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Introducing the Psychological Wellbeing Scale for Muslim Societies (PWS-MS): a study among young adults in Pakistan

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ABSTRACT

This paper examines the psychometric properties of the short (18-item) form of the Ryff Scales of Psychological Wellbeing, presented for online administration, among a sample of 370 young adults between the ages of 18 and 26 years who were born in Punjab and who had lived there since their birth, and tested the two hypotheses that the negatively-voiced items would detract from the unidimensionality of the scale and that, with the removal of the negatively-voiced items, the remaining 10 items would generate a unidimensional and reliable measure of psychological wellbeing embracing all six of the proposed components of wellbeing (self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth). The data supported both hypotheses, and commended the resulting 10-item Psychological Wellbeing Scale for Muslim Societies (PWS-MS).

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Introduction

Classic wisdom within the field of psychometrics and the development of psychological tests has emphasised the importance of including a proportion of negatively-voiced items that require reverse coding to compute the scale score. The rationale for the inclusion of such items has rested on safeguarding against response setting (Anastasi, 1961; Edwards, 1970; Mehrens & Lehmann, 1983; Nunnally, 1978; Rossi et al., 1983). Within the general literature on psychometrics and the development of psychometric tests this classic wisdom has come under increasing scrutiny, and empirical evidence suggests that negatively-voiced items may detract from the unidimensionality and internal consistency of psychological measures (Barnette, 2000, 2001; Roszkowski & Soven, 2010; Suárez-Alvarez et al., 2018).

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Questioning of the place of negatively-voiced items has been raised in the transference of instruments constructed in Western societies to application in predominantly Muslim societies, especially when these instruments are concerned with the evaluation of attitudes toward religion, or toward other people. For example, in respect of measures concerned with religion, the 23-item Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002) contained six negatively-voiced items. These items were found to be problematic for the psychometric properties of the scale among Muslim students in Kuwait (Francis et al., 2006), Pakistan (Musharraf et al., 2014), and Malaysia (Francis et al., 2016). The seven-item Astley-Francis Scale of Attitude toward Theistic Faith (Astley et al., 2012) contained two negatively voiced items. These items were found to be problematic for the psychometric properties of the scale among Muslim students in the UK (Erken & Francis, 2021; Francis et al., 2013; Francis & Lewis, 2016). It is argued that endorsement of such items signals disrespect for Allah and perhaps even verge on blasphemy.

In respect of measures concerned with the evaluation of other people, the 55-item Parental Attitude Questionnaire (Kenny, 1987) contained 25 negatively-voiced items. These items were found to be problematic for the psychometric properties of the scale among Muslim students in Pakistan (Akhtar et al., *under review*). It is argued that endorsement of such items signals disrespect for parents.

What is not yet known is whether negatively-voiced items would also prove detrimental in predominantly Muslim societies to measure attitude toward an evaluation of self. The purpose of the present study is to address the gap in the literature by exploring among a sample of Muslim students in Pakistan the properties of the 18-item measure of psychological wellbeing proposed by Ryff and Keyes (1995). This measure contains eight negatively-voiced items.

Introducing the Ryff measures of psychological wellbeing

The conceptualisation and measurement of psychological wellbeing has followed a variety of paths, rooted either in clear conceptualisation or in statistical patterning of data (for a recent overview see Oishi & Heintzelman, 2019). Within this broad field, three papers crystallise the formulation of the Ryff Scales of Psychological Wellbeing. On a quest for a better understanding of successful aging in older adults, Ryff identified a number of problems in the body of research on wellbeing related to lack of theoretical frameworks on wellbeing, emphasis on absence of illness, inattention to the possibility of development and growth throughout the lifespan, and inattention to the variability in personal, cultural, and historical conceptions of wellbeing (Ryff, 1989a). Ryff's synthesis of developmental, personal growth, and mental health theories resulted in six newly integrated criteria for successful aging: self-acceptance, positive relations, autonomy, environmental mastery, purpose in life, and personal growth.

