MEASURING RELIGIOSITY: VALIDITY AND RELIABILITY OF THE RELIGIOSITY SCALE ON A SAMPLE OF COAL MINE WORKERS

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Abstract: This study aims to develop and construct a happiness scale based on the five dimensions of happiness proposed by Huber and Huber (2012). These five dimensions are intellectual, ideological, public practice, private practice, and religious experience. The research process involved 57 respondents. Confirmatory Factor Analysis (CFA) was employed to evaluate the validity and reliability of the scale items, resulting in a happiness scale consisting of 22 items. This study is expected to provide practical and theoretical contributions to measuring happiness, particularly in positive psychology. Additionally, the resulting scale can comprehensively assess individual happiness in various contexts.

INTRODUCTION

Social scientists and psychologists have been striving to understand the relationship between religion, attitudes, behaviors, and various dimensions of human life since the 20th century. Initially, many studies on religiosity focused on the influence of religion on social and moral behavior. Early theories of religiosity were associated with Max Weber's (1905) classical views, which argued that religion could shape economic and social development, as illustrated in The Protestant Ethic and the Spirit of Capitalism.

In the 1950s and 1960s, research on religiosity began to adopt a more systematic approach. This period was marked by the development of instruments to measure religiosity more objectively, such as the Intrinsic and Extrinsic Religiosity Scale (Allport & Ross, 1967). Specifically, Allport and Ross distinguished intrinsic religiosity, where individuals view religion as a central part of their lives, from extrinsic religiosity, where individuals utilize religion for practical or social purposes.

From the 1980s onwards, research on religiosity expanded to explore how religion functions as a moderating factor in mental health, well-being, and social relationships. For instance, Koenig et al. (2001) revealed that religiosity is positively associated with mental and physical health. Since then, numerous studies have examined the relationship between religiosity and various variables, including work, prosocial behavior, and quality of life.

It generates a better understanding of the influence of religion on many areas of human life: behavior, attitudes, well-being, and social life. Often, religiosity is thought of as a factor affecting decision-making, stress coping and morals. Thus, studying religiosity can shed light on individuals' functioning in relation to society and their environment and their coping with life challenges.

Religiosity is also identified as a source of social support, optimism and is associated with better mental health (Koenig et al., 2001). Religion tends to motivate prosocial behavior, including helping and community building. In organizational and workplace contexts, research on religiosity is also essential, as religiosity can influence and affect work motivation, commitment, and relations between peers and supervisors. Pargament (1997) discussed that religiosity may serve as a source of strength to deal with workplace challenges and can reduce stress.

Asfira & Sari (2020) found that spiritual support can significantly overcome the quarter-life crisis in Generation Z. Furthermore, Fadhlurrohman (2019) revealed that religiosity could help students deal with the quarter-life crisis in college students. This research shows that religiosity is important in providing individual support to overcome various life challenges.

Religiosity is also related to various other individual characteristics. Research by Prasetiya et al. (2020) examined the influence of emotional and spiritual intelligence on students' religious behaviour, showing a relationship between the two. Furthermore, Tiaranita, Saraswati, and Nashori (2023) found a positive correlation between religiosity, emotional intelligence, and tawadhu attitude. Djikra (2023) also mentioned that religiosity and emotional intelligence made a large contribution, namely 64.2%, in shaping the attitude of humility in students. In addition, Prasetyo and Wulandari's (2022) research shows that religiosity and emotional intelligence significantly affect psychological well-being in adolescents, with a contribution of 53.5%.

According to Allport and Ross (1967) religiosity could be divided into two dimensions: intrinsic and extrinsic religiosity. Intrinsic religiosity describes individuals who consider religion to be the central goal of their lives and whom seek spipractice peace through their faith.

At the other end of the spectrum, extrinsic religiosity refers to a type of religiosity where people use the system for tangible benefits, like social support or status.. Pargament (1997) proposed dimensions of religiosity in the context of coping, including the cognitive dimension, which relates to beliefs and knowledge of religious teachings; the affective dimension, which focuses on feelings and emotions toward religion, such as closeness to God and gratitude; and the behavioral dimension, which involves tangible actions such as practice or prayer.

