Development and Validation of Multi Dimensional Personality Inventory

Roomana Zeb
University of Peshawar

Mah Nazir Riaz and Farhana Jahangir
Shaheed Benazir Bhutto Women University, Peshawar

The primary purpose of the present study was the development of an indigenous personality inventory, named as Multi Dimensional Personality Inventory (MDPI), which is according to the culture and norms of Pakistani people. The inventory focused on the Islamic perspective of personality that considers religion as the most influential aspect of personality. Four dimensions of personality were proposed namely Religiosity, Psychopathology, Mental Health and Optimism. The investigation was composed of three phases. Phase I dealt with the development of MDPI, Phase II with Exploratory Factor Analysis (EFA) and Phase III with Confirmatory factor Analysis of MDPI. Initial item pool consisted of 591 statements, which was subjected to qualitative item analysis and two minor pilot studies. The remaining item pool of 394 statements was subjected to principal component analysis with oblimin rotation (N =769). Four factor solution of the inventory was approved by Scree plot explaining 50% of variance. 264 items loaded successfully on MDPI subscales i.e., above .30 factor loading with high internal consistency of the subscales, that is, above .90. Confirmatory factor analysis was conducted on a sample of N =954 respondents. Indices of model fit were gathered. Initial solution did not reach to model fit. After adding covriances a model fit was achieved i.e., Comparative Fit Index (CFI) and Tucker-Lewis Fit Index (TLI) >.90 and Root Mean Error of Approximation (RMSEA) <.05. A total of 187 items remained in MDPI. Coefficient alpha for the sub scales ranged from .78 to .95, whereas, Split-Half reliability ranged from .79 to .91. Research hypotheses were tested on N =954 respondents. Results supported the research assumptions; there was a significant positive correlation between Religiosity, Mental Health, and Optimism Scales and negative correlation between Psychopathology, Religiosity, Mental Health, and Optimism Scales.

Keywords: Multi Dimensional Personality Inventory, religiosity, mental health, optimism, psychopathology

The study of human personality has been the focus of psychologists since centuries and they have been trying to unravel this mysterious aspect of human species that makes it unique among others. Different theories have been proposed to explain the development of personality and its traits. Personality has been defined by different psychologists differently. Berger (2004) defined personality as a set of consistent behaviour patterns and intrapersonal processes that originates within the person. Personality is also defined as a dynamic and organized set of characteristics possessed by a person who uniquely influences his or her cognitions, emotions, motivations, and behaviours in various situations. Keeping in view the socio-cultural differences between people living in Pakistan and those living in the West, it is imperative that indigenous personality tests must be devised to obtain valid and reliable information about Pakistani population. This new test provides a new perspective of personality assessment which is different from the Western approaches. It is the slogan of the 21st century that human beings are diverse. Thus, following mainstream psychology is not justified across the globe.

There is a need to develop indigenous tests which are linguistically, culturally, and religiously relevant. Empirical studies show that personality tests developed in the West with different social norms, language and cultural variations cannot be considered valid for our population (Hamid, Lai, & Cheng, 2001; Marsella & Leong, 1995). An appreciable amount of personality tests are developed in the West. The Neuroticism Extraversion Openness Personality Inventory Revised (NEO PI-R; Costa & McCrae, 1992) based on the Big Five approach is one of a universally used scale for personality assessment. However, this personality inventory does not assess a very important aspect of personality, namely, Religiosity. Pakistan is an ideological state and majority of Pakistani population is Muslim. As religion constitutes an important part of their personality, it needs proper weightage in their personality assessment. Similarly characteristics considered important for optimal mental health like forgiveness, patience, empathy etc., are part of the religious training. These attributes become more meaningful when viewed in a religious perspective as it is the motivating force behind them. Besides, religious beliefs provide consolation in the perils of life. An Islamic belief that the hardships of life lessens our burden in the hereafter or they are the compensations of our sins in this world which will be excluded from our records in the hereafter, gives us a relief. Instead of becoming hopeless in moments of utter despair, we turn to God for forgiveness, evaluate ourselves for our wrong doings, and try to modify our behaviour, believing that a given misfortune is a part of test from God. These cognitions which are religious in nature revive our