A second paper tested this theoretical formulation through structured interviews of middle and old aged men and women in Midwestern United States on their perceptions and experiences of positive functioning (Ryff, 1989b). Findings from this study supported the theory that there are differences between middle age and old age conceptions of wellbeing. In a third paper, Ryff (1989c) operationalised her six factor model into a 120-item survey comprised of positively-voiced and negatively-voiced Likert items on perceived psychological wellbeing. When administered to a group of young, middle, and

old aged men and women alongside previously used measurements, a correlation analysis confirmed the presence of several unique factors not represented in previous measurements, suggesting that the Ryff scale captures a more comprehensive dimension of wellbeing.

The Ryff Scales of Psychological Wellbeing has undergone a plethora of mutations into 84, 54, 42, 38, 33, 30, 24, 22, 18, 15, and 12-item instruments (Cheng & Chan, 2005; Fernandes et al., 2010; Gao & McLellan, 2018; Manchirajhu, 2020; Morozink et al., 2010; Ryff et al., 1994; Ryff & Keyes, 1995; Springer & Hauser, 2006; Van Dierendonck, 2005; Villar et al., 2010; Zizek et al., 2015). Of these versions, the 18-item, 42-item, and 84-item scales seem to have accrued majority usage. Applied to more than just maturing adults in the USA, the Ryff Scales of Psychological Wellbeing has since been tested on diverse ages and nationalities and translated into more than thirty-five languages, including Urdu, Chinese, and Dutch (Cheng & Chan, 2005; Hailegiorgi et al., 2018; Jibeen & Khalid, 2012; Mondí & Reynolds, 2022; Ryff, 2019; Van Dierendonck, 2005). In a systematic review, Ryff noted that the Scales of Psychological Wellbeing has been employed as a dependent, moderating, and antecedent variable within a variety of contexts such as psychological development and aging, personality, family experiences, work and other life engagements, health and biological research, and clinical and intervention studies (Ryff, 2014; Ryff & Singer, 1996). For example, Herzog and Strevey (2008) found that contact with nature and sense of humour impact psychological wellbeing. In another study, Friedman and Ryff (2012) found that psychological functioning predicts lower biological risk factors.

Assessing the Ryff measures

The number of different versions of the Ryff Scale of Psychological Wellbeing (containing 120, 84, 54, 42, 38, 33, 30, 24, 22, 18, 15, and 12 items), the range of different translations, and the diverse sociodemographics among participants make psychometric evaluation of the Ryff scales a difficult task (Shyrock & Meeks, 2018). Overall, the longer versions may be more reliable compared to the shorter versions, although some findings are mixed. The original 120-item scale tested on men and women in the USA indicated good internal consistency and test/retest reliability (Ryff, 1989b). A 54-item version tested on older Spanish adults showed weak internal consistency (Triadó et al., 2007). A study on Portuguese adolescents indicated satisfactory internal consistency for a 30-item version, but not for the 18-item version in the same sample (Fernandes et al., 2010). Weakened reliability in the 18-item version was also true for Chinese adolescents (Gao & McLellan, 2018). However, a study on Swedish white-collar workers produced opposite findings in the 18-item version (Lindfors et al., 2006). One systematic review found a higher mean alpha coefficient among the composite scales ranging between six and 86 items (mode = 18) compared to the subscales ranging between three and 20 items (mode = 14) (Crouch et al., 2017).

Although there has been considerable effort concentrated on testing the reliability of the different scales, a systematic review of factor analysis is still needed (Springer & Hauser, 2006). Overall, exploratory and confirmatory factor analyses indicated that the shorter scales may have more factorial validity than the longer scales. A few studies looking at both short and long versions confirmed the six factor model as best fit,

albeit concerns about high latent variable correlations (Ryff & Keyes, 1995; Van Dierendonck, 2005). Many studies looking across the 12-item to 54-item scale range distilled the six original factors down to only three or four – these studies involved diverse participants including Slovenian employees, Spanish older adults, Chinese adolescents, and USA midlife adults (Gao & McLellan, 2018; Springer & Hauser, 2006; Triadó et al., 2007; Zizek et al., 2015). One study found as many as 15 factors in the 120-item version, and another found eight factors in the 42-item version (Kafka & Kozma, 2002; Manchirajhu, 2020). Finally, both longer and shorter versions revealed a number of unnamed and named latent variables among Spanish, Korean, and Australian participants (Burns & Machen, 2009; Seo et al., 2019; Villar et al., 2010).

