Association of spiritual coping skills with psychological resilience and health beliefs of mothers of children with special needs

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Submitted: 2 November 2024; **Accepted:** 5 March 2025
Online publication: 18 May 2025

Arch Med Sci 2026
DOI: https://doi.org/10.5114/aoms/202613
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Abstract

Introduction: Mothers of children with special needs face various responsibilities and challenges in daily life. They not only manage their children's care and needs but also strive to maintain their own psychological resilience. This study aimed to explore the mediating role of spiritual coping skills in the psychological resilience and health beliefs of these mothers.
Material and methods: A cross-sectional descriptive design was used, following STROBE reporting guidelines. The study involved 3000 mothers from eight special education and rehabilitation centers, with 376 mothers selected through proportional stratified random sampling. Data were collected using the 'Descriptive Characteristics Form,' 'Maternal Spiritual Coping Scale,' 'Psychological Resilience Assessment Scale,' and 'Parental Health Belief Scale.' Descriptive analyses were conducted for demographic data and parameter results, while regression analysis was used to assess relationships between variables, and correlation coefficients were calculated. Data were analyzed using a specialized statistical program.
Results: Positive correlations were found between the Maternal Spiritual Coping Scale and the Psychological Resilience Assessment Scale ($r = 0.296$, $p < 0.001$), as well as the Parental Health Belief Scale ($r = 0.309$, $p < 0.001$). A positive correlation was also observed between the Psychological Resilience Assessment Scale and the Parental Health Belief Scale ($r = 0.209$, $p < 0.001$).
Conclusions: The study found that mothers' spiritual coping strategies were associated with their psychological health and their attitudes towards their children's health problems.

Key words: mother of a child with a disability, spiritual coping, psychological resilience, health belief.

Introduction

The birth of a new member into the family leads to changes in the roles and responsibilities of the parents. Although it is thought that having a child with special needs changes the roles and responsibilities within the family, the greatest burden and responsibility falls on mothers who meet the child's care needs [1, 2]. Mothers of children with special needs encounter various responsibilities and challenges in daily life.

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They not only care for their children's needs but also strive to maintain their own psychological resilience. Many people use different strategies to relieve stress and cope with anxiety during major life changes [3, 4].

In this context, hope is defined as a fundamentally positive phenomenon that is essential for coping constructively with trauma, and its primary purpose is to avoid hopelessness [5]. Similarly, spiritual coping strategies are one of the main ways to manage the challenges and stresses of raising children [6, 7]. Research shows that a strong spirituality in families of children with special needs helps mothers accept their children, see them as a gift from God, feel blessed, and believe they are specially chosen [8]. These spiritual beliefs give mothers hope and emotional resilience to survive and cope with the challenges they face. An individual's spiritual coping strategies positively affect physical and mental health, increase life satisfaction, well-being, sense of purpose, meaning of life, hope and optimism, and reduce anxiety and depression [9–11]. Belief systems and spiritual skills can help increase mothers' resilience in challenging life by strengthening stress coping mechanisms.

One of the biggest challenges mothers face is managing serious issues related to their children. When mothers are healthy physically, emotionally, and spiritually, they can better support their children in coping with and recovering from their illnesses [4]. Given the important role of motherhood and the importance of spirituality in the lives of many women, it is crucial to understand how mothers use spirituality during their children's illnesses [4]. Parents' choices in medical decision-making for a sick child shape their views on what is best for their child and how they see their role as parents [12]. Health belief explains why people do or do not take protective health actions by considering the causes and severity of a health threat, as well as the benefits, barriers, and triggers for action [13, 14]. Mothers with strong health beliefs often seek help from family, friends, traditional treatments, or health professionals. For instance, those with strong spiritual beliefs may be more proactive in addressing their children's health needs, which can improve their overall well-being.

A comprehensive literature review found no studies on the spiritual coping skills, psychological resilience, and health beliefs of mothers of children with special needs. Examining these three areas together can help create better support programs for families and inform health policies and research. This study aims to evaluate how spiritual coping skills affect the psychological resilience and health beliefs of these mothers.

Material and methods

Research design and date of the research

The study, conducted between September 2023 and January 2024, used a cross-sectional descriptive research model and was reported in accordance with STROBE reporting guidelines.

Population and sample of the study

The research was conducted in eight different Special Education and Rehabilitation Centers located in Yenişehir district of Mersin province. A total of 3,000 mothers of students in these centers constituted the population of the study. While calculating the number of registered students, siblings were considered as single children and mothers with more than one child were considered as single child mothers. According to the table of minimum acceptable sample sizes for different populations by Sekeran U. (1992), 341 mothers who volunteered to participate in the study constituted the required sample size at a 95% confidence interval [15]. Considering the possibility of data loss, 35 more mothers were included and a total of 376 mothers were reached. The proportional stratified random sampling technique was used to select the research universe, taking into account the student capacities of the rehabilitation centers included in the research.

