

The mediating role of psychological resilience in the effect of strength of religious faith on coping with stress in people with type 2 diabetes: A SEM analysis

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Abstract

Aim: This study was conducted to examine the mediating role of psychological resilience in the effect of strength of religious faith on coping with stress in people with type 2 diabetes.

Design: This study has a cross-sectional descriptive-analytical study.

Methods: It was conducted with 184 people with type 2 diabetes who were admitted to a family health centre in Erzurum, the east of Turkey. The data were collected by using the 'Santa Clara Strength of Religious Faith Questionnaire', 'Brief Resilience Scale (BRS)' and 'Scale of Ways of Coping With Stress (SWCS)'. The study was reported by following the STROBE recommendations. Structural equation modelling and bootstrapping method were used to analyse the data. This study was reported following the STROBE recommendations.

Results: In the study, according to the model, the direct effect of strength of religious faith on SWCS ($\beta=0.564$; $p<0.01$) and BRS ($\beta=0.545$; $p<0.01$) was moderate, positive and significant. In addition, the effect of resilience on coping with stress ($\beta=0.320$; $p<0.01$) was also found to be moderate, positive and significant. The total effect of strength of religious faith on coping with stress mediated by resilience ($\beta=0.738$; $p<0.01$) was found to be highly positive and significant. The model explains 61.7% of the variance in coping with stress. Fit index values according to the model were found as $\chi^2=2368.02$, $df: 980$, $\chi^2/df 2.368$, RMSEA 0.088, CFI 0.773, TLI 0.760 and SRMR 0.083. It was found that strength of religious faith had a positive effect on coping with stress in people with type-2 diabetes, and this effect was strengthened by the mediating role of psychological resilience.

Patient or Public Contribution: This study shows the effect of religious belief and psychological resilience in increasing the coping skills of people with type-2 diabetes. Therefore, taking religious beliefs and spirituality into consideration in nursing care may increase patients' coping skills.

KEYWORDS

nurse, patient, psychological, religious, resilience, stress, type 2 diabetes

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1 | INTRODUCTION

Diabetes mellitus (DM) is chronic public health problem that is increasingly common worldwide. Type 2 diabetes, which constitutes the majority of diabetes cases, is one of the leading causes of death as it can lead to many complications (Li et al., 2020; Saeedi et al., 2019). Therefore, psychosocial interventions are required in addition to pharmacological treatment that will positively affect the course of diabetes. Planning these interventions is only possible by elucidating the psychosocial components associated with diabetes. (Chew et al., 2017).

Strategies such as spirituality have an important place in the successful management of the disease process in type 2 diabetes. It is emphasized that spirituality and religious beliefs have an impact on supporting patients' positive health behaviours and improving their general health (Coppola et al., 2021). In addition, religious belief systems are considered one of the positive coping strategies in combating stress. Stress management helps people with diabetic successfully cope with life's demands and challenges (Choi & Hastings, 2019). On the other hand, patients' inability to cope with the stress they experience may cause their psychological endurance and resistance levels to decrease (Choi & Hastings, 2019; Yi-Frazier et al., 2015).

It is important for people with diabetic to be psychologically resilient in coping with the problems they experience due to the disease (Yi-Frazier et al., 2015). Psychological resilience increases coping power. It is also considered a positive resource in combating the difficulties experienced in chronic diseases. Spirituality and religious beliefs are known to increase psychological resilience. In the literature, the intermediary relationships between the concepts of religious belief, coping with stress, and psychological resilience, which play an important role in the course of type 2 diabetes, have not yet been fully elucidated (Choi & Hastings, 2019; Yi-Frazier et al., 2015).

Withstanding the challenging situations and complications of chronic diseases such as type 2 diabetes and seeing this as an opportunity for development is within the scope of positive psychology. In positive psychology, individuals who are psychologically resilient under negative life conditions are more successful (Csikszentmihalyi et al., 2014). Based on this theory and previous studies showing that resilience supports positive psychological characteristics, it is thought that psychological resilience may be a mediating variable in the relationship between the strength of religious belief and coping with stress. No study has been found examining the mediating role of psychological resilience in the effect of religious belief on coping with stress in people with type 2 diabetes.

2 | BACKGROUND

Diabetes mellitus (DM) is one of the most common chronic diseases worldwide and it is an important public health problem. Type

2 diabetes, which accounts for more than 90% of diabetes cases, is a clinical syndrome that causes metabolic disorder characterized by hyperglycaemia (Li et al., 2020). According to the International Diabetes Federation data, currently there are approximately 463 million people with diabetes worldwide, and this number is estimated to increase to 578 million by 2030 and to 700 million by 2045. The prevalence of type 2 diabetes is increasing dramatically and is among the leading causes of death (Saeedi et al., 2019). Diabetes is usually associated with infections, cardiovascular diseases, and neurological complications. Therefore, diabetes affects physical, mental and social lives of individuals significantly (Harding et al., 2019).