Many studies have uncovered the effects of sociodemographics, such as gender, age, and culture, on the reliability and validity of the scales (Marks & Lambert, 1998; Ryff et al., 2004; Ryff & Keyes, 1995). A systematic review found that reliability varied by language, test-length, and age, but not by sample size or number of response options (Crouch et al., 2017). The 18-item scale found that Taiwanese women scored lower on autonomy and higher on environmental mastery, while the men scored higher on self-acceptance (Li et al., 2015). Likewise, the 18-item scale for Swedish white-collar workers confirmed gender differences in environmental mastery and purpose in life as well as an increase in self-acceptance among older participants (Lindfors et al., 2006). The longer versions found gender differences between environmental mastery and autonomy among Australian undergraduates and teachers (Burns & Machen, 2009).

Exploring the conceptualisation and operationalisation of the 18-item Ryff measure

In the operationalisation of the six proposed components of psychological wellbeing, Ryff and Keyes (1995, p. 727) defined the six positive poles in the following way.

- High scorers on self-acceptance hold a positive attitude toward themselves, acknowledge and accept multiple aspects of self, including bad as well as good qualities, and feel positive about their past life.
- High scorers on positive relations with others hold warm, satisfying and trusting relationships with others, show concern about the welfare of others, are capable of expressing strong empathy, affection, and intimacy, and appreciate the give and take of human relationships.
- High scorers on autonomy are independent and self-determining, can resist social pressure to think and act in certain ways, are able to regulate their behaviour from within, and evaluate themselves by personal standards.
- High scorers on environmental mastery have a sense of mastery and competence in managing their environment, can control a complex array of external activities, make effective use of presented opportunities, and have the ability to select or to create appropriate contexts for their personal needs and values.
- High scorers on purpose in life have clear goals in life and a clear sense of direction, sense of meaning within past and present life, hold beliefs that give life purpose and meaning and shape aims and objectives for their lives.

- High scorers on personal growth hold to a sense of continuing development, see themselves as growing and expanding, remain open to new experiences, recognise improvements in themselves, feel that they are realising their potential, and change in ways that reflect growing self-knowledge and developing effectiveness.

In the short (18-item) form of the Ryff Scales of Psychological Wellbeing each of these six components is assessed by three items, with one or two of these items in each set of six being negatively voiced. In the foundation paper for this instrument, Ryff and Keyes (1995) provided support both for the proposed six-factor model and for a single second-order super factor.

Assessing psychological wellbeing in Muslim societies

Research on subjective mental health and psychological wellbeing within Muslim societies is an emerging and growing field (Joshanloo, 2013; Pool, 2020; Woodlock, 2012). Within this field, a small number of published studies have employed various forms of the Ryff Scales of Psychological Wellbeing. For example, Joshanloo (2010a) employed the 18-item measure translated into Persian to explore the effect of spirituality and religion on psychological wellbeing among Muslim undergraduate students in Iran. Joshanloo (2010b) also employed the 18-item measure translated into Persian to explore the association between cultural estrangement and psychological wellbeing among undergraduate students in Iran. Jibeen and Khalid (2012) employed the 54-item measure to examine psychological wellbeing among Pakistani adult immigrants to Canada. Scull (2015) employed 14 items from the two subscales on environmental mastery and self-acceptance to explore psychological wellbeing among Muslim Kuwaiti civilian survivors of the 1990 Iraqi invasion. Jawaria and Dasti (2016) employed the 54-item measure translated into Urdu to examine the relationship between caregiver burden, spirituality, and psychological wellbeing among Pakistani Muslim parents of children with chronic physical illness. Yusli et al. (2021) employed the 42-item measure to examine the effect of restorative environments on psychological wellbeing among postgraduate students in Malaysia. Although the Ryff Scales of Psychological Wellbeing has been employed in Muslim societies or among people drawn from Muslim societies, and critiqued from an Islamic perspective (Koburtay et al., 2022), there has as yet been no study that has focused specifically on examining the psychometric properties of these instruments within Muslim societies.