Data collection process

Since the majority of children attending special education and rehabilitation centers are accompanied by their mothers, mothers were chosen as the study group. During the data collection process, institutional permission was obtained from the centers and informed consent was obtained from the mothers who would be included in the study before proceeding with data collection. The data were collected through face-to-face interviews with the mothers of the children. The data collection process took approximately fifteen minutes.

Data collection tools

Descriptive Features Form: This is a survey form developed based on a review of the literature [16–18]. It was used to collect data on participants' age, marital status, number of children, education level, employment status, and family income.

Maternal Spiritual Coping Scale (MSCS): This scale, whose reliability was established by Yaman *et al.*, consists of 24 items [16]. It is a 5-point, Likert-type scale. In this context, responses are scored as follows: 5 – strongly agree, 4 – agree, 3 – partially agree, 2 – disagree, and 1 – strongly disagree. There is no negative or reverse expression in the scoring of the scale. The participant's

scores for each item are summed to provide an overall assessment. The person with the highest score is interpreted as the one who most frequently and extensively uses spiritual coping methods. Cronbach's α of the MSCS is 0.966.

Psychological Resilience Assessment Scale (PRAS): The scale was developed by Van Der Meer *et al*. (2018). Turkish validity and reliability were established by Türkkan *et al*. [17]. PRAS is a 5-point Likert-type scale with the answer key "I completely disagree" (0), "I disagree" (1), "I am undecided" (2), "I agree" (3), and "I completely agree" (4). There are no reverse-coded items in the scale. The possible scores that can be obtained from the scale are between 0 and 36, and the high scores obtained are interpreted as high psychological resilience. Cronbach's α of the PRAS is 0.85.

Parental Health Belief Scale (PHBS): The PHBS was developed by Amen and Clarke [19] to assess mothers' beliefs about their children's health. The adaptation to Turkish was made by Sunmaz and Günsel [18]. The original scale consisted of 20 tems, but during its adaptation into Turkish, 3 items were removed due to poor correlations in the item-total statistics analysis. As a result, the scale has 17 items. The six-point Likert-type scale consists of three dimensions. Responses are rated on a scale from 1 to 6 (strongly disagree – 1, disagree – 2, strongly disagree – 3, somewhat agree – 4, agree – 5, strongly agree – 6). The minimum possible score is 17, and the maximum score is 102. The Cronbach's α coefficient for the whole adapted scale was found to be 0.79, and the Cronbach's α coefficient of the sub-dimensions was found to vary between 0.63 and 0.72 [18].

Statistical analysis

The data obtained in the study were analyzed using SPSS for Windows version 22 (IBM Corporation, Armonk, NY, USA). The conformity of the parameters to a normal distribution was evaluated using visual (histograms and probability plots) and analytical methods (Kolmogorov-Smirnov and Shapiro-Wilk's test). Since demographic characteristics and evaluated parameters were found to be not normally distributed, these parameters were presented using median and interquartile range (IQR). Ordinal and nominal values obtained within the scope of the study were expressed as percentages (%). Scores on the Maternal Spiritual Coping Scale, Psychological Resilience Scale, and Parental Health Belief Scale were compared according to the participants' marital status (married, single), gender of their children with special needs (girl, boy), employment status (working, not working), mother's disability status (present, absent), receipt of a monthly allowance for a special child (yes, no), and perceived adequacy of the allowance (sufficient, not sufficient) using the Mann-Whitney *U* test. The associations between participants' age, marital status, number of children, number of children with special needs, gender of the child with special needs, time of diagnosis, mother's educational status, mother's employment status, mother's income status, consanguineous marriage, mother's disability status, receipt of special child monthly allowance, and perceived adequacy of the allowance and scores on the Maternal Spiritual Coping Scale, Psychological Resilience Scale, and Parental Health Belief Scale were examined by multiple regression analysis. To verify the multicollinearity of the regression analyses, the VIF (variance inflation factor) was determined, which was below 10 for all indicators, proving that there was no strong correlation between the independent variables. Finally, the Durbin-Warson test was performed to determine whether there was autocorrelation among the residuals. The relationship between the numerical parameters was assessed by Spearman correlation analysis. *P* values below 0.05 were interpreted as statistically significant results.