Correspondence concerning this article should be addressed to Roomana Zeb Department of Psychology, University of Peshawar. Email: roomanakhalid@gmail.com

strength to face the problems of life, without losing hope. Similarly following a religious code of conduct improves our interpersonal relations which are the strong influential force that can lead to tranquillity or turmoil. The present study is designed to develop a test for assessment of personality from an Islamic perspective. As cited in Rizvi (1989), Muslim philosophers stated that a close connection with God is a vehicle for mental progress, whereas, the distance between man and God caters all kinds of psychological problems. According to Quranic teachings, religious individuals are thought to be happier individuals with less psychological complaints. Such a perspective of human personality necessitates an exploration of the relationship between religiosity, mental health, psychopathology and optimism. According to this perspective, another important factor that influences human functioning is one's *thinking capacity*. Optimism and pessimism are the two opposite modes of thinking. Optimism is hope orientated attitude towards life that facilitates one's ability to withstand life challenges. Pessimism on the other hand is characterized by hopelessness, critical and unappreciative attitude towards life. These thinking styles affect an individual's behaviour. For instance, religion reinforces optimism and suppresses pessimism. The religion of Islam encourages positive thinking and an appreciative and grateful attitude. As optimists have a positive attitude towards life experiences, they are largely mentally satisfied persons. The religion of Islam places emphasis on positive thinking. In the religious book of Muslims, The Holy Quran, there are several verses which are related to optimism and pessimism. Optimism being appreciated and pessimism criticized.

"(Muhammad) tell my servants who have committed injustice to themselves, "Do not despair of the mercy of God. God certainly forgives all sins. He is All-forgiving and All-merciful" (Al Quran, 39:53).

Personality is composed of a number of characteristics like beliefs, motivations, feelings, thinking and behaviour. *Mental health* addresses all these attributes via positive personality functioning in the form of forgiveness, empathy, respect for others, helpfulness and productive behaviour. However, if the characteristics are manifested in a negative manner it becomes an index of psychopathology expressed in the form of delusions, hallucinations, sad mood, irritability, and loss of interest. It seems that for a complete personality assessment delineating both positive and negative attributes of a personality is a must. Religiosity and optimism are considered to be two separate but interconnected factors, which seem to be positively related to mental health but bear an inverse relationship with psychopathology. Religiosity fosters optimism and promotes mental health. On the contrary individuals who lack these attributes are more prone to psychopathology. Thus, religiosity and optimism seem to be the two buffers against psychopathology.

The present study aims to develop a new personality inventory, with main focus on assessment of Religiosity, Optimism, Mental health, and Psychopathology. In an ideological state of Pakistan religion is an important socialization agent that fosters certain traits and suppresses others. For instance, religiosity is assumed to be related positively with Optimism (as the religion of Islam fosters it) and Mental Health, whereas, it is believed to be negatively related with Psychopathology (belief that there is a Supreme Deity Who can change the troublesome situation at any time is much relaxing cognition than relying just on self or others). Psychopathology, on the other hand, is assumed to be inversely correlated with Mental Health, Religiosity and Optimism. It is a new approach of personality assessment. Instead of focusing on state, trait, or type approach, personality is viewed along different interrelated domains of personality functioning advocated by Muslim philosophers. These domains not only interact with each other but functioning in one domain affects the functioning of the other domains. Religion is considered as a very strong socialization agent that fosters certain desired traits and suppresses others (some traits are specific to a given religion or culture while others are universal). Religious training influences every aspect of human behaviour.

Objectives

Keeping in view the need for the development of indigenous assessment tools, the study aimed to achieve the following objectives:

1. To construct an indigenous personality inventory in Urdu language;
2. To validate the inventory;
3. To find out interrelationships between the subscales of the inventory.

Hypotheses

Keeping in view the suggested model of personality, following hypotheses were formulated:

1. There will be a positive correlation between scores on Religiosity, Optimism and Mental Health Scales.
2. Scores on Psychopathology Scale will be inversely correlated with scores on Mental Health, Optimism and Religiosity Scales.

Method

As the present study focused on the development of a culturally relevant indigenous personality inventory, it was divided into three phases. Phase I dealt with item generation for Multi Dimensional Personality Inventory (MDPI), Phase II with Exploratory Factor Analysis (EFA), whereas, Phase III with Confirmation of the factor structure proposed by EFA.

Phase I. Item Generation

Statements of MDPI were based on deductive approach of item writing. Operational definitions of the constructs used in the inventory are as follows:

Operational definitions

Pervin (1970) operationally defined *Personality* as "those structural and dynamic properties of an individual or individuals as they reflect themselves in characteristic responses to situations". In the proposed personality test, personality was viewed as a system that is dynamic in nature, composed of interconnected domains and functioning of one domain affects the functioning of the other domain. The test was further divided into four subscales, Religiosity, Optimism, Mental Health and Psychopathology.

