

# Research Paper: Reliability, Validity, and Factor Structure of Religious Coping Scale



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## ABSTRACT

**Objectives:** Parenting is a difficult task. Factors like social support, sense of coherence, self-esteem, hardiness, optimism, internal locus of control, and religious coping play a vital role in this area. This study aimed to develop a religious coping measure for parents of differently-abled children. It also aimed to explore the factor structure and reliability of a religious coping scale.

**Methods:** Two hundred parents of differently-abled children completed the research measure. The mean age and standard deviation of the parents were 40.04 and 5.31 years, respectively. Exploratory factor analysis was employed to identify the potential factor structure of the religious coping scale.

**Results:** The findings of this study demonstrated that the religious coping scale had 5 factors comprising “divinely seeking”, “coping attitude”, “religious faith”, “sense of possibility”, and “spiritual and social support”.

**Discussion:** The study showed that the scale had good internal consistency, factorial, and content validity. Furthermore, a significant positive association was found between the dimensions of the religious coping scale. The results suggest that this scale is a reliable and valid tool for measuring religious coping among parents of differently-abled children.

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## Highlights

- The religious coping scale with 5 factors has good internal consistency, factorial, and content validity.
- It is a reliable and valid tool for assessing religious coping among the parents of differently-abled children.

## Plain Language Summary

The birth of a child is a moment of joy and happiness for every parent. But it turns into a catastrophe in case the child is diagnosed as disabled. Many factors like hope, optimism, social support, and religious faith play a buffering role against this stressful life event. The researchers aimed to develop a scale for measuring religious coping among parents of differently-abled children. It is an 18-item measure with 5 dimensions namely, “divinely seeking”, “religious faith”, “coping attitude”, “sense of possibility”, “and spiritual and social support”. This scale proves to be a reliable and valid measure for measuring religious coping among these parents.

### 1. Introduction

Parenting is a very difficult task. This difficulty further increases when the child is diagnosed as disabled. These parents experience a lot of stressors and stress reactions that result in their long-term sadness. The quality and quantity of the impact which varies from parent to parent depend upon factors like the type of child disability and severity of the disability. Parents show better tolerance than others depending on factors like social support, hope, optimism, self-esteem, and religion. These factors play a buffering role against these stressors.

Religion and coping are related phenomena. Pargament defined religion as a search for significance which is related to sacred and coping as a search for significance in times of stress [1]. In the words of Koenig, McCullough, and Larson, religion is a belief, practice, ritual, and symbols that make it easy for individuals to come close with God. It also brings an understanding of the relationship and responsibility of living together in the community [2]. Religious coping can be defined as “the use of cognitive or behavioral strategies based on religious beliefs or practices” [3]. It helps to manage emotional stress or physical discomfort [4]. Researchers have identified different ways through which people can cope with their stressful events. These ways include engaging in religious practices, social support, congregation, and identifying stressful events [5, 6]. Some researchers pay attention to the cognitive aspect of religious coping others focus on outward religious coping and social support suggesting that different factors of religious coping impact differently the wellbeing. Such types of research studies highlight the cognitive, behavioral, and social dimensions of religious coping. Hence it can

be said that participating in religious activities is associated with health benefits [7]. It has been reported that people with religious beliefs score higher on self-esteem and score lower on sexual permissiveness, suicidal rate, drug, and alcohol abuse. Studies have revealed that caregivers had tried faith healing at one time or the other. Caregivers performed sacred ceremonies like prayers and visited religious places [8]. Islamic coping strategies are developed into two components. The first is the internal one which consists of acquiring knowledge, spiritual-based experience, and faith. The second is external which comprises social, professional, and institutional support [9]. The collaborative religious coping strategies like seeking help and social support balance an individual’s efforts in managing stress. Aflakseir and Coleman revealed that positive religious coping is associated with general mental health status and negative mental health as a post-traumatic disorder [10]. Also, parents of differently-abled children use coping strategies more often than parents with normal children [11]. These parents showed that seeking social support is the more commonly used method and fathers use problem-focused coping more often than the mothers while mothers use emotion-focused coping more often [12]. Religious coping styles affect general health among the mothers of mentally-disabled children. Paying attention to the type of religious coping used by these mothers is essential [13].

### Objectives of the study

1. To construct a religious coping scale (RCS) for parents of differently-abled children;
2. To explore the structure of RCS by using exploratory factor analysis;
3. To determine the reliability of RCS.

## 2. Methods

### Items generation

In the process of development of the scale, the inductive approach was used. The researcher first generates the items and then derives the scale from the items. Due care was given that statements be simple and clear.