Ethical principles of the study

Before starting the study, ethics committee approval was obtained from the Toros University Non-Interventional Ethics Committee (14.09.2023/25). Institutional permission was obtained from the institutions where the study was conducted, and informed consent was obtained from the mothers who agreed to participate in the study.

Results

Within the scope of the study, 376 mothers of children with special needs were evaluated. Descriptive characteristics of the mothers are shown in Table I.

According to the scale scores reported by the mothers participating in the study, the median (IQR) of the Maternal Spiritual Coping Scale was 114.5 (103–119), the median (IQR) of the Psychological Resilience Assessment Scale was 30 (23–35), the median (IQR) of the Parental Health Belief Scale was 66 (59–72), the median (IQR) of the Parental Health Belief Scale-Internal Factors Sub-Dimension was 14 (12–15), the median (IQR) of the Parental Health Belief Scale-External Factors Sub-Dimension was 33 (30–36), and the median (IQR) of the Chance Factors Sub-Dimension of the Parental Health Belief Scale was 19 (16–24) (Table II).

The associations of demographic characteristics with MSCS, PRAS, and PHBS and their sub-di-

Table I. Descriptive features. Average age of mothers: 38 years, average age of first child with special needs: 8 years

Variables	*n*	%
Marital status		
Married	339	90.2
Single	37	9.8
Number of children with special needs		
1 child	335	89.1
2 children	36	9.6
3 children	5	1.3
Gender of the child with special needs		
Girl	175	46.5
Boy	201	53.5
Time of diagnosis		
Before birth	45	12
At birth	45	12
After birth	286	76.1
Education status of the mother		
Illiterate	2	0.5
Primary school	115	30.6
Secondary school	106	28.2
High school	117	31.1
University	36	9.6
Employment status of the mother		
Working	40	0.6
Not working	336	89.4
Consanguineous marriage		
Yes	107	28.5
No	269	71.5
Disability status of the mother		
Present	8	2.1
Absent	368	97.9
Receipt of a monthly family allowance for children with special needs		
Yes	201	53.5
No	175	46.5
Perceived adequacy of the monthly family allowance		
Sufficient	23	6.1
Insufficient	178	47.3

mensions scores in mothers of children with special needs were examined separately.

When the association with the MSCS was examined, it was found that the MSCS scores of university graduate mothers of children with special needs were lower than those of primary school ($p = 0.002$), secondary school ($p < 0.001$), and high school graduate mothers ($p < 0.001$). The MSCS scores of non-working mothers ($p < 0.001$) were found to be higher than those of working mothers. It was found that mothers who reported that their income was less than their expenses ($p = 0.002$) had a higher level of MSCS than mothers who reported that their income was equal to their expenses (Table III). When the association of the scale with the mothers' PRAS score was examined, it was found that the PRAS score of single mothers of children with special needs was higher than that of married mothers ($p = 0.048$), while the PRAS score of unemployed mothers ($p = 0.003$) was higher compared to working mothers. The PRAS score of primary school graduate mothers of children with special needs was found to be lower than that of middle school ($p = 0.008$) and high school graduate mothers ($p = 0.003$). In addition, the PRAS ($p = 0.015$) score of mothers with special needs children who reported that their income was less than their expenses was higher than that of mothers who reported that their income was equal to their expenses and than that of mothers whose income exceeded their expenses ($p = 0.004$) (Table III).

When the association with the PHBS score was examined, the PHBS, PHBS-Internal Factors and PHBS-External Factors scores of the mothers whose children had a disability after birth were higher than the mothers whose children had a disability before or during birth ($p < 0.001$). The PHBS ($p = 0.508$), PHBS-Internal Factors ($p = 0.165$) and PHBS-External Factors ($p = 0.260$) scores of the mothers whose children had a disability before or during birth were similar (Table III). The PHBS-External factors score of university graduate mothers of children with special needs was higher than that of primary school graduates ($p = 0.007$), secondary school graduates ($p = 0.003$), and high school graduates ($p = 0.017$) (Table II). It was found that the PHBS ($p = 0.024$), PHBS-Internal Factors ($p < 0.001$), and PHBS-External Factors ($p < 0.001$) scores of working mothers of children with special needs were lower than those of non-working mothers (Table II).

While the PHBS-External Factors scores of mothers with consanguineous marriages were lower than those of mothers without consanguineous marriages ($p = 0.049$), the PHBS ($p = 0.331$), PHBS-Internal Factors ($p = 0.194$), and PHBS-Chance Factors ($p = 0.614$) scores of both groups of mothers were similar (Table IV).

