



The Spiritual Psychological Robustness Scale (SPRS): A New Measure for Assessing Spiritual and Psychological Strength in the Context of Turkish Culture

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Abstract

This study introduces the spiritual psychological resilience scale (SPRS), a newly developed instrument designed to assess the integration of spiritual beliefs with psychological resilience in the Turkish context. The scale assesses the manner in which individuals draw upon spiritual resources to cope with adversity and maintain psychological well-being. Exploratory and confirmatory factor analyses identified a three-factor structure. Spiritual coping, spiritual beliefs and spiritual commitment collectively account for 55.01% of the variance. The scale exhibited robust internal consistency across all subscales, with Cronbach's alpha coefficients ranging from 0.785 to 0.854, thereby substantiating its reliability. Furthermore, the scale exhibited a notable negative correlation with spiritual contradiction, thereby substantiating its criterion validity. The SPRS provides a comprehensive instrument for evaluating spiritual and psychological resilience and is applicable to diverse populations. Future research should investigate its utility across different demographic and cultural groups, as well as its relevance to other psychological constructs such as depression and anxiety. This scale has the potential for use in counselling, educational and clinical settings, particularly for populations dealing with trauma and adversity.

Keywords Spiritual robustness · Psychological resilience · Spiritual coping · Scale development · Turkish context

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Introduction

Spiritual and psychological resilience constitutes an important dimension of the resistance that individuals show in the face of difficulties and the support they receive from their spiritual beliefs in this process. Spiritual beliefs stand out as a powerful factor that contributes to individuals to add meaning to their lives and cope with challenging life events (Ekşi, 2001; Pargament, 1997; Koenig et al., 2024). However, the need for a culture-specific scale that addresses spiritual resilience and psychological resilience together is seen as an important gap in the literature. The main motivation of this study is to examine this relationship between spiritual and psychological resilience in the Turkish context.

The spiritual psychological robustness scale (SPRS) developed in this study is presented as a new tool that aims to measure individuals' coping processes with difficulties in line with their spiritual beliefs. This scale aims to understand how individuals can maintain their psychological resilience based on their spiritual resources by addressing the concepts of spiritual and psychological resilience in a holistic manner. Inspired by the theories of spiritual coping (Pargament, 1997) and psychological resilience (Masten, 2001) in the literature, this scale aims to fill an important gap by applying it in a context specific to Turkish culture.

Literature Review

Spiritual and psychological resilience are important research areas in terms of understanding the adaptive skills of individuals in the face of difficulties and the role of spiritual beliefs in this process. In this section, how the concepts of spiritual resilience, psychological resilience and spiritual coping are addressed in the literature will be examined and the theoretical foundations guiding the development of the spiritual psychological robustness scale will be discussed.

Spiritual Robustness

Spiritual resilience refers to the capacity of individuals to cope with stressful life events through their spiritual beliefs and practices. In the literature, spiritual resilience generally includes the processes of individuals using hope, commitment and spiritual resources in the face of difficulties (Pargament, 1997). Pargament's religious coping model emphasises that spiritual coping plays an important role in people's search for meaning and development of resilience in the face of difficulties. According to this model, individuals find meaning and maintain their psychological resilience by using spiritual coping strategies in the face of challenging life events. Pargament et al. (1998) stated that spiritual coping strategies can be both positive and negative. Positive spiritual coping refers to individuals taking strength from their spiritual beliefs while coping with stress and finding meaning in this process, while negative spiritual coping involves individuals experiencing spiritual conflicts

in the face of difficulties. Positive spiritual coping strategies have been found to be associated with higher psychological well-being and mental health (Koenig et al., 2024).

Studies in the spiritual resilience literature emphasise the positive effects of this concept on individuals' general well-being and mental health (Gall et al., 2009; Güldas & Karsli, 2023; Okan & Şahin, 2024). It has been shown that spiritual resilience gives strength to individuals especially after traumatic life events and that resilience can be increased in this process (Ano & Vasconcelles, 2005). In this context, the development of the spiritual psychological robustness scale will provide an opportunity to examine the relationship between spiritual resilience and psychological resilience more closely.

Psychological Robustness

Psychological resilience refers to the ability of individuals to recover and overcome difficulties by showing flexibility in the face of stressful or traumatic events. Masten (2001) described psychological resilience as an "extraordinary process" and stated that this process is sustained by individuals' strong social support systems, internal resources and positive coping mechanisms. Psychological resilience is closely related to various protective factors that strengthen individuals' capacity to cope with stress.

Among these factors, positive emotions, finding meaning, social support and spiritual beliefs have an important place (Ryff & Singer, 2003). Bonanno (2004) defined psychological resilience as the ability of individuals to recover quickly in the face of difficulties and emphasised that spirituality plays an important role in this process. It has been widely supported in the literature that spiritual beliefs and commitments are among the basic elements that strengthen psychological resilience (Seybold & Hill, 2001). In this context, addressing spirituality and psychological resilience together is critical for understanding individuals' behaviours in the face of adversity.

The spiritual psychological robustness scale (SPRS), which was developed to better understand this relationship between spiritual and psychological resilience, aims to examine how individuals integrate their spiritual beliefs into their processes of coping with difficulties. This scale aims to measure the capacity of individuals to increase their psychological resilience based on their spiritual resources and extends the conceptual framework provided by existing scales in the literature.

