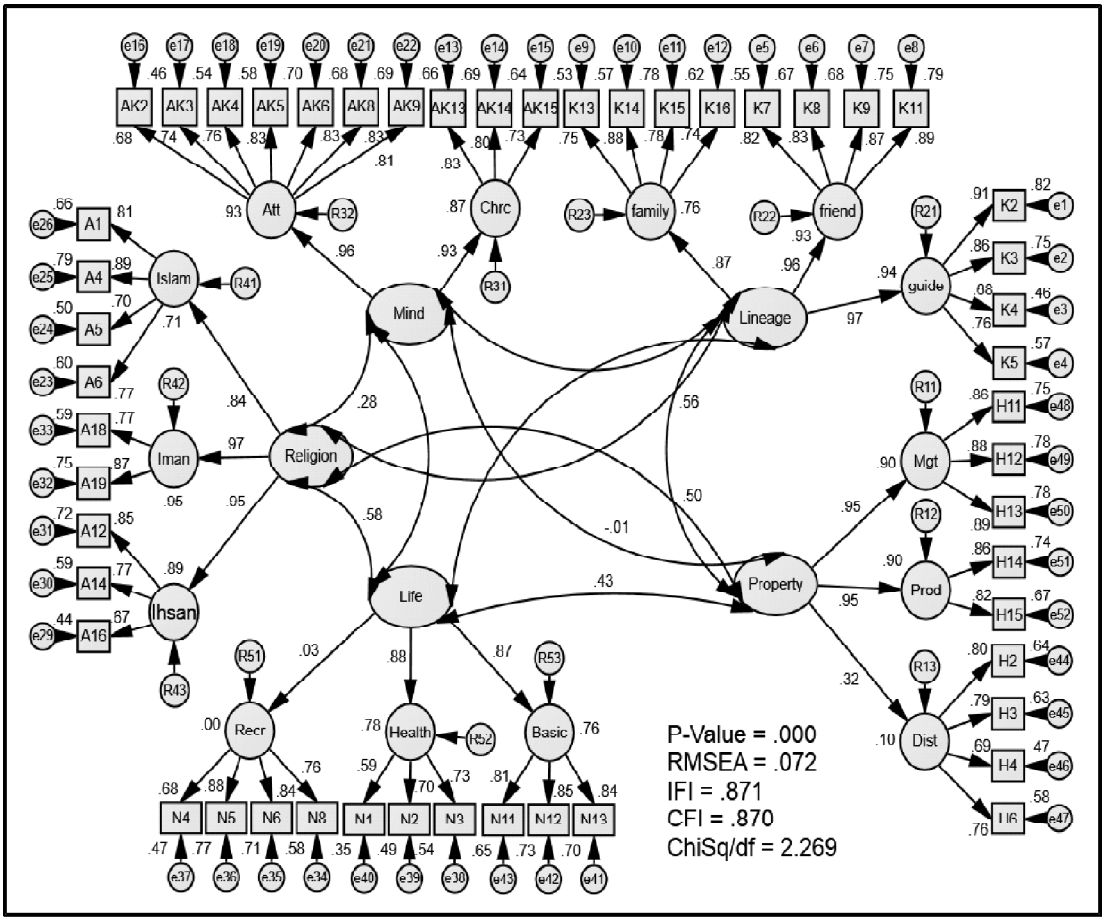

Figure 2: The Correlation between constructs measuring MSPQoL

The correlation among constructs obtained from Figure 2 is tabulated in Table 7. The diagonal values are the square root of the respective AVE while other values are the correlation between any two constructs. Since all diagonal values are greater than any other values in the rows and column, the study can conclude that the discriminant validity for the construct has been achieved (Awang, 2014; 2015; Kashif *et al.*, 2015; Kashif *et al.*, 2016; Hoque *et al.*, 2017).

Table 7
The Discriminant Validity Index Summary for MSPQoL

	Religion	*Life*	*Mind*	*Lineage*	*Property*
Religion	0.93				
Life	0.58	0.78			
Mind	0.28	0.66	0.96		
Lineage	0.56	0.54	0.02	0.90	
Property	0.50	0.43	0.01	0.56	0.82

CONCLUSIONS AND RECOMMENDATION

The studies adapted as well as generated measuring items and rewrote the instruments measuring the constructs involved to model and measure MSPQoL through qualitative technique. A pilot study was conducted to assess and determine the dimensionality of items measuring every construct using the quantitative method of Exploratory Factor Analysis (EFA). Consequently, the study tested the reliability of instruments measuring every dimension through Cronbach's Alpha. Using the pilot study data and EFA results, the study rearranged the items and obtained real data through field study. The study assessed the MSPQoL construct using Confirmatory Factor Analysis (CFA) procedure. The CFA procedure assessed Unidimensionality, Validity and Reliability of the MSPQoL construct. The complete report for CFA was made. Based on the CFA results, the study found that the measurement model for MSPQoL achieved the requirement for Unidimensionality, Validity, and Reliability.

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