While the PHBS-Internal Factors score of the mothers who found the monthly family allowance sufficient was lower than the group who found the monthly family allowance low ($p = 0.030$), the PHBS ($p = 0.105$), PHBS-External Factors ($p = 0.196$), and PHBS-Chance Factors

Table II. Scale scores

Scale scores	Median (IQR)	Min.-Max.
Maternal Spiritual Coping Scale (Score)	114.5 (103–119)	24–120
Psychological Resilience Assessment Scale (Score)	30 (23–35)	0–36
Parental Health Belief Scale (Score)	66 (59–72)	26–99
Parental Health Belief Scale-Internal Factors	14 (12–15)	3–18
Parental Health Belief Scale-External Factors	33 (30–36)	10–42
Parental Health Belief Scale-Chance Factors	19 (16–24)	7–42

(p = 0.496) scores of both groups of mothers were similar (Table III).

When the associations of the descriptive characteristics of the mother were examined, MSCS, PRAS, PHBS, PHBS-Internal Factors, PHBS-External Factors and PHBS-Chance Factors scores and the adequacy of the assistance allowance were examined by multiple regression analysis, these parameters were found to explain 10.7% of the change in the Mother Spiritual Coping Scale, 13.9% of the change in the PRAS, 10.5% of the change in the PHBS total score, and 29.8% of the change in the PHBS-Chance Factors. It was found to explain 7% of the change in the Mother Spiritual Coping Scale, 13.9% of the change in the PRAS, 10.5% of the change in the PHBS total score, 29.8% of the change in the PHBS-Internal Factors score, 31.9% of the change in the PHBS-External Factors score and 10.3% of the change in the PHBS-Chance Factors score. It was found that the age of the mother (p = 0.031) and PRAS scores (p = 0.005) affected the change in the MSCS of the participants. The determinative parameters for the change in the PRAS score were found to be mother's education status (p < 0.001), mother's employment status (p = 0.004), mother's income status (p = 0.026), and the MSCS score (p = 0.005). The determinative parameters for the change in the PHBS score were found to be the age of the first child with special needs (p = 0.030) and the time of diagnosis of the disabled child (p < 0.001) (Table IV A). It was found that the determinative factors for PHBS-Internal Factors were PHBS-External Factors (p < 0.001) and PHBS-Chance Factors (p = 0.007). For PHBS-External Factors, the determinative factors were found to be the time of diagnosis (p < 0.001), consanguineous marriage (p = 0.018), and PHBS-Internal Factors (p < 0.001). For the PHBS-Chance factors, the determining parameters were found to be the gender of the child with special needs (p = 0.039), the educational status of the mother (p = 0.012), and the PHBS-Internal Factors score (p = 0.007) (Table IV B). Multicollinearity tests revealed that the VIF values of all indicators were below 10 and there was no strong linear relationship between the explanatory variables. In addition, the Durbin-Watson test results indicated that the Durbin-Watson statistic was below 2, indicating that the error terms were not correlated with each other, that is, they were independent (Tables IV A, B).

When the relationship between the examined parameters was analyzed using correlation analysis, a negative relationship was found between the mother's age and the MSCS score (r = –0.114, p = 0.028). No relationship was found between the number of children, the number of children with special needs, and the age of the first child with special needs and the scores of the scales used (p > 0.05). In addition, a positive correlation was found between the MSCS score and the PRAS (r = 0.296, p < 0.001) and PHBS scores (r = 0.309, p < 0.001). Additionally, a positive relationship was found between the PRAS score and the PHBS scores (r = 0.209, p < 0.001) (Table V). Additionally, a negative relationship was found between the MSCS score and the PHBS-External Factors score (r = –0.110, p = 0.032) (Table V).

Discussion

This study closely examined the associations of spiritual coping skills, psychological resilience, and health beliefs in mothers of children with special needs. Mothers of children with special needs who are university graduates have lower spiritual coping skills compared to those with only primary, middle, or high school education. This may be because university-educated mothers are more focused on their careers and other responsibilities, leaving them less time and attention for their children. This can increase stress and reduce their ability to cope with the challenges of raising a child with special needs. The many demands placed on them can hinder their coping skills in this situation [20]. In this study, it was found that non-working mothers showed higher spiritual coping skills than working mothers. In addition, mother's age was associated with spiritual coping levels.