Spiritual Coping

Spiritual coping refers to the process of coping with difficulties by using spiritual beliefs and practices in the face of stressful life events. Pargament's (1997) spiritual coping model emphasises that individuals turn to their spiritual resources when coping with traumatic events and that they seek to find meaning in this process. Spiritual coping strategies can help individuals find inner peace and increase their psychological resilience in the face of challenging events in their lives (Pargament et al., 1998).

Research shows that spiritual coping has positive effects in combating depression, anxiety and stress (Koenig et al., 2024). The positive effects of using spiritual coping strategies on individuals' mental health have been examined in both clinical and general populations. In this context, spiritual coping plays a critical role in improving individuals' psychological resilience (Zinnbauer & Pargament, 2005). Based on these theoretical foundations, the spiritual psychological robustness scale aims to measure the effects of spiritual coping on individuals' general well-being. The scale makes an important contribution to the literature by measuring how spiritual coping strategies contribute to individuals' spiritual and psychological robustness.

Development of Spiritual Psychological Robustness Scale

The spiritual psychological robustness scale (SPRS) was developed as a comprehensive instrument to integrate the concepts of spiritual resilience and psychological resilience, addressing a gap in the existing literature. Although there are numerous studies that investigate spiritual and psychological resilience in isolation, there is a paucity of scales that comprehensively assess the manner in which these two crucial dimensions interact and provide mutual support during periods of adversity (Gall et al., 2009). The SPRS is designed to address this gap in the literature by providing a scale that evaluates how individuals draw upon their spiritual resources to enhance their psychological resilience.

This scale is of great importance as it goes beyond the examination of resilience in purely psychological or spiritual terms, thereby offering a more sophisticated understanding of the intertwining of these aspects. In contemporary research and practice, resilience is increasingly understood as a multifaceted construct, and spiritual resilience plays a critical yet underexplored role in maintaining psychological health. Furthermore, there is a paucity of instruments that directly link spiritual resilience with broader outcomes such as life satisfaction and meaning-finding processes.

The development of the SPRS is therefore a valuable contribution to the field, as it enables a deeper understanding of how individuals draw upon their spiritual strength to cope with adversity, not only to maintain mental well-being but also to foster personal growth and life fulfilment. This scale offers a valuable resource for assessing resilience in a more integrated and holistic manner, while also advancing theoretical knowledge and practical application.

Method

Research Design and Purpose

This study was designed as a quantitative research based on scale development method. The scale development process involves the development of a new measurement tool to measure a specific construct or concept and the validity and reliability analyses of this tool (DeVellis, 2016). The aim of the study is to develop a scale

that measures the spiritual and psychological resilience that individuals exhibit in coping with difficulties based on spiritual resources. The data collection process of the study was carried out in three stages.

In the first stage, exploratory factor analysis (EFA) was applied to reveal the factor structure of the scale, and in the second stage, confirmatory factor analysis (CFA) was used to confirm this structure (Byrne, 2016; Field, 2018; Kline, 2015). In the last stage, criterion validity analyses were conducted to evaluate the relationship of the scale with other measurement tools. These stages provided the external validity of the scale and revealed important results in terms of general validity and reliability. All these processes reinforced the reliability of the scale as a scientific measurement tool.

Participants

This research was conducted based on three different datasets. In the first stage, data were collected from 233 participants for exploratory factor analysis (EFA), and in the second stage, 156 participants took part in confirmatory factor analysis (CFA). In the last stage, criterion validity analyses were conducted with the data obtained from 67 participants. The demographic characteristics of the participants were evaluated on the basis of variables such as age and gender. When the gender distribution was analysed, 68.99% of the participants were women and 31.1% were men. Gender distribution according to age groups is also presented in detail in Table 1.

Participants were categorised into different groups according to their age ranges and genders, and these distributions reflect the general sample structure of the study.

Scale Development Process

Table 2 provides a general overview of the scale development process.

Concurrently, the development of the spiritual psychological robustness scale (SPRS) was conducted in accordance with the methodological considerations outlined by Koenig and Carey (2024). The scale was designed in such a way as to ensure that it effectively measures spiritual and psychological strength without contamination from constructs such as mental health or social well-being, thus avoiding the potential for misleading results. The following section in Table 3 presents a summary of the principal considerations that informed the development process.

Table 1 Participant Information

Age group	Male	Woman	Total
18–20 years old	21	46	67
21–23 years old	37	84	121
24–26 years old	5	11	16
27–29 years old	8	17	25

Table 2 Stages of the spiritual psychological robustness scale development process (Koenig & Al Zaben, 2020; Koenig & Carey, 2024)

Phase	Application	Sample research
Theoretical foundation	Theoretical framework and literature review on the contribution of spiritual beliefs to psychological processes	Pargament (1997); Koenig et al. (2024); Masten (2001); Connor and Davidson (2003)
Creating an article pool	Creating items in line with the sub-dimensions (spiritual resilience, spiritual commitment and faith-based decision making)	Connor and Davidson (2003); Fetzer Institute (1999); Koenig et al. (2024)
Expert assessment	Obtaining feedback from five academicians who are experts in the field on the validity of the items	Hinkin (1998); Clark and Watson (1995); DeVellis (2016)
Pilot application	Applying the scale in a small sample and collecting feedback on the comprehensibility of the items	DeVellis (2016); Hinkin (1998); Wagnild and Young (1993)
Exploratory factor analysis	Analysing the sub-dimensions and factor structure of the scale	Costello and Osborne (2005); Fabrigar et al. (1999); Kline (2015)
Confirmatory factor analysis	Verification of factor structure and testing model fit	Byrne (2016); Hu and Bentler (1999); Schreiber et al. (2006)
Criterion validity	Analysing the relationships of the scale with other similar measurement tools	Campbell and Fiske (1959); Cronbach and Meehl (1955)