Religiosity was operationally defined according to Islamic concept of religiousness, that is, belief in a Supreme Deity Who is the creator and controller of this world. Islamic religiousness is composed of beliefs, practices (Rituals), and Islamic code of conduct. Keeping in view the diversity in what religiousness mean, Religiosity Scale included beliefs (in the existence of Allah, angles, religious books, prophets, doomsday, life after death, miracles), practicing the injunctions of Islam: Namaz (prayers), Roza (fasting), Zakat (charity), and Hajj (pilgrimage) and adhering to the principles of Islamic teaching, that is, refraining from lies, backbiting, and fulfilling one's promises, etc.

Optimism, the second component of the personality test was operationally defined as "reflection of a positive set of cognitive beliefs that are associated with good physical health and mental well-being" (Derlega, Winstead, & Jones, 2005). Optimism means to have positive thinking, which is, looking at the positive aspects of events, persons and situations.

Mental Health, the third factor of the personality test, was approached with the new perspective that mental health is not mere absence of psychopathology rather it is presence of certain other characteristics like forgiveness, empathy, confidence and the like, which make people well functioning. It was operationally defined as "…. a state of successful performance of mental function, resulting in productive activities, fulfilling relationship with people, and the ability to change and to cope with adversity" (U.S Public Health Service, 1999, P.4).

Psychopathology, the fourth factor of the inventory, was operationally defined as "an abnormal pattern of functioning that may be described as deviant, distressful, dysfunctional and/or dangerous" (Comer, 2004). The most commonly occurring disorders were selected as part of the psychopathology subscale. Symptoms related to Generalized Anxiety Disorder, Obsessive –Compulsive Disorder, Unipolar Depression, Bipolar Disorder and Schizophrenia were included in the Psychopathology Scale.

An initial item pool consisted of 591 items. These items were subjected to qualitative item analysis by the experts of the relevant fields and to two minor pilot studies. There remained a total of 394 items after the check on content validity of the scales.

Phase II. Exploratory Factor Analysis

Sample

An experimental tryout was carried out on 769 individuals. The sample varied in age, gender, education and socioeconomic status. The age range of the sample was 16-83 years (M=29.5, SD= 12.67). However, 97 % of respondents were in the age range of 16-55 years. The sample was selected from three cities of Pakistan that is, Peshawar, Lahore and Islamabad. From Peshawar a total of 445 respondents were included (380 normal and 70 psychiatric patients). The sample selected from Lahore included 280 respondents (220 normal individuals and 60 psychiatric patients). Whereas, 179 individuals were included from Islamabad (174 were normal and 5 were psychiatric patients). Experimental try out was carried out on 369 men (48 %) and 387 women (50.3 %), 1.6% (12) individuals did not report their gender. Psychiatric patients were included in the sample after assessing their mental stability. Patients with minor problems (Depression, Anxiety, OCD) or who were on a medication from a long time were selected.

Instrument

The third draft test consisting of 394 items was used for experimental try out. The instructions to complete the test were printed on the top page of the Inventory. It is a Likert type scale. There are four options printed in front of each item, showing degree of agreement or disagreement. Scoring of the items is from 0-3. Strongly agree (weighted 3), agree (weighted 2), disagree (weighted 1), and strongly disagree (weighted 0). The scoring is reversed for negative statements.

Procedure

All the participants were contacted at their work settings, that is, educational institutions, hospitals, clinics and at their home. After a formal introduction the researcher requested the person to participate in the study. Privacy and confidentiality of the data was assured and all those who agreed to participate were given the questionnaire. It is a self administered scale. Instructions are printed on the first page. Respondents read the instructions and filled the forms accordingly. They were encouraged to mark those statements which they found vague or objectionable while answering them.

On students and hospitalized patients, the test was conducted in group setting. Student sample consisted of 30-40 respondents, whereas, for patient's the groups were smaller (4-7 individuals). Keeping in view the physical and psychological condition of the psychiatric patients, test administration was slightly altered. Some of the patients

requested that due to medication their eye sight is affected and they do not have spectacles[1] so the form should be read aloud to them. Although they were educated, but due to a physical handicap, they were facilitated by reading aloud the questions to them.

Results

Before conducting factor analysis, other preliminary tests were applied to ensure that factor analysis can be run on the data. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett test of sphericity were used to check whether factor analysis can be effectively used on the data or not. The statistic of KMO varies between 0-1. The more this statistic is near to 1 the more adequate the data is for factor analysis. KMO greater than .90 is an excellent figure for factor analysis. Similarly, Bartlett's test should be significant for an effective factor analysis. Findings of the present study revealed that KMO is .98, and Bartlett's test is significant ($p<.000$) suggesting that factor analysis can be appropriately applied on the data.

The 394 items of MDPI were included in Exploratory Factor Analysis (EFA). Factors were extracted by the principal component analysis with Oblimin rotation. All those items with below .40 item total and less than .30 loading in factor analysis were excluded from the scale. Oblimin rotation assumes that factors are interrelated. Cross loadings of the items were expected to emerge. All such items were retained that showed higher loadings on the factor for which they were designed than the other factors. Similarly those items were discarded from the scale which loaded on another factor instead of the one for which they were devised.