Research problem

Against this background the present study was shaped to test two hypotheses regarding the performance of the 18-item Scales of Psychological Wellbeing proposed by Ryff and Keyes (1995) within a Muslim society. The first hypothesis is that the six components of positive psychological functioning identified by Ryff and Keyes (1995), namely self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy, would cohere within a unidimensional factor of psychological wellbeing. The second hypothesis is that within a Muslim

society the negatively-voiced items would detract from the unidimensional factor of psychological wellbeing.

Method

Procedure

The short form of the Ryff Scales of Psychological Wellbeing was included within the online survey *Parental Attachment and Life* designed for completion by young adults between the ages of 18 and 26 who were born in Punjab and had lived there since their birth. Participants were assured of confidentiality. The project was approved by the Research Ethics Committee of the Advanced Studies Research Board, Government College University, Lahore.

Instrument

The 18-item measure of wellbeing comprises six sets of three items, intended to capture the six core components of psychological wellbeing defined as self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy (Ryff & Keyes, 1995). Each item is rated on a seven-point Likert scale: strongly agree (7), somewhat agree (6), a little agree (5), neither agree nor disagree (4), a little disagree (3), somewhat disagree (2), and strongly disagree (1).

Participants

The *Parental Attachment and Life* survey was fully completed by 370 participants who met the profile of young adults between the ages of 18 and 26 who were born in Punjab and had lived there since their birth. The participants comprised 151 males, 217 females, and 2 who preferred not to say: 45 were aged 18 or 19, 131 were aged 20 or 21, 116 were aged 22 or 23, 65 were aged 24, 25, or 26, and 13 preferred not to say.

Analysis

The data were analysed by SPSS using the frequency, correlation, factor, and reliability routines.

Results

Table 1 presents the principal component unrotated component matrix for the 18 items of the instrument. The first factor accounted for 30.4% of the variance and attracted strong loadings from all 10 of the positively-voiced items and just one of the eight negatively-voiced items. Working only with the positively-voiced items four of the six components of wellbeing were represented by two items and the remaining two components were represented by just one item each.

Table 2 presents the correlations between the ten positively-voiced items and the sum of the other nine items. These correlations, ranging between .49 and .69, demonstrate a

Table 1. Principal components unrotated component matrix.

	Factor loadings			
	1	2	3	4
<i>Autonomy</i>				
I tend to be influenced by people with strong opinions *	-.58			
I have confidence in my own opinions, even if they are different from the way most other people think	.72			
I judge myself by what I think is important, not by the values of what others think is important	.63			
<i>Environmental mastery</i>				
The demands of everyday life often get me down *	-.31	.50	-.37	
In general, I feel I am in charge of the situation in which I live	.58			.43
I am good at managing the responsibilities of daily life	.67			
<i>Personal growth</i>				
For me, life has been a continuous process of learning, changing, and growth	.75			
I think it is important to have new experiences that challenge how I think about myself and the world	.74			
I gave up trying to make big improvements or changes in my life a long time ago *		.52		.52
<i>Positive relations</i>				
Maintaining close relationships has been difficult and frustrating for me *		.66		
People would describe me as a giving person, willing to share my time with others	.69			
I have not experienced many warm and trusting relationships with others *		.59		
<i>Purpose in life</i>				
Some people wander aimlessly through life, but I am not one of them	.68			
I live life one day at a time and don't really think about the future *			.54	-.40
I sometimes feel as if I've done all there is to do in life *	-.39		.58	
<i>Self-acceptance</i>				
I like most parts of my personality	.66			
When I look at the story of my life, I am pleased with how things have turned out so far	.63			
In many ways I feel disappointed about my achievements in life *		.69		

Note: All loadings below .30 have been suppressed; * these items have been reverse coded

Table 2. The Psychological Wellbeing Scale for Muslim Societies: correlations between the individual items and the sum of the other nine items.