### Establishing content validity

Content validity of the scale was undertaken to ascertain whether its content is appropriate in terms of relevance, simplicity, and clarity. Six purposely chosen experts working in the field of disability, rehabilitation, and scale construction were approached to review the draft of 29 items of RCS [14].

### Study population

Two hundred parents (108 fathers and 92 mothers) of differently-abled children were selected from different rehabilitation centers and schools for inclusive education of Kashmir Valley. The participants age ranged from 27 to 52 years (Mean=40.04; SD=5.31 years) (Table 1).

### Inclusion criteria

Only those parents were included:

1. Whose children were diagnosed by the professionals working in the field.
2. Whose children were up to the age of 13 years old.
3. Who were biological/genetic parents.
4. Who were ready to participate in the study.

### Study procedure

Before the administration of the psychological measures, a cordial rapport was established with the participants. The researcher introduced himself and explained the purpose of the research to the respondents. The respondents were assured that their responses will remain strictly confidential and would be used for research purposes only.

### Statistical analysis

To assess the factor structure of the scale, we performed an exploratory factor analysis (PCA with varimax rotation). Two criteria were employed to determine the number of factors: the Kaiser criterion with an eigenvalue greater than one, and Cattell's scree plot.

### Ethical considerations

The participants were informed about the aim of the research. They were told that their participation in the study is voluntary and anonymous. They can withdraw from the study at any time.

## 3. Results

### Descriptive analysis

Table 2 presents the descriptive analysis of the religious coping at an item level. Analysis of 18 items revealed the means, Standard Deviations (SD), range, variance, scale means if an item is deleted, item-total correlation, and the Cronbach alpha values. The item-total correlation was greater than 0.23 for all items and the alpha value for the 18 items was 0.84 and it does not become worse with the elimination of any item.

### Factor structure of RCS

RCS was based on 200 parents of differently-abled children. Reliability analysis and inter-correlation matrix were examined to overcome the existence of multicollinearity and singularity in the scale. Eleven items with multicollinearity and singularity were discarded hence the final scale comprises 18 items.

Principal Component Analysis (PCA) with varimax rotation and scree plot was used to explore the factor structure of RCS. Factor analysis emerged with 5 factors. Eleven items were discarded and only 18 items were selected based on factor loading i.e. above 0.40 [15, 16]. The factor loading ranges from fair (0.45) to excellent (0.71). We found 5 factors, they were labeled as "divinely seeking", "coping attitude", "religious faith", "sense of possibility", and "spiritual and social support".

**Table 1.** Descriptive statistics of Religious Coping Scale (RCS)

Mean±SD	Variance	No. of Items
64.70±6.64	44.16	18

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.84, and Bartlett's test of sphericity was significant. KMO statistic varies between 0 and 1 [17]. Kaiser recommended accepted values of  $KMO \geq 0.5$ . He described values between 0.5 and 0.7 as mediocre; 0.7 and 0.8 as good; 0.8 and 0.9 as great and  $> 0.9$  as superb [18]. Hence following the Kaisers scale, the sampling adequacy value of 0.84 for the RCS was found to be great. Bryman and Cramer recommended two main criteria used to determine how many factors should be retained [19]:

1. Kaiser criteria to select those items that have an eigenvalue  $\geq 1$ ;
2. A scree plot.

### Scree plot

The point where the slope of the curve will leave off indicates the number of factors that should be generated. Scree plot always displays a downward curve and the number of factors is displayed on the x-axis whereas eigenvalue on the y-axis (Figure 1). There were 5 factors with eigenvalues larger than 1; the first factor/component accounted for 18.50% of variance whereas, and the second, third, fourth, and fifth components accounted for 12.65%, 11.76%, 11.63 and 11.05% of the variance, respectively.

The Table 3 showed the factor loading, average variance extracted, composite reliability, percentage of variance, and cumulative percentage of variance. The factor loadings range from 0.464 to 0.918, average variance extracted 0.39 to 0.70, composite reliability 0.65 to 0.87, and percentage of variance 11.05 to 18.50. The factorial

validity of the scale is excellent and established. Operational definitions of the religious coping and its dimensions are given below.

### Religious coping

Parents of the disabled children perceived comfort through various religious dimensions such as divinely seeking, coping attitude, religious faith, sense of possibility, and spiritual and social support regarding coping with the disability of their children. Overall, they consider support, religious faith, and practices as the essential dimensions of religious coping.

### Divinely seeking

Islamic culture is based on God's support. Parents of disabled children perceive that divinely seeking will be more beneficial in the recovery of the disability process of their children. It is stated that when in distress or suffering from tribulations, humans are likely to call out to God [20].

### Coping attitude

For most Muslims, coping attitude is an important aspect of the coping process. Prayer and to perform religious practices for recovery of children's disability is a way of life for parents.