Physical and psychological strategies have an important place in the successful management of disease process and maintenance of general health in people with type-2 diabetes. One of these strategies is spirituality and religious faith system (Coppola et al., 2021; Ozcan et al., 2021). In many studies, religion and spirituality are often used as different but overlapping concepts (Wixwat & Saucier, 2021). Religion usually refers to a system of shared beliefs, rituals, and symbols that involve an affinity for the sacred or transcendent, and includes connections to the community. Spirituality, on the other hand, is more individualistic and expresses a personal search (Wixwat & Saucier, 2021). There is significant research evidence showing that religion and spirituality have a positive impact on the health status of people with diabetes (Mirzazadeh-Qashqaei et al., 2023; Unantenne et al., 2013). Lifestyle habits promoted by religion and religious practices can also have positive effects on diabetes. It has been reported that religious faith systems improve glycaemic control, increase self-care behaviours and positively affect general health status in people with diabetic (Gulbahar Eren et al., 2023; Mirzazadeh-Qashqaei et al., 2023). In addition, strength of religious faith can be used as an effective and useful method in developing strategies to cope with anxiety and stress in people with diabetes (Choi & Hastings, 2019).

It is a known fact that the difficulties and complication risks of diabetes cause stress on patients (Hamdan-Mansour & Dughmush, 2023; Rosyid et al., 2023). Patients under stress may show different attitudes and coping strategies. Coping strategies refer to the cognitive or behavioural attempts of individuals to manage stressful situations. These strategies can be either positive or negative (Rosyid et al., 2023). In literature, religious faith and practices draw attention as one of the positive coping methods used by people with diabetes (Choi & Hastings, 2019). Positive coping methods have been shown to facilitate behaviours associated with diabetes management, such as regular medication and diet, and improve psychological health (Duangdao & Roesch, 2008). It has also been revealed that correct coping methods are positively associated with glycaemic control and negatively associated with anxiety and depression (Duangdao & Roesch, 2008; Hamdan-Mansour & Dughmush, 2023; Tuncay et al., 2008). On the other hand, using negative coping methods can lead to a decrease in resilience and resistance, which affects

the ability to manage diabetes (Choi & Hastings, 2019; Yi-Frazier et al., 2015).

It is important for people with diabetes to be psychologically resilient in coping with the problems they experience (Yi-Frazier et al., 2015). In general, resilience refers to the strength to deal effectively with life-threatening conditions and the capacity to adapt to challenging situations (Alshebami, 2023; DeNisco, 2011). It has been reported that psychological resilience in chronic diseases provides the ability to recover easily, the flexibility to recover and return to normal after tension in undesirable situations (Yi-Frazier et al., 2015). It has been found that people with diabetes who have psychological resilience have better diabetes control, higher levels of positivity, and lower levels of depression (DeNisco, 2011; Steinhart & Dolbier, 2008). Resilience is associated with the use of coping methods. Resilience makes it easier for patients to cope with the problems they experience. In addition, resilience increases with the use of correct coping methods (Choi & Hastings, 2019; Yi-Frazier et al., 2015).

2.1 | Conceptual model

It has been reported in the literature that religious belief is effective in increasing resilience and giving individuals endurance (Chang et al., 2021; Choi & Hastings, 2019; Kavak et al., 2021; Mahdian & Ghaffari, 2016; Roberto et al., 2020; Turan & Dural, 2022). It is a known fact that spirituality and religion can be used by people with diabetes as a coping method (Choi & Hastings, 2019; Yi-Frazier et al., 2015). Theoretical model of the study is inspired by positive psychology. In this model, psychological resilience as a protective factor is a positive resource to cope with all kinds of life challenges (Csikszentmihalyi et al., 2014). Studies examining the effect of psychological resilience in people with type 2 diabetes are limited (Bahremand et al., 2015; Jia et al., 2021; Rahimi et al., 2020). A study conducted during the pandemic showed that psychological resilience is a mediating factor in the relationship between stress and happiness (Peker & Cengiz, 2022). In a study conducted people with cancer, it was reported that psychological resilience mediated the relationship between spiritual well-being and hope (Mahdian & Ghaffari, 2016). It has been reported that psychological resilience in people with diabetic is among the positive psychological characteristics that facilitate coping with disease-related problems. It has been suggested that these positive psychological traits may mediate in combating disease-related problems (Celano et al., 2013). Considering previous studies and positive psychology theory, it is thought that psychological resilience may act as a mediating variable in the relationship between strength of religious faith and coping with stress. It is not known whether psychological resilience plays any role in the relationship between religion and coping strategies in people with diabetic. This is the first study to examine the mediating role of psychological resilience in the effect of religious faith on coping with stress in people with type 2 diabetes. As a requirement of the holistic approach in the care of people with diabetes,