Table 3 Adjustments made to the SPRS based on Koenig and Carey's (2024) guidelines

Step	Adjustments made	Explanation
1	Avoidance of tautology	In order to prevent tautological results, items focusing on outcomes such as peace, meaning or psychological well-being were excluded. To illustrate, the item "I feel at peace" was excluded
2	Ensuring discriminant validity	The SPRS was designed in such a way as to facilitate a clear differentiation between spiritual psychological robustness and related constructs, such as mental or social well-being
3	Clear construct definition	The definition of spiritual psychological robustness was set forth as distinct from mental health, thereby ensuring that items were aligned with this specific construct
4	Use of uncontaminated measures	The scale was designed to prioritise items focused on spiritual coping, beliefs and commitment, thereby ensuring that it measures spiritual robustness without including mental health indicators
5	Modification of problematic items	Items that were problematic in that they could overlap with mental health outcomes were either revised or removed in order to maintain clarity and validity of the scale

Theoretical Base

The spiritual psychological robustness scale was designed to measure the resilience and psychological robustness that individuals show by using spiritual beliefs and resources when faced with difficulties. This scale was inspired by studies examining how spiritual beliefs contribute to individuals' psychological processes (Pargament, 1997; Koenig et al., 2024) and the literature (Connor & Davidson, 2003; Masten, 2001) investigating the concept of psychological resilience (Robustness) as an adaptive response to adversity. In particular, the idea that spiritual beliefs can play a protective role in coping with difficulties (Pargament, 1997) and the assumption that individuals can develop resilience by holding on to spiritual values formed the theoretical basis of the scale. In addition, studies examining how spiritual commitment and spiritual practices function in giving meaning to individuals' lives and finding strength against difficulties (Koenig et al., 2024) contributed to this process.

Material Pooling

The item pool of the scale was created based on a comprehensive literature review and expert opinions. Based on the existing spiritual resilience and psychological resilience scales in the literature (Connor & Davidson, 2003; Fetzer Institute, 1999), the scale items aimed to measure how individuals cope with difficulties in line with their spiritual beliefs and values. The item pool consisted of 30 items covering sub-dimensions such as spiritual resilience, drawing strength from spiritual resources, spiritual commitment and faith-based decision making. For example, items such as "I get support from my spiritual resources in the face of difficulties" and "My spiritual beliefs add meaning to my life" measure the ways individuals cope with challenging situations based on their belief systems.

Expert Assessment

In order to evaluate the validity of the scale items, feedback was received from five academicians who are experts in their fields. These experts were specialised in the fields of spiritual psychology and psychological resilience. The experts evaluated the content validity of the scale and each item was reviewed to check how compatible it was with the determined sub-dimensions. As a result of this process, some items were edited in terms of language and expression, and items were revised to better reflect the scope of each sub-dimension. For example, the item "I find strength in difficult times through my spirituality" was strengthened in line with the experts' suggestions.

Pilot Application

The scale was first applied as a pilot test to a small sample of 45 people. This sample was selected to reflect the target group of the scale and consisted of individuals

between the ages of 18–29. As a result of the pilot test, feedback was received on the comprehensibility of the scale and the clarity of the items. The majority of the participants stated that the items were clear and understandable, but minor changes were suggested on some items. In line with this feedback, necessary adjustments were made to the items and the scale was finalised.

Data Collection Process

In this study, data were collected through face-to-face interviews and online questionnaires. A short questionnaire including demographic information was applied to the participants along with the spiritual psychological robustness scale. During the data collection, the purpose of the study was explained to the participants and voluntary participation was ensured. Participants were selected from among university students and working adults, and the research setting was universities and digital platforms. The questionnaires were collected by taking care of the confidentiality of the participants and the data were transferred to electronic media for statistical analyses.

Statistical Analyses

The analyses of the research were conducted with various statistical methods including validity and reliability measurements. In this context, the following analyses were made:

Validity Analyses

Structural Validity

In order to examine the factor structure of the scale, exploratory factor analysis (EFA) was first applied. With this analysis, the sub-dimensions of the scale were determined. Then, confirmatory factor analysis (CFA) was conducted to test the accuracy of the factor structure. EFA and CFA results showed that the construct validity of the scale was robust.

Content Validity

In order to evaluate the content validity, five academicians who are experts in their fields were consulted about the scale items. In this process, Lawshe (1975) technique was used to evaluate the necessity of each item and item validity rates were calculated. This technique determined the critical item ratios for each item based on the "necessary", "useful but unnecessary" or "unnecessary" evaluations given by the experts. Lawshe's content-based validity method made significant contributions to the evaluation of the adequacy and appropriateness of the items.

Criterion Validity

Criterion validity analyses were conducted to evaluate the relationship of the scale with other valid and reliable scales. In particular, correlation analyses were performed with spiritual contradiction. The main reason for this is the thought that it may show a negative correlation with spiritual contradiction.

Reliability Analyses

Cronbach's Alpha

Cronbach's Alpha reliability coefficient was calculated to test the internal consistency of the scale. The results showed that the scale had high internal consistency ($\alpha =$ above 0.70).

Item Analysis

In order to evaluate the discriminative power of the scale items, item-total correlations were calculated and means and standard deviations were analysed. The item-total correlations of the majority of the items were above 0.50, indicating that the items were sufficiently discriminative. The means and standard deviations of the items were also analysed, and it was seen that the distributions were normal.