For identification of factors, eigen values and Scree plot were used as the criteria. Kaiser (as cited in Field, 2009) suggested that any factor having eigen value of 1 or greater can be retained. On the other hand, Cattell (1966) believed that the cut-off for selecting factors should be set at the point of inflection. Both Eigen values and Scree plot were consulted as the criteria for identification of factors in the present study. Sixty two factors were extracted according to the eigen values but scree plot depicted only four factors. As the test was developed to measure only four factors so scree plot was preferred over eigen values. Exploratory factor analysis was run again with restricted four factor solution. These four factors accounted for 50% of the variance. There remained a total of 264 items after EFA.

Figure 1

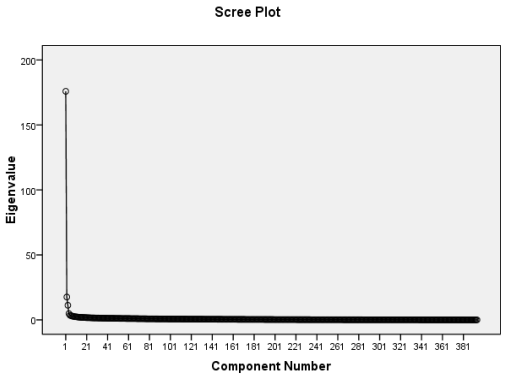

Table 1

Eigen values and percentage of variances explained by four factors of Multidimensional Personality Inventory (Items 394)

Factors	Eigen Value	Percentage of Variance	Cum Percentage
1	162.08	41.13	41.13
2	18.70	4.74	45.88
3	11.34	2.88	48.76
4	4.87	1.23	50.00

Table 2

Alpha reliability of MDPI comprising 264 items of four major scales*

Scale	No of items	Alpha Coefficient
Mental Health Scale	66	.98
Religiosity Scale	98	.99
Optimism Scale	28	.95
Psychopathology Scale	72	.97

Note. * number of items retained after computing item total correlations and exploratory factor analysis of original scale.

Phase III. Confirmatory Factor Analysis (CFA)

Sample

The sample consisted of 954 cases, including 758 normal and 196 diagnosed psychiatric patients. Thus, about 80% of sample comprised of normal individuals whereas, about 20% were diagnosed psychiatric patients. The sample was taken from three central cities of Pakistan that is Lahore, Islamabad and Peshawar, including about 55% men and 45% women. The age range of the sample was from 16-80 years (M=25.39 and SD=10.21). Demographic information of the sample is provided in Tables 3 and 4.

[1] As they were residing in a Mental Hospital, severely disturbed psychiatrist patients frequently broke the glasses of other patients

Table 3
Demographic characteristics of the sample

Demographic Variables	*f*	%
Marital Status		
Single	761	81.6
Married	153	16.4
Widowed	8	.83
Divorced	11	1.2
Occupation		
Government Servants	101	11.3
Private Jobs	58	6.5
Business	47	5.3
Students	660	74.2
House Wives	24	2.7
Education		
Matriculation	189	20.1
Intermediate	165	17.6
Bachelors	262	27.9
Masters	246	26.2
M.Phil/Ph.D	78	8
Income (50% did not mention)		
>10000	189	24.1
11000-30000	115	14.7
31000-50000	53	6.8
51000-100000	25	3.2
<1000000	16	2
Psychological Problems		
Schizophrenia	47	24.0
Bipolar	35	17.9
Depression	35	18.3
Anxiety	44	22.4
Drug Induced	14	7.1
Psychosis		
Schizoaffective	4	2
Obsessive Compulsive Disorder	8	4.1
Cormobidity	8	4.1

Table 4
Distribution of sample in the three cities of Pakistan

Cities	Total	Normal		Patients		Total	
		Males	Females	Males	Females	Males	Females
Lahore	320	107	122	73	18	180	140
Islamabad	304	141	118	18	27	159	145
Peshawar	330	150	119	34	27	184	146

Instrument

After the experimental tryout, the number of items comprising the Multidimensional Personality Inventory was reduced to 264 items. It composed of four subscales. The scoring ranged from 0-3. Factor I was Religiosity, Factor II was Psychopathology, Factor III was Mental Health, and Factor IV was Optimism. There were 66 items in Mental Health Scale, 98 items in Religiosity Scale, 28 items in Optimism Scale and 72 items in Psychopathology Scale.