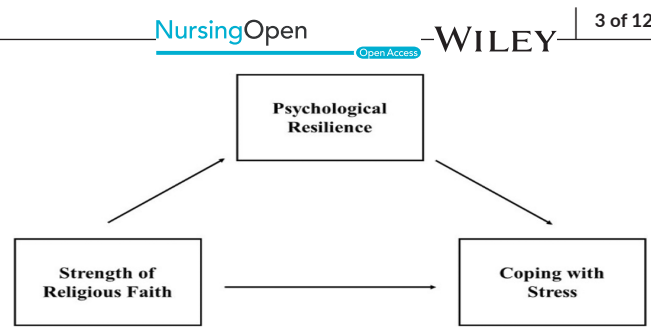


FIGURE 1 Hypothetical model.

nurses have an important place in meeting patients' spiritual needs and developing correct coping skills in patients. For this reason, it is thought that the data obtained from the present study will shed light on the relationship between concepts such as religious faith, coping and resilience, which are effective in the management of diabetes, will provide information about the mediating role of resilience in these relationships, and will also provide important data for nursing interventions and studies.

This study was conducted to test the following hypotheses based on prior literature review.

Hypothesis 1. Strength of religious faith is positively related to stress coping.

Hypothesis 2. Psychological resilience is positively related to coping with stress.

Hypothesis 3. Strength of religious faith is positively correlated with psychological resilience.

Hypothesis 4. Psychological resilience mediates the relationship between strength of religious faith and coping with stress (Figure 1).

3 | METHODS

3.1 | Aim

The aim of this study is to determine (1) the relationship between the concepts of religious belief strength, coping with stress and psychological resilience, and (2) the mediating role of psychological resilience in the relationship between religious belief strength and coping with stress.

3.2 | Study design

The design of this study was a cross-sectional descriptive-analytical study. This study was reported following the STROBE recommendations.

3.3 | Sample and participants

The simple random sampling method, which is one of the most basic and widely used sampling methods, was used in the research. In this method, each individual of the universe has an equal probability of being selected for the sample and they are selected completely randomly. Simple random sampling is a method used to create a sample that represents the universe, and how well the sample represents the universe can be reliably determined thanks to this method (Noor et al., 2022). For the simple random sampling method used in the study, a list was first created from the patients registered at the family health centre where the research was conducted, based on the research criteria. This list included all individuals meeting the research criteria. Then, a computer software was used to make random selections from the list. The selection of individuals to participate in the study was made using the list of random numbers generated by the computer software.

Population of the study consisted of people with type 2 diabetes who applied to a family health centre (It is the name given to the health institution where family medicine services are provided by one or more family physicians and family health workers) in Erzurum, eastern Turkey, between May 2022 and October 2022. To determine the number of patients to be included in the study, a prior power analysis was performed using the G-Power 3.1.9.4 program. For the prior power analysis, considering the effect size as 0.15 ($f^2=0.15$) according to the multiple regression test in Cohen's effect size table, since there is no similar study on the subject, the confidence interval is 95% (Faul et al., 2014) and the significance level is 0.05 (Faul et al., 2014). The power is 0.95 (Capik, 2014). It was found that the minimum number of patients required to be included in the study was 107. In the study, 223 people with type 2 diabetes were reached between these dates. In this study, inclusion and exclusion criteria were determined in line with the literature in order to achieve the research purpose and hypotheses. The sample group consisted of patients who met the inclusion criteria (having been diagnosed with type 2 diabetes at least 6 months ago, being ≥ 18 years of age, having no history of psychiatric illness, having no impairment (such as vision, speech and hearing) that would prevent the patient from communicating) and who accepted the study. Since 29 patients did not want to participate in the study and 10 patients did not meet the study criteria, the study was completed with 184 patients (82.5% participation). The participation rate in this study is high. In order to avoid missing data in the study, the data of people who filled out the research forms incompletely were removed from the study and not included in the analysis.

3.4 | Measurements

Research data were collected by self-reporting within 10–15 min using the simple random sampling method. 'Descriptive Information Form', 'Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)', 'Brief Resilience Scale (BRS)' and 'Scale of Ways of Coping With Stress (SWCS)' were used to collect data.

3.4.1 | Descriptive information form

This form prepared by the researchers consists of a total of 9 questions (age, gender, marital status, educational status, employment status, income level, time of diagnosis of the disease, number of hospitalizations due to diabetes and presence of another chronic disease).

3.4.2 | Santa Clara strength of religious faith questionnaire (SCSRFQ)

It was developed by Plante and Boccaccini (1997) to determine the level of strength of religious faith in individuals. It was adapted into Turkish by Akin et al. (2015). The scale is a one-dimensional, 4-point Likert-type scale consisting of 10 items (strongly disagree = 1, strongly agree = 4). There is no reverse coded items in the scale (Akin et al., 2015). The individual's strength of religious faith score is obtained by adding up the scores obtained from all items of the scale. The possible range of points that can be obtained from the scale varies between 10 and 40. High scores obtained from the scale indicate that the strength of religious faith is high. In the Turkish validity and reliability study, Cronbach's Alpha value was 0.87. In this study, Cronbach's Alpha was found to be 0.95.