Findings

Findings Related to Scale Development

In this section, the development process of the spiritual psychological robustness scale is discussed in detail. The steps followed during the development of the scale and the statistical findings obtained are presented in a structured manner.

Validity

The validity and reliability of a scale make it suitable for use in scientific studies. In this study, the validity of the spiritual psychological robustness scale was evaluated through various analyses. Validity is related to the ability of the scale to measure in accordance with its purpose and the findings obtained in this context are shared in this section.

Exploratory Factor Analysis (EFA) Findings

The construct validity of the spiritual psychological robustness scale was firstly examined by exploratory factor analysis (EFA). EFA was used to determine the factor structure of the scale and the relationships of the items with these factors. As a

Table 4 Variance explained for spiritual psychological robustness scale as a result of EFA

Factor	Total explained variance(%)
1. Spiritual coping with challenges	19.071
2. Spiritual beliefs	18.016
3. Spiritual commitment	17.925
Total	55.013

Table 5 KMO and Bartlett's test values

Kaiser–Meyer–Olkin sampling adequacy	.848
Bartlett's test of sphericity	Chi-square value
	S. degree
	P

result of the analysis, the scale revealed a three-factor structure and these factors were found to be significant in accordance with the theoretical basis of the scale. The items of the scale were grouped under three factors: spiritual coping with challenges, spiritual beliefs and spiritual commitment. When the factor structure and variance explanation ratios were analysed, these three factors explained 55.013% of the total variance.

The first factor, spiritual coping with challenges, explained 19.071% of the variance and this factor includes items that emphasise receiving support from spiritual resources while coping with challenges. The second factor, spiritual beliefs, explained 18.016% variance and included items representing the meaning and peace that individuals' spiritual beliefs add to their lives. The third factor, spiritual commitment, explained a variance of 17.925% and was associated with items expressing commitment to spiritual values and how beliefs are maintained in daily life (Table 4).

According to the social sciences literature, an explained variance between 40 and 60% is considered sufficient (Okan & Okan, 2024). Therefore, spiritual psychological robustness scale can be considered as a scale with a strong construct validity.

According to the Table 5, the Kaiser–Meyer–Olkin (KMO) sampling adequacy value for the factor analysis of the spiritual psychological robustness scale was calculated as 0.848. KMO test is an important statistical criterion that evaluates the suitability of the dataset for factor analysis. In general, when the KMO value is between 0.80 and 0.90, it is considered to be at a good level. In this context, the value of 0.848 indicates that the dataset is suitable for factor analysis and the factor structure of the scale can be reliably determined. In addition, Bartlett's test of sphericity results is also noteworthy. The Chi-square value was found to be 1322.003, and the significance level was $p < 0.000$. These results show that there is a significant correlation between the scale items and the data are suitable for factor analysis. Bartlett's test of sphericity confirms that the dataset has a multivariate normal distribution and factor analysis can be performed.

The scree plot graph above is an important tool used to evaluate the factor structure of a scale and is based on the eigenvalues of the factors. The graph shows that the components are ranked according to their eigenvalues (Fig. 1).

Break Point (Elbow Point)

In the graph, a "breaking point" occurs after the 3rd component. This indicates that the first three factors are significant in the scale structure and the remaining components explain less variance. In the scree plot, a significant decrease in slope occurs after the third component, and it is seen that the slope flattens. This generally indicates that the components after this point have lower importance and the variance explained decreases. The first three components represent the main factors of the scale.

Eigenvalues

The eigenvalues of the first three components are above 1, which means that they explain a significant amount of variance. Especially the eigenvalue of the first component is quite high, which indicates that it explains the largest variance. This indicates that these three components represent the main factors of the scale and are the basic building blocks of the measurement.

Table 6 shows the factor loading values of the spiritual psychological robustness scale. The scale was evaluated with a three sub-dimensional structure: spiritual coping, spiritual beliefs and spiritual commitment. The loading value of each item on the factor to which it belongs indicates how strongly the items represent the relevant factor.