Procedure

On a new sample of 954 individuals MDPI was administered. The procedure used for test administration was the same as used in experimental try out of MDPI (Details can be seen in the previous section).

Results

Phase III consisted of Confirmatory Factor Analysis (CFA). The proposed model of four factor solution was tested using AMOS version 18. As the number of items (264 items) was quite large, it was not possible to plot all the items together in AMOS graphics. So it was decided to compute separate CFA for each of the subscales of the inventory. According to Stevens (as cited in Field, 2009) in very large samples, even small loadings become statistically meaningful. He recommended that for a sample size of 1000 cases, the loading greater than 0.16 is statistically significant. As the number of items comprising the inventory was too large, keeping in view the test administration problem in terms of willingness of the respondents to take the test, it was decided that a loading of .30 will be taken as a selection criterion to select the best suitable items. However, some of the items in Religiosity Scale were retained that had loading less than .30 though greater than .16, as they were in the acceptable range and were considered essential by the experts for measuring religiosity.

CFA of the subscales was computed in three stages. First all the items were plotted in the AMOS graphics and model fit was computed. Those items which were insignificant or had less than .30 loading were excluded from the scale and a CFA was computed again. If a model fit was not achieved covariances among the items of the scale were allowed and the CFA was computed again. Covariances were added until the model fit was achieved. Model fit was estimated through Chi-square/ degrees of freedom ratio, Comparative Fit Index (CFI), Tucker-Lewis Fit Index (TLI) and Root Mean Square Error of Approximation (RMSEA). Model fit was achieved when the ratio χ^2 /df was smallest, CFI and TLI were greater than .90 and RMSEA less than .05. The detail of the CFA analysis is provided in table 5.

Table 5

Confirmatory Factor Analysis (Indices of model fit)

Factor	Model in CFA	χ^2	*df*	χ^2/df	CFI	TLI	RMSEA
Religiosity	M1	15965.06	4955	3.43	.41	.39	.05
	M2	7601.37	2015	3.77	.55	.53	.05
	M3	276.81	1733	1.59	.91	.90	.02
Psychopathology	M1	10461.70	2484	4.21	.67	.66	.05
	M2	9467.05	2144	4.41	.68	.67	.06
	M3	3722.91	1874	1.98	.92	.90	.03
Mental Health	M1	7778.35	2079	3.74	.62	.61	.05
	M2	3457.96	989	3.49	.77	.76	.05
	M3	995.65	797	1.24	.98	.97	.01
Optimism	M1	2529.23	350	7.22	.55	.52	.08
	M2	166.50	65	2.56	.95	.94	.04
	M3	74.18	58	1.27	.99	.99	.01

Note. M1= Factor without item deletion, M2= Factor after item deletion, M3= Factor after adding covariances, χ2=Chi square, df= degrees of freedom, CFI= Comparative Fit Index, TLI=Tucker Lewis Fit Index

Table 5 shows that for each of the subscales of Multi Dimensional Personality Inventory, M 3(Model 3) is significantly better than the other models. After deleting the unsatisfactory items and adding covariances this model attained the fit statistics. Both the CFI and TLI are greater than .90, whereas, RMSEA is less than .05 and the ratio χ^2 /df is smallest as compared to other models. Thus, we can say that M3 has successfully demonstrated model fit.

Reliability analysis

Internal consistency of the scales was estimated after running CFA. The summary of the results is presented in Table 6.

Table 6

Mean, Standard Deviation, Coefficient alpha and Split- half reliability of the final draft of the subscales of MDPI (187 items)

MDPI subscales	No of items	Mean	SD	Alpha Coefficient	Split-half Reliability
Religiosity Scale	62	159.68	19.59	.89	.81
Psychopathology	66	44.84	32.70	.95	.91
Mental Health Scale	46	102.15	19.99	.92	.90
Optimism	13	26.54	7.631	.80	.79

The reliability indices of all the subscales are above .70 which shows high internal consistency of Multidimensional Personality Inventory.

Table 7

Interscale correlations of MDPI (Items 187, N=954)

Subscales	I	II	III	IV
I.REL	----			
II.PSY	-.58***	----		
III.MH	.24***	-.21***	----	
IV.OPT	.56***	-.78***	.14***	----

***=*p*<.001

Note. REL= Religiosity Scale, PSY =Psychopathology Scale, MH = Mental Health Scale, OPT = Optimism Scale.