Our study found that single mothers of children with special needs have higher psychological resilience than married mothers. Mothers with disabled children often face marital problems during this challenging time, which adds to their

Table III. Results of statistical analysis of associations of demographic characteristics with scores on the Mother Spiritual Coping Scale, the Psychological Resilience Assessment Scale, and the Parent Health Belief Scale

Parameters		Maternal Spiritual Coping Scale	Psychological Resilience Assessment Scale	Parental Health Belief Scale	Internal Factors	External Factors	Chance Factors
Marital status	Married	115 (103–119)	30 (23–35)	66 (59–72)	14 (11–15)	33 (30–35)	19 (16–24)
	Single	110 (96–117)	33 (28–36)	67 (62–73)	15 (12–17)	34 (30–37)	20 (16–24)
	p	0.052	0.048#	0.574	0.413	0.576	0.887
Number of children with special needs	1 child	115 (103–119)	30 (23–35)	66 (59–72)	14 (11–15)	33 (29–35)	20 (16–24)
	2 children	109.5 (101–116)	28.5 (15–34)	69 (64–74)	15 (13–15)	35 (33–37)	19 (16–23)
	3 children	114 (113–116)	33 (30–33)	64 (61–69)	15 (12–16)	32 (29–35)	14 (13–20)
	p	0.136	0.3	0.109	0.094	0.069	0.346
Gender of the child with special needs	Girl	114 (106–119)	32 (23–35)	66 (59–72)	14 (11–15)	34 (30–35)	19 (16–23)
	Boy	115 (100–119)	30 (23–35)	66 (60–72)	14 (12–15)	33 (29–36)	20 (16–24)
	p	0.574	0.453	0.718	0.622	0.444	0.081
Time of diagnosis	Before birth	112 (100–118)	29 (20–34)	70 (65–78)	15 (14–16)	35 (33–38)	20 (17–24)
	At birth	116 (99–120)	32 (24–36)	70 (65–74)	15 (13–15)	35 (33–35)	20 (16–24)
	After birth	115 (103–119)	30 (23–35)	64 (58–71)	13 (11–15)	32 (29–35)	19 (16–24)
	p	0.234	0.317	< 0.001*	< 0.001*	< 0.001*	0.267
Education status of the mother	Illiterate	113 (110–116)	32 (31–33)	68 (60–76)	15 (13–16)	35 (31–39)	19 (16–21)
	Primary school	115 (103–119)	27 (17–34)	68 (60–73)	13 (11–15)	33 (29–35)	20 (17–24)
	Secondary school	116 (104–120)	32 (25–35)	64 (58–71)	14 (11–15)	33 (29–35)	19 (16–23)
	High school	115 (106–119)	31 (26–36)	66 (59–72)	14 (12–15)	33 (30–36)	20 (16–23)
	University	104.5 (86–114)	30 (25.5–33.5)	67 (61–73)	15 (13–18)	36 (32–38)	17 (13–23)
	p	0.009*	0.024*	0,467	0,118	0.043*	0.058
Employment status of the mother	Working	104.5 (84–114)	25.5 (14,5–33,5)	67 (64–75)	16 (13–18)	37 (34–38)	18 (15–23)
	Not working	116 (105.5–119)	30 (23.5–35)	66 (59–72)	14 (11–15)	33 (29–35)	19 (16–24)
	p	< 0.001#	0.019#	0.024#	< 0.001#	< 0.001#	0.131

Table III. Cont.

Parameters		Maternal Spiritual Coping Scale	Psychological Resilience Assessment Scale	Parental Health Belief Scale	Internal Factors	External Factors	Chance Factors
Mother's income status	Income is less than expenses	116 (107.5–120)	32 (24–36)	66 (59–72)	13 (12–15)	32 (29–35)	19 (16–24)
	Income is equal to expense	113 (93–118)	28 (23–34)	67 (60–73)	15 (11–16)	34 (29–37)	20 (16–24)
	Income exceeds expense	112 (101–118)	27 (16–32)	66 (61–72)	14 (12–15)	34 (31–35)	17 (16–23)
	p	0.006*	0.003*	0.493	0.419	0.192	0.628
Consanguineous marriage	Yes	115 (105–119)	30 (23–34)	65 (58–72)	15 (12–15)	32 (29–35)	19 (16–23)
	No	114 (23–34)	30 (23–35)	66 (60–73)	14 (11–15)	34 (30–36)	20 (16–24)
	p	0.525	0.974	0.321	0.194	0.049#	0.614
Disability status of the mother	Present	115 (102,5–119)	30 (23–35)	68 (55–73)	12 (11–15)	34 (30–35)	21 (16–24)
	Absent	112 (109–118)	34 (29–36)	66 (59–72)	14 (12–15)	33 (30–36)	19 (16–24)
	p	0.962	0.198	0.847	0.305	0.756	0.773
Receipt of a monthly family allowance for children with special needs	Yes	115 (104–119)	30 (24–35)	66 (59–72)	14 (11–15)	33 (29–35)	20 (16–24)
	No	114 (101–119)	29 (20–34)	66 (59–72)	14 (12–16)	33 (31–37)	19 (16–23)
	p	0.444	0.043#	0.806	0.517	0.191	0.041#
Perceived adequacy of the monthly family allowance	Sufficient	115.5 (107–119)	31 (24–35)	66 (59–72)	14 (11–15)	33 (29–35)	20 (16–24)
	Insufficient	109 (97–120)	30 (24–34)	71 (62–75)	15 (13–17)	35 (29–37)	22 (16–25)
	p	0.192	0.465	0.105	0.030#	0.196	0.496