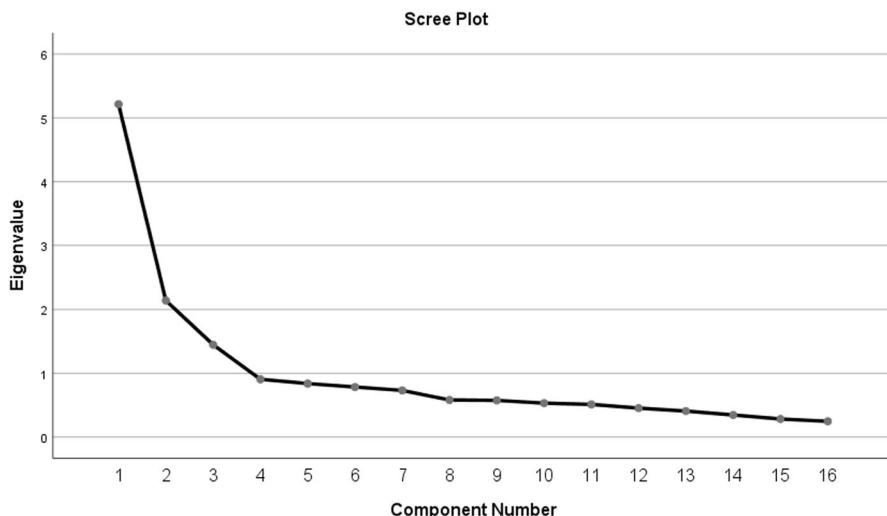


Fig. 1 Scree plot graph for the scale

Table 6 Loadings of spiritual psychological robustness scale items

Articles	S. coping	S. beliefs	S. commitment
m12 (I take refuge in my spiritual beliefs when I face difficulties.)	.709		
m11 (My spirituality strengthens me in challenging moments of life)	.707		
m13 (I get support from my spiritual resources in the face of difficulties.)	.690		
m15 (I am more resistant to challenging situations thanks to my spiritual values)	.683		
m16 (I find strength with my spirituality in difficult times)	.675		
m14 (My spirituality purifies me from negative emotions.)	.614		
m10 (My spiritual beliefs give meaning to my life.)		.774	
m8 (My inner peace increases as I adhere to spiritual values)		.745	
m7 (My beliefs sustain me in difficult situations.)		.687	
m9 (My spiritual beliefs always guide me to the truth.)		.682	
m6 (My spiritual beliefs are an important part of my life.)		.646	
m1 (I take care to make decisions in line with my beliefs.)			
m2 (I maintain my spiritual practice regularly every day.)			
m3 (Sticking to my beliefs gives me strength.)			.812
m5 (I maintain my spiritual commitment under all circumstances.)			.672
m4 (My spiritual values are the basic principles that guide my life)			.645
			.644

The load values of the items in the spiritual coping sub-dimension vary between 0.614 and 0.709. This shows that the participants maintain their resilience by turning to spiritual resources in difficult times.

The items in the spiritual beliefs sub-dimension have high loadings between 0.646 and 0.774 and emphasise the effect of spiritual beliefs on meaning and inner peace in individuals' lives.

The items in the spiritual commitment dimension have loadings between 0.644 and 0.812. This shows that it is important to maintain spiritual practice regularly in daily life and commitment to beliefs.

These results support that the three-factor structure of the scale is robust and the items show a high degree of agreement with each factor.

Confirmatory Factor Analysis

The above confirmatory factor analysis (CFA) Fig. 2 presents a model that corroborates the three-factor structure of the spiritual psychological robustness scale. The three main factors in the figure are labelled as spiritual coping, spiritual beliefs and spiritual commitment, and the items of the scale are placed under these factors.

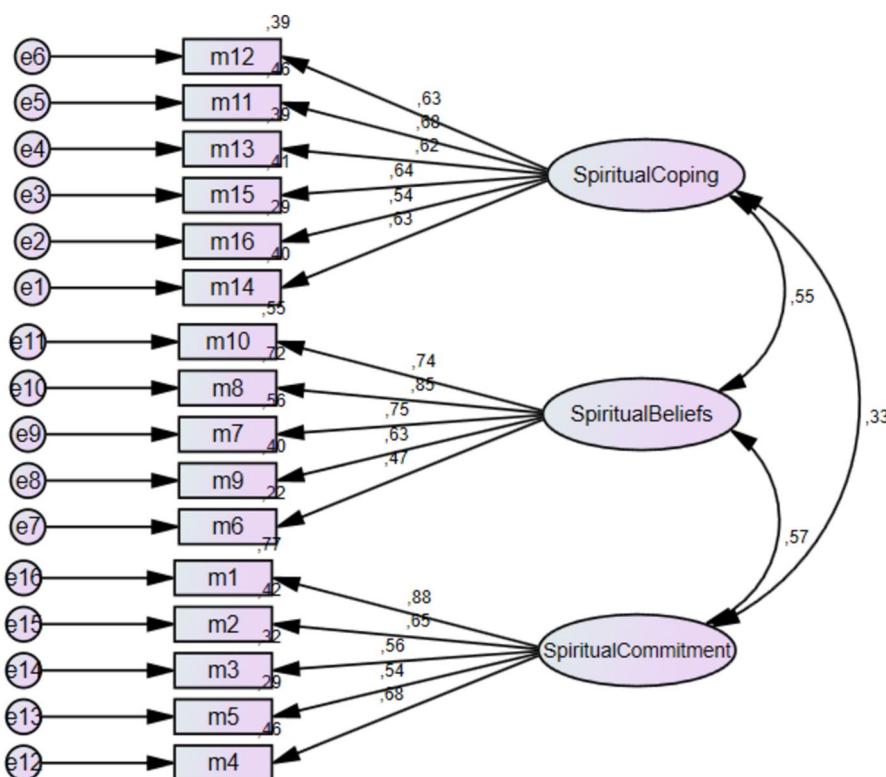


Fig. 2 Confirmatory factor analysis path diagram of spiritual psychological robustness scale

Interpretation of the Model

Loadings Between Factors and Items

The factor loadings of each item to the related factor are given next to the figure. For example, the loadings of items m12, m11, m13 and m15 are 0.63, 0.63, 0.64 and 0.54, respectively, which means that these items have a stronger relationship with spiritual coping. The factor loadings of the items associated with the spiritual beliefs factor generally appear to be quite high. In particular, items m10, m8 and m7 have loadings of 0.74, 0.75 and 0.63, respectively. This indicates that these items strongly represent the spiritual beliefs factor.

In the items related to the spiritual commitment factor, items such as m1 (0.88), m2 (0.56) and m3 (0.54) have very high factor loadings, which indicates that these items strongly represent the spiritual commitment factor.

Correlations Between Factors

The correlations between the factors show the relationships within the model. For example, the correlation between spiritual coping and spiritual beliefs is shown as 0.55, which indicates that these two factors have a moderate relationship. Similarly, there is a strong relationship between spiritual beliefs and spiritual commitment (0.57). The correlation between spiritual coping and spiritual commitment is lower (0.33), indicating a relatively weak relationship between these two factors.