3.4.3 | Scale of ways of coping with stress (SWCS)

The scale was developed by Folkman and Lazarus (1980) (Folkman & Lazarus, 1980). The scale, which was adapted into Turkish and shortened by Hisli Şahin and Durak (1995), consists of 30 items (Şahin & Durak, 1995). It consists of five sub-dimensions as self-confident approach (seven items), optimistic approach (five items), helpless approach (eight items), submissive approach (six items), and seeking social support approach (four items). The questionnaire is responded with 4-point scale as '0-Not at all appropriate', '3-Very appropriate'. However, the first and ninth items in the scale are reversely scored. High scores from the sub-dimensions reflect that individuals use this approach in the sub-dimension more. Cronbach's Alpha values of the questionnaire were found to be between 0.45 and 80 (Şahin & Durak, 1995). In the present study, Cronbach's Alpha values were found to be between 0.64 and 72.

3.4.4 | Brief resilience scale (BRS)

The scale was developed by Smith et al. (2008). Turkish validity and reliability study of the scale was conducted by Doğan in 2015. BRS is a 5-point Likert-type, 6-item, self-report-style measurement tool. Items in the scale are responded as 'Not at all appropriate' (1), 'Not appropriate' (2), 'Slightly Appropriate' (3), 'Appropriate' (4), 'Completely Appropriate' (5). Items 2, 4, and 6 in the scale are reversely coded. High scores obtained from the scale indicate a high

level of psychological resilience. The Cronbach's Alpha reliability coefficient of the scale was found to be 0.83. In this study, Cronbach's Alpha was found to be 0.95.

3.5 | Data assessment

SPSS version 22.00 statistical package and Mplus program were used for the analysis of the research. Descriptive statistics of percentage, mean and standard deviation were used. Kurtosis and Skewness coefficients (-2, +2) were used to analyse the normality distribution of the data. Bootstrap analysis was performed with 2000 samples to estimate the significance of the total, indirect and direct effects of SEM. Preacher and Hayes (2008) suggest evaluating and comparing indirect effects in multiple mediator models by using the bootstrap method (Preacher & Hayes, 2008). The bootstrap approach is a sampling estimation technique that calculates the indirect effect of the predictor variable on the outcome variable at a 95% confidence interval (CI) (Fritz & MacKinnon, 2007). It is considered significant when the 95% CI does not contain zero (Preacher & Hayes, 2008). The level of significance was $p < 0.01$.

3.6 | Ethical considerations

Before starting the research, approval was obtained from the Clinical Research Ethics Committee of a university (REDACTED dated and REDACTED numbered) and permission was obtained from the institution where the study would be conducted. The patients included in the study were made necessary explanations about the purpose of the research and the method of application and their verbal consent was obtained. This study was conducted in accordance with the ethical standards of the Declaration of Helsinki. Volunteering participants were included in the study and their personal identity information was kept confidential.

4 | RESULTS

The mean age of the patients who participated in the study was 57.46 ± 10.97 years. 51.6% of the patients were female, 79.9% were married, 37.5% were high school graduates, 47.3% had an income equal to their expenses, 67.9% were unemployed, 41.3% had a diagnosis year of 6 years or more, 69.6% thought they had sufficient information about the disease, and 45.1% perceived their general health status as moderate (Table 1).

It was found that the mean SCSRFQ total score of the patients was 31.58 ± 8.82 and the mean BRS total score was 18.87 ± 7.94 . When the mean scores of SWCS sub-dimensions were examined, it was found that the mean score of self-confident approach sub-dimension was 15.04 ± 3.55 , the mean score of optimistic approach sub-dimension was 10.68 ± 2.67 , the mean score of social support approach sub-dimension was 7.23 ± 2.80 , the mean score of helpless

TABLE 1 Descriptive characteristics of the patients.

Characteristics	Number (n = 184)	%
Gender		
Female	95	51.6
Male	89	48.4
Marital status		
Married	147	79.9
Single	37	20.1
Educational status		
Literate	22	24
Primary education	50	27.2
High school	69	37.5
Undergraduate education	43	23.4
Income status		
Income < expense	53	28.8
Income = expense	87	47.3
Income > expense	44	23.9
Employment status		
Employed	59	32.1
Unemployed	125	67.9
Diagnosis year		
0–2 years	38	20.7
2–6 years	70	38
≥6 years	76	41.3
	X ± sd	Min – Max
Age	57.46 ± 10.97	25–83

approach was 15.04 ± 3.55 , and the mean score of submissive approach was 10.68 ± 2.67 . Skewness and Kurtosis values vary between -1.206 and 0.584 (Table 2).

Table 3 presents the correlation relationships between the SCSRFQ, BRS, and SWSC scales. A statistically significant positive correlation was found between the mean SCSRFQ total score and the mean BRS total score ($p < 0.001$). It was found that there is a statistically significant correlation between the mean total scores of SCSRFQ and BRS and all sub-dimensions of the SWSC scale.