### Religious faith

Religious faith leads to positive coping, where parents establish a connection with God, ask God for the forgiveness of their sins, and feel comfort in religion. Con-

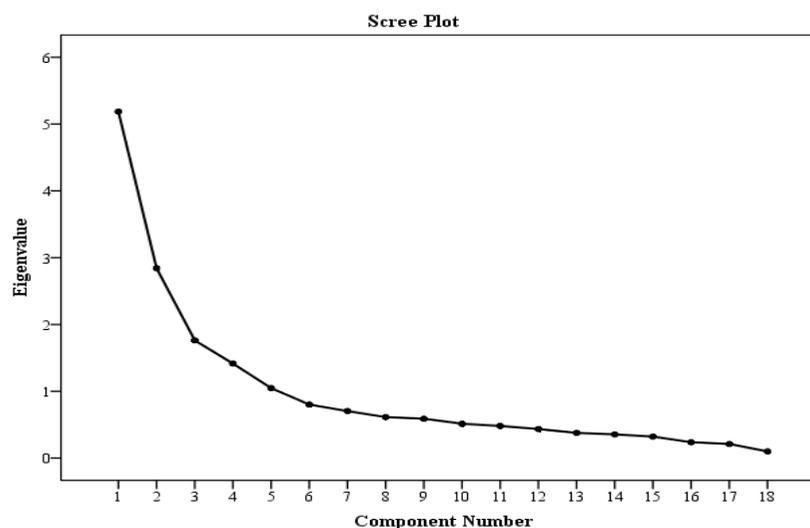


Figure 1. Scree plot of religious coping scale

Table 2. Showing descriptive statistics of the item, scale, and the Cronbach alpha coefficients

Descriptive Statistics of Items				Descriptive Statistics of Scale		
Item No.	Range	Mean±SD	Variance	Scale Means if Item Deleted	Correlated Item-Total	The Cronbach Alpha if Item Deleted
RCS-01	2.00	3.89±0.33	0.11	60.81	0.236	0.843
RCS-02	2.00	3.87±0.37	0.13	60.83	0.234	0.843
RCS-03	2.00	3.78±0.45	0.21	60.93	0.231	0.843
RCS-04	3.00	3.44±0.85	0.72	61.27	0.608	0.826
RCS-05	2.00	3.64±0.58	0.34	61.06	0.349	0.839
RCS-06	3.00	3.52±0.87	0.75	61.19	0.525	0.831
RCS-07	3.00	3.42±0.94	0.89	61.28	0.477	0.834
RCS-08	3.00	3.48±0.83	0.69	61.23	0.553	0.829
RCS-09	3.00	3.30±0.92	0.84	61.40	0.542	0.830
RCS-10	3.00	3.62±0.63	0.40	61.08	0.235	0.844
RCS-11	3.00	3.14±1.01	1.03	61.56	0.567	0.829
RCS-12	3.00	3.64±0.64	0.41	61.06	0.551	0.830
RCS-13	3.00	3.14±1.07	1.15	61.57	0.565	0.829
RCS-14	3.00	3.42±0.85	0.73	61.28	0.529	0.830
RCS-15	2.00	3.85±0.40	0.16	60.85	0.522	0.835
RCS-16	2.00	3.91±0.34	0.12	60.80	0.420	0.839
RCS-17	2.00	3.84±0.39	0.16	60.86	0.460	0.837
RCS-18	2.00	3.84±0.41	0.17	60.87	0.412	0.838

RCS: Religious Coping Scale

Iranian Rehabilitation Journal

tents of this item suggest that these are the sources of every Muslim's faith and practice. Religious faith or belief impacts upon the coping in a miraculous way.

### Sense of possibility

Religious coping strategies offer a "sense of possibility" in parents of disabled children when all remedies are lost. For believers, it is engaging/attending religious activities or services and approaching God to provide a new direction in life.

### Spiritual and social support

Parents recognize the value of spiritual and social support in coping with the children's disability. It is exhibited in various forms such as asking others to pray for the re-

covery, providing spiritual support, seeking social support from family or friends, and seeking support from Imams.

### Psychometric properties of RCS

To establish the psychometric properties of RCS, reliability, validity, and correlations were computed.

### Reliability estimates

The Cronbach alpha of the RCS of 18 items was found 0.84 which indicates that the scale has good reliability [21]. Whereas the Cronbach alpha for the factors of divinely seeking ( $\alpha=0.80$ ), coping attitude ( $\alpha=0.75$ ), religious faith ( $\alpha=0.82$ ), sense of possibility ( $\alpha=0.70$ ), and spiritual and social support ( $\alpha=0.77$ ) were found to be reliable.