General Goodness-of-Fit of the Model

The figure shows that the model generally confirms the three-factor structure. The majority of the items have high factor loadings and represent the relevant factors well. The correlations between the factors also support the consistency of the model.

This Table 7 shows the goodness-of-fit values of the confirmatory factor analysis (CFA) conducted for the spiritual psychological robustness scale and compares the results obtained with standard fit criteria. The $c2/df$ value is 1.876, which is between

Table 7 Comparison of standard goodness-of-fit criteria and research results

Fit dimensions	Good fit	Acceptable compliance	Concordance values obtained in the study
$c2/df$	$0 \leq c2/df \leq 2$	$2 \leq c2/df \leq 3$	1.876
RMSEA	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.061
SRMR	$0 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$	0.082
IFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	0.930
CFI	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$	0.929
GFI	$0.90 \leq GFI \leq 1.00$	$0.85 \leq GFI \leq 0.90$	0.911
TLI	$0.90 < RFI < 1.00$	$0.85 < RFI < 0.90$	0.915
Hoelter	≥ 200	–	240

the acceptable fit range of $2 \leq c2/df \leq 3$ and below 2 indicates that the model shows a very good fit with the data (Schermelleh-Engel et al., 2003). The RMSEA value is 0.061, which is within the acceptable range of $0.05 \leq \text{RMSEA} \leq 0.08$ and confirms that the overall fit of the model is reasonable. The SRMR value is 0.082, which is an acceptable value indicating that the model has an adequate fit. IFI (0.930), CFI (0.929) and GFI (0.911) values are in the acceptable fit range, indicating that the model provides a good fit with the dataset and supports the construct validity of the scale. The TLI value is 0.915, which indicates that the model fits the data and the factor structure is well structured. Additionally, the Hoelter value is 240, which exceeds the threshold of 200, further confirming the robustness of the model's fit with the data. Overall, these goodness-of-fit values strongly support the construct validity of the spiritual psychological robustness scale and reveal that the three-factor structure of the scale provides a good fit with the data.

Reliability Findings

Criterion Validity of the Scale

In order to determine the criterion validity of spiritual psychological robustness scale, spiritual contradiction scale developed by Okan et al. (2024) was applied to a total of 67 emerging adulthood individuals. The reason for using spiritual contradiction scale is that spiritual psychological robustness and spiritual contradiction have some common situations in the literature. Related data are presented in the table below (Table 8).

In order to determine the criterion validity of the spiritual psychological robustness scale, a study was conducted on 67 adult individuals with the spiritual contradiction scale developed by Okan et al. (2024). The relationships between these two scales were analysed due to the common features in the literature. According to the correlation results as shown in Table 6, significant negative correlations were found between spiritual contradiction and the sub-dimensions of spiritual psychological robustness. In particular, strong negative correlations were found between spiritual contradiction and spiritual coping ($r = -0.380, p < 0.001$), spiritual beliefs ($r = -0.535, p < 0.001$), spiritual commitment ($r = -0.479, p < 0.001$) and spiritual robustness ($r = -0.607, p < 0.001$).

Table 8 The relationship between spiritual psychological robustness and self-confidence scale

Variables	1	2	3	4	5
Spiritual contradiction	1.00	-0.380*	-0.535*	-0.479*	-0.607*
Spiritual coping		1.00	0.412*	0.284*	0.687*
Spiritual beliefs			1.00	0.488*	0.841*
Spiritual commitment				1.00	0.784*
Spiritual robustness					1.00

* $P < .001$

These findings suggest that as individuals' spiritual robustness increases, their likelihood of experiencing spiritual conflicts decreases. On the other hand, significant positive correlations were observed between spiritual coping, spiritual beliefs and spiritual commitment. For example, positive correlations were found between spiritual coping and spiritual beliefs ($r=0.412, p<0.001$) and spiritual commitment ($r=0.284, p<0.001$), and these results reveal that spiritual resilience and beliefs are mutually supportive structures. There is also a high positive correlation between spiritual beliefs and spiritual commitment ($r=0.488, p<0.001$). In addition, strong positive relationships were found between spiritual robustness and spiritual commitment ($r=0.784, p<0.001$) and spiritual beliefs ($r=0.841, p<0.001$). These results show that spiritual robustness and spiritual beliefs and commitment are closely related to each other and that these factors become stronger as spiritual robustness increases.

This Table 9 shows the internal consistency coefficients of the sub-dimensions of the spiritual psychological robustness scale and the item-total correlations and Cronbach's alpha values of each item. The Cronbach's alpha values obtained for the sub-dimensions, spiritual coping (0.785), spiritual beliefs (0.813), spiritual commitment (0.783) and overall spiritual robustness (0.854) indicate that the reliability of the scale is high (Nunnally & Bernstein, 1994). The item-total correlations ranged from 0.329 to 0.687, indicating that each item was consistent with the total score of the scale. In particular, item m8 ("My inner peace increases as I adhere to spiritual

Table 9 Internal consistency coefficients of spiritual psychological robustness scale sub-dimensions and item-total correlations and Cronbach's alpha values

Articles	Corrected item-total correlation	Cronbach's alpha if item deleted
Spiritual coping		0.785
Spiritual beliefs		0.813
Spiritual commitment		0.783
Spiritual robustness		0.854
m12	0.329	0.852
m11	0.441	0.848
m13	0.405	0.849
m14	0.479	0.846
m15	0.462	0.848
m16	0.341	0.852
m1	0.599	0.840
m2	0.480	0.846
m3	0.441	0.849
m4	0.451	0.848
m5	0.474	0.846
m6	0.376	0.852
m7	0.621	0.838
m8	0.687	0.835
m9	0.528	0.843
m10	0.583	0.840

values") was the item that made the strongest contribution to the conceptual structure of the scale with an item-total correlation value of 0.687. In general, Cronbach's alpha if item deleted values show that the removal of items does not affect the overall reliability of the scale much, that is, the scale has a consistent structure (DeVelis, 2016). These findings support that the scale can be considered as a valid and reliable instrument.