When Table 4 is examined; according to the results of structural equation modelling, the direct effect of strength of religious faith on coping with stress ($\beta = 0.564$; 95% CI [0.442 to 0.667], $p < 0.01$) and BRS ($\beta = 0.545$; 95% CI [0.445 to 0.643], $p < 0.01$) was moderate, positive and significant. 29.7% of psychological resilience is explained by the strength of religious faith. In addition, the effect of resilience on coping with stress ($\beta = 0.320$; 95% CI [0.179 to 0.453], $p < 0.01$) was found to be moderate, positive and significant.

It was found that the indirect effect of strength of religious faith on coping with stress mediated by resilience ($\beta = 0.174$; 95% CI [0.100 to 0.260], $p < 0.01$) was low, positive and significant at 95% confidence interval. Therefore, the total effect of strength of religious faith on coping with stress mediated by resilience

TABLE 2 SCSRFQ, BRS VE SWSC total scores, mean scores of the patients and confidence intervals.

Scales	X ± SD	Mean ± SD	Skewness	Kurtosis
1. SCSRFQ	31.58 ± 8.82	3.15 ± 0.88	-0.975	0.052
2. BRS	18.87 ± 7.94	3.14 ± 1.32	-0.377	-1.206
3. SWCS subscale				
3.1. Self-confident approach	15.04 ± 3.55	2.14 ± 0.50	-0.813	0.584
3.2. Optimistic approach	10.68 ± 2.67	2.13 ± 0.53	-0.680	0.116
3.3. Social support approach	7.23 ± 2.80	1.80 ± 0.70	-0.099	-1.052
3.4. Helpless approach	15.04 ± 3.55	1.88 ± 0.54	0.254	-0.838
3.5. Submissive approach	10.68 ± 2.67	1.78 ± 0.63	0.103	-0.989

Abbreviations: BRS, Brief Resilience Scale; SCSRFQ, Santa Clara Strength of Religious Faith Questionnaire; SWCS, Scale of Ways of Coping with Stress; X = total score.

TABLE 3 Correlation coefficients of SCSRFQ, BRS and SWSC.

Scales	1	2	3.1	3.2	3.3	3.4	3.5
1. SCSRFQ	1						
2. BRS	$r=0.534$ $p<0.001^a$	1					
3. SWCS subscale							
3.1. Self-confident approach	$r=0.352$ $p<0.001^a$	$r=0.405$ $p<0.001^a$	1				
3.2. Optimistic approach	$r=0.333$ $p<0.001^a$	$r=0.456$ $p=0.001^a$	$r=0.479$ $p<0.001^a$	1			
3.3. Social support approach	$r=0.364$ $p<0.001^a$	$r=0.294$ $p<0.001^a$	$r=0.396$ $p<0.001^a$	$r=0.461$ $p<0.001^a$	1		
3.4. Helpless approach	$r=-0.555$ $p<0.001^a$	$r=-0.442$ $p<0.001^a$	$r=-0.269$ $p<0.001^a$	$r=-0.446$ $p<0.001^a$	$r=-0.442$ $p<0.001^a$	1	
3.5. Submissive approach	$r=-0.604$ $p<0.001^a$	$r=-0.474$ $p<0.001^a$	$r=-0.315$ $p<0.001^a$	$r=-0.424$ $p<0.001^a$	$r=-0.505$ $p<0.001^a$	$r=0.699$ $p<0.001^a$	1

Abbreviations: BRS, Brief Resilience Scale; SCSRFQ, Santa Clara Strength of Religious Faith Questionnaire; SWCS, Scale of Ways of Coping with Stress.

^aCorrelation is significant at the 0.01 level.

($\beta=0.738$; 95% CI [0.663 to 0.804], $p<0.01$) was found to be highly positive and significant, and the model explained 61.7% of the variance in coping with stress. Fit index values according to the model were found as $\chi^2=2368.02$, df: 980, χ^2/df 2.368, RMSEA 0.088, CFI 0.773, TLI 0.760 and SRMR 0.083. These criteria are stated as the most commonly used compliance criteria in the literature (Kline, 2011; Tabachnick & Fidell, 2015). In some cases, where model fit is sufficient, not all of the fit criteria evaluated may be statistically significant (Celik & ve Yilmaz, 2013). Therefore, the criteria used when evaluating model fit were considered as a whole, rather than individually. A total of 147 parameters were attempted to be determined. The structural equation diagram is also given in Figure 2.

5 | DISCUSSION

The present study is the first to examine the mediating role of psychological resilience in the effect of strength of religious faith on

coping with stress in people with type-2 diabetes, and the findings obtained as a result of the study were discussed in the light of the relevant literature.

In this study, it was determined that the strength of religious beliefs among people with type 2 diabetes was at a moderate level. Javanmardifard et al. (2020) and Jafari et al. (2014), in their study people with type 2 diabetes, determined that the patients' spirituality levels were at a medium level, similar to this study. Duke (2021) emphasized the important role of spirituality in the lives of people with type 2 diabetes. Darvyri et al. (2018) revealed in their systematic review study that spirituality and religiosity are important factors in managing type 2 diabetes. Therefore, research on spirituality and religiosity among people with type 2 diabetes is important (Mirzazadeh-Qashqaei et al., 2023).