Hill and Pargament (2003) added social and spipractice dimensions, focusing on individuals' relationships with religious communities and profound personal religious experiences. Glock and Stark (1965) found five dimensions of religiosity in their work, that of belief, practice, experience, knowledge, and consequences. The belief dimension corresponds to the beliefs in a religion's sacred teachings, the practice dimension covers the behaviors carried out as a part of the religion, while the experience dimension differs among religions, but generally refers to individual representations of closeness to God or mystical experiences. These dimensions provide a more detailed view of how people's religiosity affects their lives in different aspects.

RESEARCH METHODS

This study was conducted in several stages, which are outlined as follows:

a. Define Process

At this stage, the researcher defines the variables for which measurement tools will be developed. In this context, the researcher refers to the perspective of Huber and Huber (2012), who view religiosity as a complex and multifaceted aspect of an individual’s life. The dimensions of religiosity are divided into five distinct aspects:

1. Intellectual

   This refers to an individual's knowledge about their religion, enabling them to articulate their perspectives on God, religion, and religiosity.

2. Ideology

   This pertains to an individual's beliefs regarding the existence and meaning of life, as well as the relationship between God and humanity.

3. Public Practice

   This involves practice activities conducted in community settings, manifested in participation in practices, ceremonies, and religious activities.

4. Private Practice

   This refers to practice performed individually, characterized by a person's dedication to God through solitary activities, prayers, and practices.

5. Religious Experience

   This aspect focuses on an individual's direct experience of contact with God, which has an emotional impact on them.

This five-dimensional approach provides a comprehensive understanding of religiosity, not merely as a belief system but also as an experience and practice that influences an individual's entire life.

b. Design Process

In the initial stage, the researcher developed a 40-item religiosity scale based on the theory proposed by Huber and Huber (2012). The blueprint for the religiosity scale is structured as follows:

Table 1: Blueprint Religiosity Scale

Variable	Dimension	Number Item		Sum
		Favorabel	Unfavorabel	
Religiosity	Intellectual	1,2,3,4	5,6,7,8	8
	Ideology	9,10,11,12	13,14,15,16	8
	Private practice	17,18,19,20	21,22,23,24	8
	Personal practice	25,26,27,28	29,30,31,32	8
	Religious experiences	33,34,35,36	37,38,39,40	8
Total Item				**40**

The scale system used in this religiosity scale is the Likert scale. The Likert scale was first introduced by Rensis Likert in 1932 as a method to measure individuals' attitudes and opinions quantitatively. The use of a 4-point Likert scale eliminates the neutral option, forcing respondents to make a clearer choice between two poles (positive or negative). According to Garland (1991), a scale without a neutral option can encourage respondents to provide clearer answers and minimize ambiguity.

In this study, the researcher used a 4-point Likert scale by eliminating the neutral option, thereby forcing respondents to make a more decisive choice between two poles (positive or negative). This approach helps researchers obtain clearer data and reduces ambiguity in responses. According to Garland (1991), a scale without a neutral option encourages respondents to be more reflective in providing answers and avoids the tendency to select the middle option as a form of avoidance or uncertainty. Therefore, the 4-point scale is considered effective for measuring attitudes or opinions more precisely, although it may increase cognitive pressure on respondents to choose between the two available poles.

Table 2: Scoring System Favorable and Unvavorable Item

Answer Option	Score for Favorabel Item	Score for Unfavorabel item
Strongly Agree	4	1
Agree	3	2
Disagree	2	3
Strongly Disagree	1	4

c. Development and Analysis

This research uses a quantitative approach to processing and analyzing data in numbers and testing the relationships between variables. Data was collected through an online questionnaire using Google Forms, which facilitates filling out and distributing to respondents. Respondents in this study are workers who work in coal mines. The sample selection was conducted using the purposive sampling method, a sampling technique based on specific criteria relevant to the research objectives. According to Etikan, Musa, and Alkassim (2016), purposive sampling allows researchers to select respondents who are most suitable and directly related to the focus of the research, thus producing more accurate and relevant data.

This study involved 57 respondents, with data analysis performed using the JASP software and the Confirmatory Factor Analysis (CFA) method. There are three main aspects observed in this analysis.