Table 10 presents a detailed test–retest analysis for the spiritual robustness scale and its three subscales—spiritual coping, spiritual beliefs and spiritual commitment—evaluated over a 3-week interval. The initial test (week 1) yielded a total score of 2262.18, with an overall mean of 61.14 for spiritual robustness. With regard to the subscales, the mean score for week 1 was 22.34 for spiritual coping, 19.40 for spiritual beliefs and 19.40 for spiritual commitment, indicating a balanced distribution across these dimensions. Following the 3-week interval, the scores in week 4 (retest) demonstrate a slight decrease, with a total score of 2126.76 and an adjusted mean of 57.48 for spiritual robustness.

The mean scores for the corresponding subscales in week 4 indicate a slight reduction, with spiritual coping at 21.25, spiritual beliefs at 18.61 and spiritual commitment also at 18.61. The correlation coefficient for the total score, 0.89, demonstrates high test–retest reliability, thereby underscoring the consistency of the spiritual robustness scale across time. These findings indicate that, although there is a slight decrease in scores across the 3-week interval, the overall reliability of the scale and its subscales remains robust. This demonstrates that the scale is able to effectively capture the stability of spiritual dimensions among participants over time.

Conclusion, Discussion and Suggestions

Conclusion

This study focused on the development, validity and reliability analyses of the spiritual psychological robustness scale. The three main sub-dimensions of the scale, spiritual coping, spiritual beliefs and spiritual commitment were structurally validated, and each dimension was found to make significant contributions to measuring individuals' spiritual and psychological robustness. The validity of the scale was supported by both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), and the factor structure was found to be compatible with acceptable variance values in accordance with the social sciences literature. The results show that the three-factor structure of the scale explains 55.013 of the total variance.

In addition, Cronbach's alpha values were found to be high for spiritual coping (0.785), spiritual beliefs (0.813), spiritual commitment (0.783) and overall spiritual robustness (0.854), indicating that the scale has a strong construct validity. Item-total correlation analyses for each item of the scale revealed that the items were consistent with the scale and contributed significantly to the total score. In particular, item m8 had the highest item-total correlation value, indicating that individuals' adherence to spiritual values is strongly related to inner

Table 10 Test-retest analysis of total and subscale scores across 3 weeks

Week	Total score	Mean score (S. robustness)	Mean score (S. coping)	Mean score (S. believes)	Mean score (S. commitment)	Correlation coefficient (Total)
Week 1 (Initial test)	2262.18	61.14	22.34	19.40	19.40	0.89
Week 4 (Retest)	2126.76	57.48	21.25	18.61	18.61	

peace. Overall, these findings support that the spiritual psychological robustness scale is valid, reliable and an important tool for researchers working on spiritual robustness.

Discussion

The spiritual psychological robustness scale (SPRS) developed in this study contributes to the literature as a new tool to measure how individuals use their spiritual beliefs in coping with difficulties. The three main dimensions of the scale, spiritual coping, spiritual beliefs and spiritual commitment, were found to provide important findings on how individuals integrate their spiritual beliefs into their psychological resilience. These findings are consistent with other studies on spiritual resilience and psychological resilience and make important contributions to the existing gaps in the literature.

Place in Literature

The spiritual psychological robustness scale (SPRS) is built on research in the field of spiritual resilience and psychological resilience and draws attention as a unique scale that addresses the combination of these two concepts. How spiritual resilience is integrated with psychological processes is an issue emphasised in the literature with Pargament's (1997) spiritual coping model. Pargament stated that the use of spiritual resources while coping with difficulties contributes to individuals' processes of finding meaning. The findings of our study also support this thesis; especially the spiritual coping dimension provides significant evidence that spiritual beliefs increase personal resilience in the face of difficulties (Pargament, 1997).

At the same time, Koenig et al., (2024), studies on the positive effects of religious and spiritual beliefs on mental health are consistent with the findings of our study. The high correlation values in the spiritual beliefs subscale indicate that individuals' spiritual beliefs add meaning to their lives and that these beliefs have a strong relationship with personal well-being and resilience (Koenig et al., 2024).

The negative correlations of this scale with the spiritual contradiction scale (Okan et al., 2024) reveal that spiritual resilience reduces the spiritual conflicts of individuals and that such contradictions are experienced less as individuals remain loyal to their spiritual beliefs. This suggests that as spiritual resilience develops, individuals benefit more from their spiritual resources and experience less spiritual conflicts. Our current study shows that this relationship between spiritual contradiction and spiritual psychological robustness fills an important gap in the literature. This result, which reveals that reducing the negative effects of spiritual contradictions on mental health may be related to increasing spiritual resilience, offers a new perspective in understanding the effects of spiritual resilience on individuals (Ano & Vasconcelles, 2005; Zinnbauer & Pargament, 2005).