Discussion

The present study comprised of three phases. Phase-I was carried out to develop an indigenous personality inventory. An effort was made to design an instrument that is culturally relevant and meaningful for personality assessment. There are plenty of personality assessment tools in the West but application of these measures irrespective of vast cultural and religious differences cannot be expected to yield valid information. To overcome this deficiency, a personality inventory was designed which includes four subscales, viz., Religiosity, Psychopathology, Mental Health and Optimism. The selection of these scales was based on the Islamic perspective of personality which states that closeness to God is related with mental hygiene and distance from God is related with psychological problems. Similarly, the trait of Optimism (hopefulness) is appreciated and pessimism (despair) condemned in Islam. To devise Multi Dimensional Personality Inventory comprising these four scales, a total of 591 items were generated. These items were then subjected to a qualitative item analysis by the experts in the relevant fields. Two pilot studies were also conducted to explore the effectiveness and suitability of items. Less desirable items in terms of language difficulty, vagueness, and inappropriate content coverage were excluded from the scale.

In Phase-II, an experimental tryout was conducted on a sample of 769 individuals. Item total correlations for each proposed subscale were calculated. The data was further subjected to exploratory factor analysis. An item having greater than .40 item total correlation was retained provided that it loaded equal to or greater than .30 on the scale for which it was devised.

Devising the new MDPI was based on the assumption that Religiosity, Mental Health, and Optimism will be positively correlated with each other, whereas, an inverse correlation will be found between Psychopathology and the rest of the scales. According to the theoretical link between the constructs, oblimin rotation was used in factor analysis. It was expected that each item will be cross loaded on the other factors apart from the factor they were designed to measure. For this purpose an item needed to pass the criteria of item loading equal to or greater than .30 and greater loading on its own factor than the others. Consequently, two hundred and sixty four (264) items that

fulfilled the required criteria were selected. The factor structure consisted of four sub factors. Factor I comprised of 98 items and was labelled as Religiosity. Factor II consisted of 72 items and was named as Psychopathology. Factor III comprised of 66 items and was designated as Mental Health. Factor IV was Optimism with 28 items. Multi Dimensional Personality Inventory is a four-point Likert scale with responses ranging from 0-3. The results provided evidence of content, construct and factorial validity of the scale.

To determine the reliability of the scale, internal consistency was computed through coefficient alpha which yielded high reliability coefficients for each of the scale ranging from .95 to .99. The values indicate that all the subscales of the Multi Dimensional Personality Inventory (MDPI) are highly consistent and reliable (See Table 2). The result of phase II showed that MDPI is a psychometrically sound instrument, however, its factor structure needed to be confirmed for which confirmatory factor analysis was carried out.

For the confirmation of the factor structure of MDPI, Confirmatory Factor Analysis (CFA) was computed on a new sample consisting of 954 cases. After the conduction of Confirmatory Factor Analysis (CFA), MDPI emerged as a 187 items scale. Reliability of the inventory was computed through coefficient alpha and split half reliability. Alpha coefficient of the scales ranged from .80 to .956 and split-half reliability from .79 to .91. These statistics turned out to be highly significant (p<.001).

Early Muslim philosophers considered positive, close relation with God, a tool of both moral and psychological perfection whereas distance from God and other human beings a root of mental disturbances. Based on an Islamic perspective of personality presented by Ghazali, Thanvi and Walliullah, it was postulated that closeness to God is an important determinant of mental health. Contrary to that, a weak relation with God makes one vulnerable to psychological problems. Keeping in view this approach, the first research hypothesis assumed a positive correlation between Religiosity, Mental Health and Optimism Scales, whereas, the second hypothesis assumed a negative correlation of Psychopathology Scale with Mental Health, Optimism and Religiosity Scales. Interscale correlations among the scales supported the first two hypotheses (Table 8). Earlier researches in this area also support the findings of the present study (Krause, 2002). Similarly, Abdel-Khalek and Naceur (2007) found that religiosity bears significant positive correlation with self-ratings of physical health, mental health, happiness, satisfaction with life, and optimism. In a Meta analysis of the 100 studies, Koenig, McCullough, and Larson (2001) found that 80% of the studies demonstrate a positive correlation between religious involvement and measures of well-being, happiness, and life satisfaction. Payne, Bergin, Bielema, & Jenkins (as cited in Bergin, Payne, & Richards, 1997) review of studies relating to religiosity and mental health found positive correlations between religious measures and mental health variables like, well-being, self-esteem, family relations, sexual behaviour, avoiding drugs and alcohol use. Bergin, Payne, and Richards (1997) argued that a positive association between religiosity and mental health variables can be due to (1) a similarity between religious values and mental health values; (2) prosocial teachings of religions (3) a sense of purpose provided by religion as a guide and, (4) a focus of religion on growth, self-actualization and family cohesion. There are various early studies which found a negative correlation between psychological problems and religiosity (Hertsgaard & Light, 1984; McClure & Loden, 1982). For example, Zohra (2005) found inverse relation between generalized anxiety disorder and religiosity. Miller, Warner, and Wickramarante (1999) concluded that religion is a protective factor against depression. Davis, Kerr and Kurpius (2003) reached to the conclusion that the higher the spiritual well-being, existential well-being, religious well-being, and intrinsic religious orientation were in the male sample, the lower were their scores on anxiety. McIntosh and Spilka (1990) considered internal locus of control and faith in God as health promoting variables.