1. Unidimensionality is tested through the loading factor values to ensure the consistency of indicators in measuring a specific construct.
2. Reliability is measured using Composite Reliability (CR). According to Hair et al. (2010), it is a superior measure of internal reliability compared to Cronbach's Alpha.

3. Construct validity is measured through the Goodness of Fit (GOF) index, which indicates how much the model fits the data. This approach ensures that the model has adequate reliability and validity.

The analysis conducted by the researchers on the religiosity scale is as follows:

1. Unidimensionality

The test of dimensionality uses the loading factor. The items with a loading factor value above 0.5 are as follows:

Table 3: Items with a loading factor above 0.5

Dimension	Number Item	*Loading factor*
Factor 1	Item 1	0.719
	Item 2	0.768
	Item 3	0.866
	Item 4	0.769
Factor 2	Item 9	0.945
	Item 10	0.889
	Item 11	0.893
	Item 12	0.941
	Item 13	0.549
	Item 15	0.576
Factor 3	Item 17	0.623
	Item 18	0.864
	Item 19	0.788
	Item 20	0.772
	Item 23	0.544
Factor 4	Item 25	0.753
	Item 26	0.540
	Item 28	0.875
Factor 5	Item 33	0.654
	Item 34	0.824
	Item 35	0.868
	Item 36	0.909

From 40 items, 22 met the standard loading factor above 0.5. Subsequently, validity and reliability analyses were conducted.

2. Validity

The validity test was conducted using the goodness of fit method. The analysis results are as follows:

Table 4: Goodness of Fit (GOF) test

No	Parameter	Standart	value	Note
1	RMSEA	< 0.08	0.071	Fit
2	GFI	> 0.90	0.969	Fit
3	CFI	> 0.90	0.942	Fit
4	TLI	> 0.90	0.931	Fit
5	SRMR	< 0.08	0.083	Unfit
6	NFI	> 0.90	0.789	Unfit
7	IFI	> 0.90	0.944	Fit
8	PNFI	0 >	0.670	Fit

3. Reliability

testing was conducted using Composite Reliability (CR). The analysis results are as follows:

Table 5: Reliability Test Result

No	Dimention	Coefficient ω	Coefficient α
1	Intellectual	0.841	0.873
2	Ideology	0.898	0.916
3	Private practice	0.822	0.834
4	Personal practice	0.753	0.740
5	Religious experiences	0.867	0.876
6	Sum	0.955	0.949

Based on the test results above, 22 items are valid and reliable. The blueprint of the scale that has been tested is as follows:

Table 6: Final blueprint of religiosity scale

Variable	Dimension	Item Number	
		Passed item	Failed Item
Religiosity	Intellectual	1,2,3,4	5,6,7,8
	Ideology	9,10,11,12,13,15	14,15,16
	Private practice	17,18,19,20,23	21,22,24
	Personal practice	25,26,28	27,29,30,31,32
	Religious experiences	33,34,35,36	37,38,39,40

RESULTS AND DISCUSSION

The results of the Confirmatory Factor Analysis (CFA) indicate that the questionnaire meets the criteria for instrument evaluation. The loading factor values for each indicator exceed 0.5, indicating that each indicator has a strong relationship with the measured construct. According to Hair et al. (2010), loading factor values above 0.5 are considered significant, as they show that the latent variable can explain most of the variance of the indicators. This ensures the instrument has unidimensionality, where the indicators consistently measure only one construct.

The Goodness of Fit (GOF) index shows that the tested model fits the data well. RMSEA (Root Mean Square Error of Approximation), GFI (Goodness of Fit Index), and CFI (Comparative Fit Index) are within acceptable limits. The Composite Reliability (CR) values for each construct exceed the minimum value of 0.7, indicating that the instrument has good internal reliability. Composite Reliability is more accurate than Cronbach's Alpha because it considers each indicator's loading weights. This result shows that the questionnaire can produce consistent data upon retesting.

With fulfillment of these three aspects (loading factor, GOF, and CR), it can be concluded that the questionnaire has good validity and reliability. This indicates that the instrument can measure research constructs with high confidence, providing a strong foundation for data analysis and interpretation of research results.

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