In this study, the levels of psychological well-being among people with type 2 diabetes were found to be moderate. Altun et al. (2014) showed in their study that the psychological well-being levels of people with type 2 diabetes in Turkey were at a medium level. Pontin et al. (2013), similar to these studies, found that the

TABLE 4 Structural equation modelling results.

Construct	Product of coefficient		z	95% bootstrap CI		R ²	p-Value*
	Point estimate (β)	SE		Lower	Upper		
Total effect							
SCSRFO → SWCS	0.738	0.063	9.943	0.663	0.804		0.000
Direct effects							
SCSRFO → SWCS	0.564	0.072	7.834	0.442	0.667		0.000
SCSRFO → BRS	0.545	0.062	8.775	0.445	0.643	0.297	0.000
BRS → SWCS	0.320	0.084	3.810	0.179	0.453		0.000
Indirect effect							
SCSRFO → BRS → SWCS	0.174	0.051	6.071	0.100	0.260	0.617	0.000
Structural model fit							
	χ^2/df	RMSEA	SRMR	CFI	TLI		
	2.368	0.088	0.083	0.773	0.760		

Note: Bootstrapping was conducted with 2000 samples.

Abbreviations: BRS, Brief Resilience Scale; SCSRFO, Santa Clara Strength of Religious Faith Questionnaire; SWCS, Scale of Ways of Coping with Stress.

*p < 0.01.

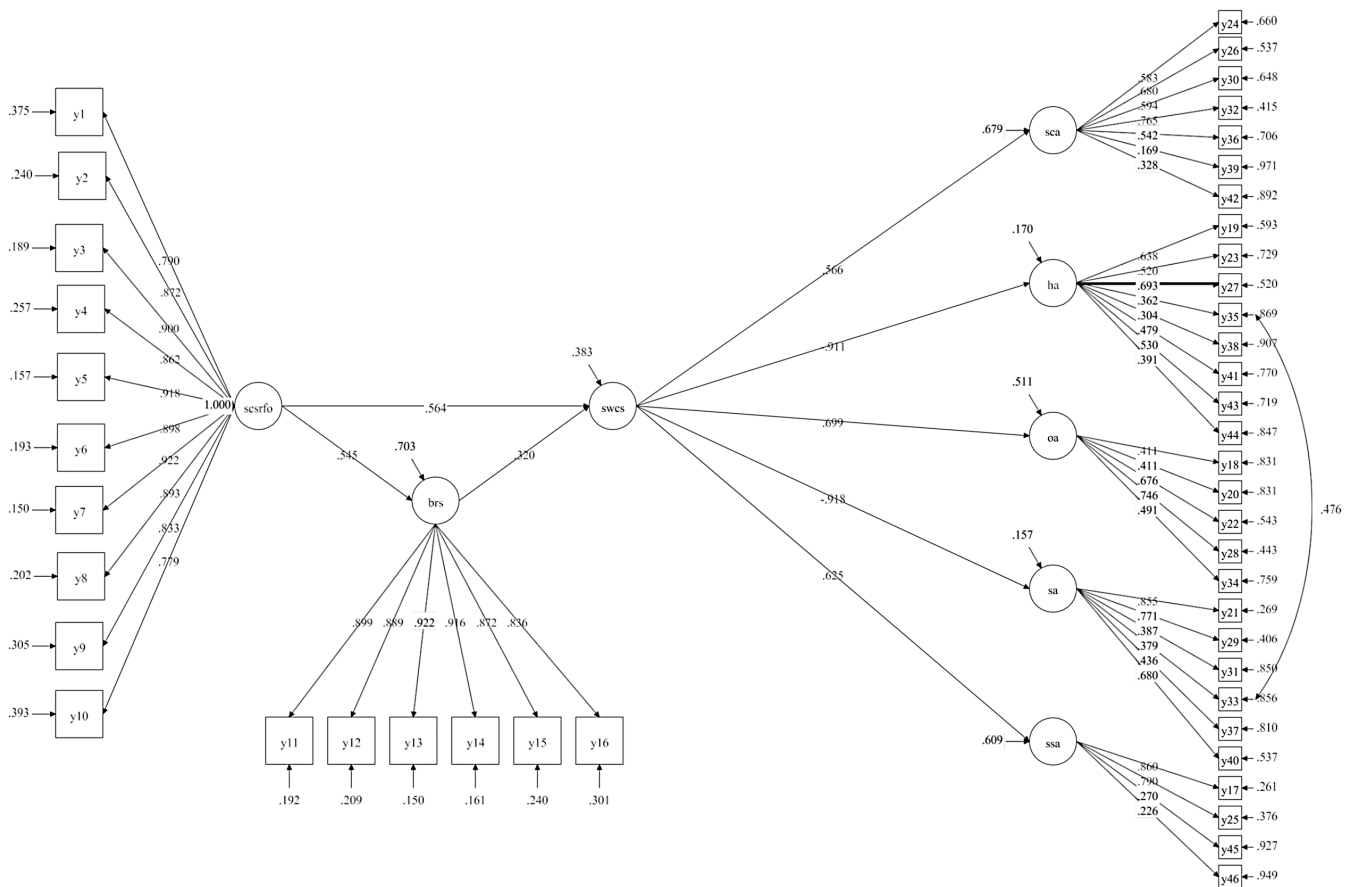


FIGURE 2 SEM diagram.