**Table 3.** Factor Structure of the religious coping scale

		Factor Loadings				
	Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Divinely seeking	Item 16	I put my trust in God.	0.859			
	Item 02	I seek help from God.	0.847			
	Item 18	I want from God to do things that are good for me.	0.751			
	Item 17	I believe that Worshipping God is the best solution.	0.681			
	Item 05	I worship God to help me to cope with my child's disability.	0.464			
Coping attitude	Item 04	I perform religious practices to overcome my problems		0.753		
	Item 10	I pray for the well-being of my child.		0.731		
	Item 06	I think my child's recovery is beyond God's control.		0.702		
Religious faith	Item 01	I have a strong connection with God.			0.918	
	Item 15	I find comfort in my religion.			0.906	
	Item 03	I ask forgiveness for my sins.			0.671	
Sense of possibility	Item 14	I engage myself in religious activities to shift focus from the stressors.				0.728
	Item 12	I approach God to provide me a new direction in life.				0.574
	Item 13	I attend religious services at least once each week.				0.569
Spiritual and social support	Item 09	I try to provide spiritual comfort to my child.				0.758
	Item 07	I seek social support from my family or friends.				0.741
	Item 08	I ask others to pray for the recovery of my child's problem.				0.720
	Item 11	I look for spiritual support from Imams.				0.642
Average variance extracted		0.53	0.53	0.70	0.39	0.51
Composite reliability		0.84	0.77	0.87	0.65	0.80
Percentage of Variance (PV)		18.50	12.65	11.76	11.63	11.05
Cumulative Percentage of Variance (CPV)		18.50	31.15	42.92	54.55	65.61

Iranian Rehabilitation Journal

**Table 4.** Mean±SD and intercorrelations among dimensions of religious coping scale

Dimension of RCS	Mean±SD	F1	F2	F3	F4	F5
F1. Divinely seeking	19.07±1.63	1	0.323*	0.362*	0.409*	0.233*
F2. Coping attitude	10.37±2.17		1	0.201*	0.509*	0.428*
F3. Religious faith	11.53±0.99			1	0.088	-0.010
F4. Sense of possibility	10.19±2.07				1	0.501*
F5. Spiritual and social support	13.53±2.65					1

\*P&lt;0.001.

Iranian Rehabilitation Journal

### Composite reliability

The composite reliability of the scale was calculated using the [Formula 1](#).

$$1. \text{ Composite Reliability} = \frac{(\sum_{i=1}^n \lambda)^2}{((\sum_{i=1}^n \lambda)^2 + (\sum_{i=1}^n \delta))}$$

, where  $\lambda$  is the value of factor loading for the respective item and  $\delta$  is the error time. The values of composite reliabilities for factors vary from 0.65 to 0.87 ([Table 3](#)).

### Inter-factorial validity

This type of validity was calculated to validate whether the factors are significantly correlated with each other.

## 4. Discussion

The current study evaluated the reliability and validity of the RCS. The items for the scale were generated by using the inductive approach. The researchers first generated the items and then extracted the scale from the items. The factor structure of the scale was determined through exploratory factor analysis. Results revealed factor loading and commonalities of 18 items on 5 factors. Only those items having factor loading  $\geq 0.40$  and eigenvalue  $\geq 1$  on this scale were retained. Furthermore, items with cross-loadings and those factors having less than three items were also eliminated by the researchers. Exploratory factor analysis confirms the multidimensionality of RCS. Results of the exploratory factor analysis revealed 5 factors, which are correlated with each other. RCS demonstrates high reliability and internal consistency. In general, it can be said that the RCS is a valuable tool for measuring the role of religious copings among the parents in general and parents of differently-abled children in particular.

### Study limitations

The present study was limited to parents of differently-abled children. The researchers did not consider the other family members.

## 5. Conclusion

The RCS has excellent internal consistency, construct reliability, composite reliability, and intra-factorial reliability. Its face, content, factorial, and convergent validities are also high and in the acceptable range. Therefore, the scale is highly reliable and valid for the measurement of religious coping among the parents of differently-abled children.

## Ethical Considerations

### Compliance with ethical guidelines

The participants were informed about the aim of the research. They were told that their participation in the study is voluntary and anonymous. They can withdraw from the study at any time.

### Funding

The article has been extracted from the PhD. thesis of the first author, at Aligarh Muslim University, Aligarh-India.

### Authors' contributions

Mubashir Gull: Conceptualisation, designing, writing, data collection, analysis, and interpretation; Akbar Husain: Conceptualisation, writing, reviewing and editing.

### Conflict of interest

The authors declared no conflict of interest.

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