Researches conducted by Azhart, Varma, and Dharap (1994) and Propst, et al. (1992) revealed that the use of religious therapy in treating anxiety and depression provides better short-term outcomes. Koenig, George, and Peterson (1998) found that majority of depressed patients (N= 87) used religion to cope with their medical as well as other life problems. Furthermore, patients with higher intrinsic religiosity recovered faster than low scorers.

There can be a number of reasons for a positive relation between religiosity, mental health and optimism, and an inverse relation of these three scales with psychopathology. First, the indicators of mental health in our culture bear close resemblance to the teachings of Islam. The mental health subscale of MDPI is composed of items related to the characteristics like positive attitude toward others, positive attitude toward self, productive behaviours, forgiveness etc. The religion of Islam, if followed properly, fosters these characteristics among people. There are several verses in the Holy Quran which deals with prosocial teachings. Due to these similarities between the religious teachings and mental health characteristics, individuals scored high on both the Mental Health and Religiosity Scales.

Second, comprehensive religious assessment can reveal those relationships which incomplete measures cannot provide. Western researches which state that religiosity is negatively associated with mental health assessed religiosity through church attendance only. Religiosity Scale of MDPI provides a broader view of religiosity. The items range from religious beliefs to practicing religious injunctions as well as adhering to the principles of moral conduct.

For example, offering five times daily prayers, visiting the sick, respecting one's parents, having good relations with

neighbours, patience, gratitude and the like. Recent researches in the West that focus on a broader view of religiosity also state positive affect of participation is religion and better health outcomes(Pössel et al., 2011).

Third, closeness to God makes one psychologically strong (Pargament et al., 2004; Tepper et al., 2001). While trying to win the favour or love of God, one keeps on doing those actions which are considered as mental health qualities, for instance, forgiving others instead of taking revenge, to become non-judgemental of others, to respect and love others, and to be patient while facing the hardships of life. Consequently, these characteristics make one resilient and contended. Saleem (2004) investigated the relationship of bonding with God with psychological well being and life satisfaction among adults. The findings indicated a significant high positive relationship between all the three variables. Rowatt and Kirkpatrick (2002) arrived at a similar conclusion, i.e., people with secure attachment to God tend to be physically and mentally healthier than people having non-secure attachment to God. Frequently experiencing anger towards God may create emotional and spiritual distress in a person's life (Exline, 2003). On the other hand, difficulty in resolving anger towards God has often been linked with depression (Exline, Yali, & Lobel, 1999).

Individuals who scored high on religiosity tended to score low on Psychopathology Scale As cited earlier, according to Muslim philosophers one psychological factor responsible for psychological problems is one's alienation from religion. Religion serves as a buffer against psychological problems. The belief in an Almighty, Omnipotent, and Omniscience God Whom we can consult during hard times is a much soothing cognition than the sole reliance on oneself. Superman is a creation of a human fantasy and a wish for a Being that can solve any problem at any time. It is actually the need of the human psyche to look forward to God when one faces problems. People feel relaxed when they exert their efforts and leave the results to God. Clements & Ermakova (2012) studied the relationship between surrender to God and a lowered stress level. The study found a significant inverse correlation between the two variables. It was concluded that surrender to God serves as a potential for stress reduction and is a mechanism through which religiosity influences health.

A justification for religious individuals scoring low on psychopathology can be due to the practices of religious individuals. More practicing individuals become pious; they try to refrain from wrongdoing. The factor of guilt over wrongdoing is less which controls the onset of psychopathology. There are not only external factors which make people prone to psychological problems but the negative elements within the psyche of the person also play this role. Watterson, & Giesler (2012) found that highly religious individuals possess greater self-regulatory ability, especially under circumstances of reduced self-regulatory resources. Greater self-regulatory ability, in turn, explains the health benefits that religious individuals often have.