#*p < 0.05, Mann-Whitney U test; *p < 0.05, Kruskal-Wallis test.*

Table IV A. Regression analysis

Parameters	Maternal Spiritual Coping Scale			VIF	Psychological Resilience Assessment Scale			VIF	Parental Health Belief Scale			VIF
	B	β	*p*		B	β	*p*		B	β	*p*	
Age of mother	–0.32	–0.15	0.031	1.9	0.05	0.05	0.508	1.92	0.1	0.08	0.232	1.90
Marital status	–4.74	–0.08	0.149	1.09	3.16	0.09	0.068	1.09	1.09	0.03	0.552	1.10
Number of children	0.24	0.02	0.737	1.31	–0.14	–0.02	0.709	1.31	-0.34	-0.05	0.389	1.30
Number of CHILDREN WITH SPECIAL NEEDS	2.08	0.04	0.456	1.19	–1.34	–0.05	0.364	1.19	2.71	0.1	0.079	1.16
Age of first child with special needs	–0.1	–0.03	0.622	1.90	0.16	0.11	0.118	1.89	-0.24	-0.15	0.030	1.87
Gender of the child with special needs	–1.56	–0.04	0.428	1.10	0.00	0.00	0.999	1.10	2.08	0.1	0.058	1.09
Time of diagnosis	1.96	0.07	0.190	1.20	0.06	0.00	0,935	1.21	-3.90	-0.3	<0.001	1.11
Education status of the mother	–1.84	–0.1	0.101	1.42	2.44	0.24	<0.001	1.37	-0.29	-0.03	0.646	1.40
Employment status of the mother	5.66	0.09	0.105	1.32	5.25	0.16	0.004	1.30	-3.07	-0.09	0.112	1.30
Mother's income status	–0.97	–0.03	0.537	1.19	–1.84	–0.12	0.026	1.18	-0.19	-0.01	0.832	1.19
Consanguineous marriage	–2.22	–0.05	0.319	1.16	0.16	0.01	0.895	1.16	1.02	0.04	0.410	1.14
Disability status of the mother	4	0.03	0.548	1.05	2.99	0.04	0.394	1.05	-5.92	-0.08	0.110	1.05
Receipt of a monthly family allowance for children with special needs	11.33	0.30	0.171	19.44	–3.63	–0.18	0.407	19.51	-5.24	-0.25	0.257	19.40
Perceived adequacy of the monthly family allowance	–5.66	–0.29	0.187	19.75	0.91	0.09	0.690	19.84	2.62	0.24	0.257	19.70
Maternal Spiritual Coping Scale	–	–	–		0.08	0.15	0.005	1.1	-0.01	-0.01	0.862	1.12
Psychological Resilience Assessment Scale	0.28	0.15	0.005	1.14	–	–	–		0.09	0.01	0.886	1.15
Parental Health Belief Scale	–	–	–		–	–	–		–	–	–	
Parental Health Belief Scale-Internal Factors	–0.11	–0.02	0.759	1.42	0.06	0.33	0.739	1.42	–	–	–	
Parental Health Belief Scale-External Factors	–0.04	–0.01	0.851	1.47	–0.14	–1.26	0.210	1.46	–	–	–	
Parental Health Belief Scale-Chance Factors	0.05	0.01	0.782	1.11	0.11	1.26	0.209	1.11	–	–	–	
Durbin-Watson value		1.944				1.963				1,931		
R2		0.107				0.139				0.105		