psychological well-being of people with diabetic was moderate. Ramkisson et al. (2016) determined that 69% of people with type 2 diabetes had a normal level of psychological well-being. These results support the findings of the research.

In this study, it was observed that people with type 2 diabetes exhibited both positive and negative coping behaviours when dealing with the difficulties they experienced. When examining these coping behaviours, it was seen that they mostly used self-confidence

and an optimistic approach. These coping approaches are considered positive methods for combating stress. It has been emphasized that the self-confident approach in people with type 2 diabetes is an effective way to manage the disease process (Seyitoglu et al., 2018). Cruz-Vargas and Sánchez-Aragón (2021) suggested that one of the coping approaches used by people with diabetic to deal with stress is the optimistic approach. Patients also employ the submissive approach, which is the least negative coping method for dealing with stress. This result may be due to the high levels of self-confidence among the patients participating in the study. These research findings indicate that people with type 2 diabetes primarily use positive coping methods.

5.1 | Examination of the effects of strength of religious faith on coping with stress in people with type 2 diabetes

In this study, it was found that the strength of religious faith enhances coping skills with stress in people with type-2 diabetes. As the strength of religious faith increased, positive coping behaviours also increased, while the use of negative coping strategies decreased. While studies examining the relationship between spirituality and coping with stress have been found in the literature in studies conducted with people with diabetes and in different samples, no previously conducted study examining the relationship between strength of religious faith and coping with stress has been found. Previous studies have reported that spirituality is considered as a source of resilience for coping with stressful situations (Algahtani et al., 2022). It has also been reported that individuals use their spiritual beliefs and inner feelings of calm to cope with difficult times (Braam & Koenig, 2019). In their study, Coppola et al. (2021) stated that spirituality played a protective role on psychological symptoms. In their study, Choi and Hastings (2019) stated that spirituality can be a strong coping strategy for individuals with weakening health conditions such as diabetes. Arıcı (2005) showed that praying has an important role in coping with problems. The protective role of spirituality originates primarily from its specific elements, which include a sense of belonging, meaningfulness, and pragmatic interconnections experienced by individuals through spiritual practices (Unterrainer et al., 2014). These factors are responsible for promoting emotional well-being and mental health in individuals, especially during times of crisis. The strength of spiritual beliefs can reduce negative interpretation of crisis situations and enable people to benefit from spiritual connections and remain calm in uncertain situations (Ozcan et al., 2021). When all these are considered, it is expected for our research to show similar results with the literature. In this context, it can be said that spirituality and religious faith increase coping with stress by creating a positive attitude towards life and life experiences in people with type-2 diabetes during the disease, by dominating against many unfortunate life events, including diseases (de Wit et al., 2020; Onyishi et al., 2021).

5.2 | Examination of the effects of strength of religious faith on psychological resilience in people with type 2 diabetes

In this study, it was found that the strength of religious faith is associated with psychological resilience in people with type-2 diabetes. As patients' strength of religious faith increased, their psychological resilience also increased. In studies conducted with different samples in the literature, positive and significant relationship was found between spirituality and resilience (Chang et al., 2021; Kavak et al., 2021; Mahdian & Ghaffari, 2016; Roberto et al., 2020; Turan & Dural, 2022). In a systematic review and meta-analysis study, a moderate positive relationship was found between resilience and spirituality/religiousness (Schwalm et al., 2022). It is also stated in studies that spirituality is one of the effective and basic sources of psychological resilience (Kasapoğlu, 2020; Kim & Esquivel, 2011; Reutter & Bigatti, 2014). In another study, it was stated that spirituality provides resilience and strength for individuals with chronic diseases to live with their disease (Unantenne et al., 2013). There are similarities between the results of the study and the literature. In order for individuals to be resistant to the difficulties they have experienced throughout their lives, their psychological resilience must be high. Individuals with high psychological resilience have a high level of life purpose and spiritual well-being (Turan & Dural, 2022). It is also emphasized in literature that spirituality gives individuals the strength to understand the negative events they experience and overcome the traumas caused by these events, makes sense of these pains, gives hope and makes individuals psychologically more resilient (Duran et al., 2020). In this context, it can be said that the psychological resilience of people who are interested in spirituality increases as they feel better and individually stronger during diabetes.