	<i>r</i>
<i>Autonomy</i>	
I have confidence in my own opinions, even if they are different from the way most other people think	.68
I judge myself by what I think is important, not by the values of what others think is important	.58
<i>Environmental mastery</i>	
In general, I feel I am in charge of the situation in which I live	.49
I am good at managing the responsibilities of daily life	.59
<i>Personal growth</i>	
For me, life has been a continuous process of learning, changing, and growth	.69
I think it is important to have new experiences that challenge how I think about myself and the world	.64
<i>Positive relations</i>	
People would describe me as a giving person, willing to share my time with others	.61
<i>Purpose in life</i>	
Some people wander aimlessly through life, but I am not one of them	.63
<i>Self-acceptance</i>	
I like most parts of my personality	.58
When I look at the story of my life, I am pleased with how things have turned out so far	.57

Note: *r* = correlation between individual item and the sum of the other nine items

Table 3. The Psychological Wellbeing Scale for Muslim Societies: mean scale scores by sex.

	α	Male		Female		<i>t</i>	<i>P</i> <
		Mean	SD	Mean	SD		
Wellbeing Scale	.88	49.93	12.87	51.38	11.22	-1.15	NS

good level of homogeneity among the items. The 10-item scale generated an alpha coefficient of .88 (Cronbach, 1951).

Table 3 presents the mean scale scores for male and for female participants separately. In this sample there is no significant difference between the mean scores recorded by male and by female participants.

Conclusion

This paper set out to explore the application of the 18-item measure of psychological wellbeing proposed by Ryff and Keyes (1995) within a Muslim society and did so by means of a survey completed by 370 young adults between the ages of 18 and 26 years who were born in Punjab and had lived there since their birth. In light of previous studies, this paper focused on two specific hypotheses regarding the functioning of the instrument within a Muslim society.

One hypothesis proposed that within a Muslim society the eight negatively-voiced items within the set of 18 items would detract from, rather than enhance, the unidimensionality of the instrument. The data supported this hypothesis. The first factor of the principal component unrotated component matrix for the 18 items attracted strong loadings from all 10 of the positively-voiced items and just one of the eight negatively-voiced items. The recommendation is that within a Muslim society negatively-voiced items need to be treated with caution, not only within measures concerned with religious evaluation (as evidenced by Francis et al., 2006; Francis et al., 2016; Musharraf et al., 2014) and with measures concerned with the evaluation of others (as evidenced by Akhtar et al., under review), but also with measures concerned with self.

The other hypothesis proposed that, with the removal of the negatively-voiced items, the six components of positive psychological functioning identified by Ryff and Keyes (1995), namely self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy, would cohere within a unidimensional factor of psychological wellbeing. The data supported this hypothesis. The 10 positively-voiced items generated an alpha coefficient of .88. The correlations between the individual items and the sum of the other nine items, ranging between .49 and .69, demonstrated a good level of homogeneity among the items. The recommendation is that within a Muslim society, Ryff's definition of psychological wellbeing comprising six components holds well and that these six components can be captured by the 10 positively-voiced items originally proposed by Ryff and Keyes (1995).

As an initial study exploring the application of the 18-item measure of psychological wellbeing proposed by Ryff and Keyes (1995) within a Muslim society, there are clear limitations imposed on the generalisability of these findings, restricted to a sample of young adults between the ages of 18 and 26 who were born in Punjab. The findings, however, are of sufficient worth to commend replication and extension within other age groups within Punjab, and within other predominantly Muslim societies.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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