Table IV B. Regression analysis

Parameters	Parental Health Belief Scale-Internal Factors			VIF	Parental Health Belief Scale-External Factors			VIF	Parental Health Belief Scale-Chance Factors			VIF
	B	β	*p*		B	β	*p*		B	β	*p*	
Age of mother	0.03	0.10	0.155	1.91	0.02	0.03	0.578	1.92	–0.02	–0.03	0.685	1.92
Marital status	0.11	0.01	0.828	1.10	0.07	0.00	0.935	1.10	0.54	0.03	0.616	1.10
Number of children	0.12	0.10	0.290	1.30	–0.23	–0.06	0.209	1.30	–0.19	–0,05	0.409	1.31
Number of children with special needs	0.54	0.06	0.211	1.19	1.36	0.09	0.058	1.18	–0.90	–0.05	0.327	1.20
Age of first child with special needs	–0.05	–0.10	0.093	1.88	–0.01	–0.01	0.858	2.0	–0.07	–0.08	0.280	1.89
Gender of the child with special needs	0.28	0.04	0.368	1.10	–0.17	–0.02	0.730	1.10	1.32	0.11	0.039	1.09
Time of diagnosis	–0.30	–0.06	0.193	1.20	–1.54	–0.19	< 0.001	1.15	–0.30	–0.03	0.540	1.21
Education status of the mother	0.33	0.10	0.061	1.42	0.01	0.00	0.987	1.43	–0.91	–0.15	0.012	1.41
Employment status of the mother	–0.73	–0.10	0.177	1.32	–1.60	–0.10	0.076	1.32	1.33	0.07	0.242	1.33
Mother's income status	–0.23	–0.05	0.349	1.19	0.01	0.00	0.983	1.19	0.32	0.03	0.536	1.19
Consanguineous marriage	–0.69	–0.09	0.048	1.15	1.36	0.11	0.018	1.14	0.32	0.02	0.656	1.16
Disability status of the mother	–0.77	–0.03	0.459	1.05	–1.90	–0.05	0.267	1.05	–0.44	–0.01	0.841	1.05
Receipt of a monthly family allowance for children with special needs	–1.80	–0.27	0.162	19.44	0.71	0.06	0.740	19.54	–1.40	–0.12	0.603	19.53
Perceived adequacy of the monthly family allowance	0.94	0.30	0.159	19.74	0.08	0.01	0.945	19.85	0.02	0.00	0.992	19.85
Maternal Spiritual Coping Scale	–0.00	–0.01	0.759	1.12	–0.00	–0.01	0.851	1.12	0.01	0.02	0.782	1.12
Psychological Resilience Assessment Scale	0.01	0.02	0.739	1.16	–0.03	–0.05	0.210	1.16	0.04	0.07	0.209	1.16
Parental Health Belief Scale	–	–	–		–	–	–		–	–	–	
Parental Health Belief Scale-Internal Factors	–	–	–		0.71	0.42	< 0.001		0.30	0.16	0.01	
Parental Health Belief Scale-External Factors	0.258	0.433	< 0.001		–	–	–		0.08	0.07	0.30	
Parental Health Belief Scale-Chance Factors	0.067	0.125	0.007		0.05	0.05	0.246		–	–	–	
Durbin-Watson value		1.989				1.962				1.911		
R2		0.30				0.32				0.10		

Table V. Correlation analysis

Parameters	Maternal Spiritual Coping Scale		Psychological Resilience Assessment Scale		Parental Health Belief Scale		Parental Health Belief Scale-Internal Factors		Parental Health Belief Scale-External Factors		Parental Health Belief Scale-Chance Factors	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Age of mother	–0.114	0.028	– 0.011	0.836	–0.005	0.930	0.010	0.842	0.066	0.199	–0.084	0.104
Number of children	–0.025	0.631	–0.081	0.116	–0.020	0.701	0.054	0.300	–0.057	0.269	–0.064	0.212
Number of children with special needs	–0.092	0.076	–0.053	0.309	0.092	0.076	0.112	0.030	0.109	0.034	–0.039	0.451
Age of first child with special needs	–0.020	0.703	0.088	0.088	–0.103	0.045	–0.069	0.183	–0.052	0.312	–0.082	0.112
Maternal Spiritual Coping Scale			0.296	< 0.001	–0.051	0.328	–0.100	0.052	–0.110	0.032	0.062	0.234
Psychological Resilience Assessment Scale					–0.013	0.795	–0.063	0.223	–0.087	0.092	0.071	0.169
Parental Health Belief Scale							0.622	< 0.001	0.708	< 0.001	0.673	< 0.001
Parental Health Belief Scale-Internal Factors									0.485	< 0.001	0.119	0.021
Parental Health Belief Scale-External Factors											0.093	0.072

difficulties. Parents struggle to find time for their relationships because of the demands inherent in having a child with special health care needs [21]. The study by Papp *et al.* (2004) found that poor marital adjustment negatively affects women's mental health more than men's [22]. The study by Lickenbrock *et al.* (2011) found that mothers with positive interactions with their spouses have higher levels of well-being [23]. Our study found that mothers of children with special needs who have an income less than their expenses show higher psychological resilience than those whose income meets or exceeds their expenses. In contrast to our findings, studies by Lloyd and Rosman and Nota *et al.* found that both living in poverty and having a child with special needs harm women's mental health [24, 25]. In our study, the strong psychological resilience of mothers with low income may be due to having a robust support network and the financial aid provided by the government or organizations for disadvantaged families. This support also helps them access healthcare services. Assistance from these larger systems can help families cope with challenges and maintain their psychological resilience [25]. Our study found that a mother's educational level, employment status, income, and spiritual coping skills all influence her psychological resilience.