Meaning of Findings

The findings emphasise that spiritual resilience plays an important role in coping with difficulties and adds meaning to individuals' lives. It is seen that individuals with high spiritual resilience are more prone to overcome the difficulties in their lives through their spiritual beliefs and can maintain their psychological resilience in this process (Gall et al., 2009). In the study, especially the spiritual coping sub-dimension revealed that individuals use their spiritual beliefs as a coping mechanism in difficult times and that these beliefs increase the resilience of individuals (Pargament, 1997). The spiritual beliefs and spiritual commitment subscales also show that individuals find meaning in the processes of maintaining and integrating their spiritual beliefs into their daily lives (Ellison & Levin, 1998). These findings are consistent with the studies of Koenig et al., (2024) emphasising the protective role of spirituality on individuals' mental health.

Another important finding of the study is the strong relationship between spiritual resilience and spiritual commitment. This is supported by the high correlation values obtained in the spiritual commitment sub-dimension. The ability of individuals to maintain spiritual practice leads them to cope better with difficulties and to protect their spiritual beliefs. This is consistent with Pargament's (2002) findings on the positive effects of spiritual resilience on the long-term psychological well-being of individuals. Seybold and Hill (2001) similarly drew attention to the positive effects of religion and spirituality on mental health.

Recommendations

The findings of this study revealed that the spiritual psychological robustness scale (SPRS) is a powerful tool in understanding the relationships between spiritual resilience and psychological resilience. The suggestions listed below for future research and applications may provide a wider contextualisation and understanding of the effects of the scale.

Suggestions for Future Research

Validity and Reliability Tests in Different Demographic Groups

The findings of the study show that the SPRS offers strong validity and reliability. However, the scale needs to be tested in different demographic groups (different age, culture and socioeconomic status). Spiritual resilience may be perceived differently among individuals in different cultural and age groups; therefore, the cross-cultural validity of the scale should be evaluated in larger-scale studies.

Relationships Between Spiritual Resilience and Other Psychological Variables

Future studies should examine the relationships between spiritual resilience and other psychological variables such as depression, anxiety and stress. In particular, research on individuals with mental health problems may help us better understand how spiritual resilience levels are related to these problems.

Cross Cultural Studies

Spiritual resilience may be a culture-specific construct. Therefore, cross-cultural studies testing the applicability of SPRS in different cultural contexts should be conducted. Such studies can contribute to the identification of universal and culture-specific elements related to spiritual resilience.

Longitudinal Studies

Longitudinal studies are recommended to understand how spiritual resilience levels change over time and how these changes affect individuals' psychological resilience. These studies can help us better understand the role of spiritual resilience in individuals' coping processes.

Recommendations for Applications

Use in Education and Counselling

SPRS can be considered as a tool that can be used in training and counselling processes, especially by mental health professionals working with traumatised individuals or refugee groups. The tendency of post-traumatised individuals to resort to spiritual resources can be an important factor in psychological recovery processes.

Guidance and Psychological Counselling Applications

It can be suggested as a scale that can be used in the field of guidance and psychological counselling in order to increase the positive effect of spiritual resilience on individuals' general well-being. Especially school counsellors and therapists can use this scale to evaluate the effects of spiritual resilience on individuals' mental health.

Programmes Assessing the Impact of Spiritual Beliefs on Psychological Resilience

SPRS can be used in developing programmes to measure the contribution of spiritual beliefs on individuals' psychological resilience. This scale can be an important tool in the evaluation of intervention programmes aimed at increasing the

spiritual resilience of individuals. Measurements made with this scale to see how practices that strengthen spiritual beliefs affect the general mental health of individuals can contribute to the development of more structured and scientifically based practices.

Appendix

The spiritual psychological robustness scale (SPRS)

Item code	Item statement	Subscale	Response options
m12	I take refuge in my spiritual beliefs when I face difficulties	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m11	My spirituality strengthens me in challenging moments of life	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m13	I get support from my spiritual resources in the face of difficulties	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m15	I am more resistant to challenging situations thanks to my spiritual values	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m16	I find strength with my spirituality in difficult times	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m14	My spirituality purifies me from negative emotions	Spiritual coping	Strongly disagree, disagree, neutral, agree, strongly agree
m10	My spiritual beliefs give meaning to my life	Spiritual beliefs	Strongly disagree, Disagree, neutral, agree, strongly agree
m8	My inner peace increases as I adhere to spiritual values	Spiritual beliefs	Strongly disagree, disagree, neutral, agree, strongly agree
m7	My beliefs sustain me in difficult situations	Spiritual beliefs	Strongly disagree, disagree, neutral, agree, strongly agree
m9	My spiritual beliefs always guide me to the truth	Spiritual beliefs	Strongly disagree, disagree, neutral, agree, strongly agree
m6	My spiritual beliefs are an important part of my life	Spiritual beliefs	Strongly disagree, disagree, neutral, agree, strongly agree
m1	I take care to make decisions in line with my beliefs	Spiritual commitment	Strongly disagree, disagree, neutral, agree, strongly agree
m2	I maintain my spiritual practice regularly every day	Spiritual commitment	Strongly disagree, disagree, neutral, agree, strongly agree
m3	Sticking to my beliefs gives me strength	Spiritual commitment	Strongly disagree, disagree, neutral, agree, strongly agree
m5	I maintain my spiritual commitment under all circumstances	Spiritual commitment	Strongly disagree, disagree, neutral, agree, strongly agree
m4	My spiritual values are the basic principles that guide my life	Spiritual commitment	Strongly disagree, disagree, neutral, agree, strongly agree

Data Availability Before collecting data for this research, permission was obtained from all person. Approval statements were also received from each person whose data were collected. The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest There is no conflict of interest in this manuscript.

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