5.3 | Examination of the effects of psychological resilience on coping with stress in people with type 2 diabetes

In this study, it was found that psychological resilience improves stress coping abilities in people with type-2 diabetes. As psychological resilience increased, positive coping behaviours also increased, while the use of negative coping strategies decreased. Frezier et al (2015) found that individuals with low resilience used more maladaptive coping strategies in their study conducted with adolescents with type 1 diabetes (Yi-Frazier et al., 2015). Yi et al. (2008) showed a strong association between increased distress and worse HbA1c over time in people with diabetes who had low or moderate endurance levels (Yi et al., 2008). In their study conducted with students, Wu et al. (2020) found that individuals with high psychological resilience applied more positive coping strategies (Wu et al., 2020). Choi and Hastings (2019) found in their study that religion/spirituality increased the resistance of people to cope with type 2 diabetes and enabled them to approach

their chronic diseases with a positive mind and hope. In a study, it was found that individuals with high psychological resilience can more clearly understand the importance of a positive coping behaviour and can effectively overcome the negative effects of negative emotions on themselves (Steinhardt & Dolbier, 2008). In another study, it was found that people with type-1 diabetes who had higher resilience avoided the potential negative effects of anxiety and reported healthier levels of psychological adjustment and functionality when dealing with chronic diseases (Ruiz-Aranda et al., 2020). Our results are similar to the results of studies conducted. In general, resilience is the ability to adapt to stress factors, cope with difficulties, and continue psychosocial functionality immediately after negative events (Lau et al., 2021). One of the key roles of resilience is the ability to cope with stressors (Richardson, 2002). In this context, the results of the present study suggest that promoting resilience may help increase the ability of people with diabetic to adopt positive coping behaviours when faced with stressful situations (difficulty in compliance with treatment and medication, changes in body image, imbalance in metabolic control, decreased social support, pain).

5.4 | The mediating role of psychological resilience in the effects of strength of religious faith on coping with stress in people with type 2 diabetes

In this study, according to the model, it was found that the strength of religious faith has a positive effect on increasing the use of effective stress coping skills in people with type-2 diabetes. Additionally, this positive effect was further strengthened by the mediating role of psychological resilience between the strength of religious faith and coping with stress. In a study, it was found that psychological resilience had a significant positive effect on religiousness and increased the ability to cope with negative events and emotions such as anxiety, stress and fear (Batmaz & Meral, 2022). The fit indices of the SEM model are acceptable. This study is based on positive psychology theory. Individuals who can endure challenging conditions such as chronic illness and see this as an opportunity for change and development are more successful in coping (Chew et al., 2017; Unantenne et al., 2013). In other studies, a positive relationship was found between the emotional aspect of religiousness and psychological resilience. Thus, it has been stated that having a high level of religious faith increases the psychological resilience of individuals (Batmaz & Meral, 2022; Erdoğan, 2015). It is also stated in literature that spirituality provides strength and support and provides resilience not only to cope with a chronic illness, but sometimes to overcome other health-related challenges such as stress and depression caused by chronic diseases (Unantenne et al., 2013). In this respect, when individuals' spirituality level is high, their psychological resilience is strong, in other words, they respond positively to stress and distress (Kasapoğlu, 2020). Our study results were

similar to the studies conducted. In this context, it is thought that this effect will be stronger by psychological resilience mediating the important role of spirituality in coping with problems in people with diabetes and individuals can be more effective in diabetes self-management.

5.5 | Limitations of the study

This study has some limitations. First, our study has a cross-sectional design, which excludes the possibility of drawing causal conclusions about the relationships regarding the variables entering our model. Second, our study cannot be generalized to different populations because it was a single-centre study and included only people with type 2 diabetes.

6 | CONCLUSION

According to the model in this study, it was found that the strength of religious faith positively affects coping with stress and psychological resilience in people with type 2 diabetes. Psychological resilience is also positively associated with coping with stress. Psychological resilience mediates the effect of strength of religious faith on coping with stress.

It is recommended to regularly evaluate strength of religious belief and psychological resilience in people with type 2 diabetes, to take initiatives to increase coping styles with stress, and to conduct the research with different sample groups.

7 | RELEVANCE TO CLINICAL PRACTICE

According to the results of this study, nurses and other health professionals should focus on strength of religious faith and psychological resilience in increasing the coping skills of people with type 2 diabetes. Training programs should be organized for the evaluation of coping skills of people with diabetes and the use of effective methods. Religion and religious practices should be included in the nursing process for diabetes management and strategies and interventions should be developed to meet the religion needs of patients. It is recommended to develop a nursing intervention program to increase the psychological resilience of people with diabetes and to conduct experimental studies to confirm its effectiveness.

AUTHOR CONTRIBUTIONS

G.B.T.: Conceptualization; methodology; investigation; writing—original draft; writing—review and editing; supervision. Z. Ö.: Conceptualization; investigation; writing—original draft; writing—review and editing; supervision. O. D.: Conceptualization; investigation; data curation; writing—review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

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