Health belief focuses on motivating people to prevent diseases and disabilities and encouraging them to adopt healthier behaviors [26]. The study found that mothers whose children were diagnosed after birth had higher Parental Health Beliefs than those whose children were diagnosed before or during birth. It is believed that the notion of being able to manage the disease after birth enhances their sense of control and the influence of environmental factors on health behaviors. In a qualitative study examining mothers of children with special needs, mothers generally believed that with sufficient effort during early childhood, disabilities could be treated or developmental delays reduced, regardless of the child's health issues [27]. Developmental delay refers to delays in speech and language, motor skills, social skills, and cognitive development [28]. Late detection of developmental delays results in missed opportunities for early intervention, leading to negative outcomes such as learning difficulties, behavioral issues, and functional impairments later in life [29]. Effective early diagnosis of developmental delays and timely early intervention can positively change a child's long-term course [30]. Early diagnosis and intervention for children with special needs are essential for improving their health development and readiness for school [31]. The social participation of a child with special needs can positively impact the mother's psychological resilience.

University graduate mothers of children with special needs had higher PHBS-External Factors scores, and mothers with primary school, middle school, and high school education had higher levels of health beliefs. Yu's study found that mothers with higher education levels are better able to help prevent and treat their children's diseases and disorders [32]. Other studies found that mothers with higher education levels positively affect their children's nutrition, vaccination status, survival, and ability to cope with diseases [33–37]. Studies show similarities to our research, indicating that the educational status of mothers of children with special needs is associated with health beliefs related to PHBS-Chance Factors. However, it suggests that mothers do not rely on chance for their children's health. The study also found that the age of the first child and the timing of the diagnosis for the disabled child are associated with Parental Health Beliefs.

The timing of disease diagnosis and consanguineous marriage were found to be associated with parental health beliefs as external factors. This suggests that early diagnosis is viewed as crucial for treatment, and mothers' health beliefs are shaped by concerns about potential health issues in children from consanguineous marriages. In this study, while the gender of the child with special needs was considered a factor in mothers' health beliefs related to PHBS-Chance, no significant difference was found between genders. Since all data were collected from mothers using rehabilitation services, it is clear that all participants had access to health services. The findings also show that a mother's spiritual coping skills positively impact her psychological resilience and parental health beliefs.

This study showed that spiritual coping skills of mothers of children with special needs have a significant effect on their psychological health and health beliefs about their children's health problems. In accordance with the findings: (1) spirituality is a strong support mechanism for mothers in the face of challenging life conditions; (2) psychological resilience is closely related to socioeconomic factors; (3) working life may have a negative impact on mothers' health beliefs, as working mothers have low health beliefs.

In this context, the following recommendations are offered: (1) community-based support programs should be developed to meet the spiritual and psychological support needs of mothers of children with special needs; (2) improvements should be made in social policy regulations, taking into account the effects of mothers' education level and economic status on psychological resilience; (3) since the time of diagnosis of a child's disability affects mothers' health beliefs, early diagnosis and intervention programs should be encouraged; (4) in future studies, longitudinal studies should be prioritized to examine the long-term effects of these factors.

This study has some limitations. The study has a cross-sectional design and was conducted only in a single time period. Therefore, the findings of the study only reflect the current situation, and causality cannot be inferred. In addition, convenience sampling was used to collect the research data, which may limit the capacity of the sample to represent the general population. Since the study collected data only from mothers who applied to rehabilitation centers, parents who did not seek health services for their children were excluded. This suggests that the findings are limited to individuals who have access to health services. In addition, since the majority of children attending special education and rehabilitation centers are accompanied by their mothers, only mothers were selected as participants in this study, which may affect the homogeneity of the participant group.

Acknowledgments

The authors would like to thank the young people who participated in the study.

Funding

No external funding.

Ethical approval

Ethics committee approval was obtained from the Toros University Non-Interventional Ethics Committee (14.09.2023/25). Institutional permission was obtained from the institutions where the study was conducted, and informed consent was obtained from the mothers who agreed to participate in the study.

Declaration

This study was presented as an oral presentation at the 1st Interdisciplinary Special Education Congress (DOZEK2024) on December 6-8, 2024 and has not been published before.

Conflict of interest

The authors declare no conflict of interest.

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