Another argument that supports a negative relationship between religion and psychopathology is that the focus of religious individual's cognition is positive (thinking about God, Prophets, angels, reading Holy Scriptures etc). When the mind is full of healthy cognitions, environmental stressors loose their intensity. On the contrary, people who do not have a strong faith in God keeps on worrying as there is no one to whom they can look forward in times of crises and consequently, they develop psychological problems. Linder (2006) studied the protective role of religion among black women. He concluded that religious rituals like praying safeguarded them against work related stress. Macphere (2003) studied the role of recitation of Quranic verses in relieving distress among housewives. These women reported Quran as the heart soothing source. Similarly Kamal and Loewenthal (2002) compared Hindus and Muslims on impact of religious cultural traditions on suicide related beliefs. They used a non-clinical sample of 40 young Hindus and 60 Muslims. Results revealed that Muslims adhered to moral considerations of suicide more than Hindus. Loewenthal and Cinnirella (1999) studied 59 older women of five cultural religious groups in England including Black Christian, White Christian, Hindu, Jews, and Muslims. These researches studied different forms of help that the respondents sought from their religion. The findings revealed that prayer seemed to be the most effective healing source in all religions. Comparisons of different groups showed that Muslims considered prayer very important in healing depression.

Finding of the present research show that religious individual had positive world view. The religion of Islam is against negative thinking. It is mentioned in Sura-e-Hujrat that "Do not doubt too much as some doubts are sins". There are traditions of the Holy Prophet (P.B.U.H) which condemns pessimism. Today cognitive psychology places emphasis on the way people interpret information, i.e., positive thinking can make a worst event a meaningful experience of life and negative thinking may convert the best experience into a nightmare. Islam tries to foster positive thinking in people by teaching people to be grateful to God and to other human beings. Being thankful to others enables people to see the positive aspect of interpersonal relationship. So being more religious makes one optimistic, mentally healthy and largely free of psychological problems. Snyder, Sigmon, and Feldman (2002) argued that religion inculcate optimism in people by promoting hope as it provides clear goals, pathways to achieve these goals, and incentives to reach these goals. Similarly, Levin and Chatters (1998) suggested that religious faith may create optimism and expectations that God will reward devotion and piety which generates positive effect on health.

Our data show that the individuals who scored high on psychopathology scale tended to score low on optimism, as the result indicated psychological patients usually have

negative opinion about others or life in general and they are ungrateful. It may be attributed to their negative thinking, focusing on the negative experiences of their life and having a darker view of life that makes them mentally sick. Hatchet and Park (2004) found a significant negative correlation between optimism and psychopathology. The results of our study are in line with Petzer and Walsh (2001). These authors considered pessimism as one of the negative forms of thinking used by individuals with psychopathology. They further suggested that building optimism in clients through cognitive-behavioural therapy may improve therapy outcome.

Researches conducted by Greenspoon and Saklofske (2001), and Shaffer (2006) have revealed that psychopathology and mental health are two separate constructs which bear an inverse correlation with each other. Our study also revealed the same results as there was an inverse correlation between the two ($r=-.218$, $p< .001$)

By and large the findings of the present research support the theory that for an effective personality functioning one has to have a good reliance on religion which develops more positive attributes and controls the negative delimiting aspects.

Conclusion

The assumption based on the works of early Muslim philosophers, who believed that a close connection with God leads to tranquillity and a weak relation with Him leads to mental turmoil was supported. As there is a strong religious hold of religion on the life of Pakistani people, the results of the present study revealed that addressing a religious dimension in a personality inventory was a right decision as the scale turned out to be negatively skewed showing that majority of the sample are religious minded. Furthermore, it was found that majority of respondents who scored high on Religiosity subscale, scored high on the Optimism and Mental Health subscales as well. In cases where Religiosity was low it was accompanied by low scores on Mental Health and Optimism and high score on Psychopathology Scale. Those who scored high on Psychopathology obtained low scores on the other scales. The results indicated that religiosity, mental health and optimism are positive contributory factors of personality, whereas, psychopathology serves as a negative force. It also became evident that psychopathology and mental health are two distinct characteristics. Absence of psychopathology does not necessarily entail that individuals will be mentally healthy too. They are two distinct dimensions, an association between the two does exist but that is of inverse nature.

Another implication that can be drawn from the results is that the use of the inventory with psychological patients can help clinicians in designing their therapy. The results suggest that religiosity is a positive contributory factor of personality development, along with mental health and optimism. The patients can be encouraged to work on these characteristics which may in turn lessen their psychological problems.

Limitations and Suggestions

Keeping in view the limitations in the present study, future researchers and clinicians, interested to validate the Inventory further are suggested to:

1. Include the validity scales in MDPI to overcome any chances of social desirability.
2. Compute CFA using modern software packages like M Plus which will address the shortcoming of AMOS as a structural Equation Modelling tool.
3. Inclusion of atheistic sample to find out their personality profile on MDPI would increase the confidence in the research findings.
4. The subscales of MDPI emerged as unidimensional. Future research using new samples can further investigate the chances of more than one factor solution in the subscales of the inventory.

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Received: June 5, 2013
Revision Received: October 2, 2013