

Research Paper

Correlation Between Spiritual Experiences and Self-care Behaviors in Students With Health Anxiety



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Please cite this article as Miri M, Tayarani Rad A, Ghasemi SA, Salmabadi M. Correlation Between Spiritual Experiences and Self-care Behaviors in Students With Health Anxiety. *Health Spiritual Med Ethics*. 2023; 10(4):211-218. <http://dx.doi.org/10.32598/hsmej.10.4.426.2>

 <http://dx.doi.org/10.32598/hsmej.10.4.426.2>

Article info:

Received: 30 Jan 2023

Accepted: 11 Mar 2023

Publish: 01 Dec 2023

Keywords:

Spirituality, Self-care,
Behavior, Anxiety,
Students

ABSTRACT

Background and Objectives: Health anxiety is one of the crucial concerns of clinical specialists, as it increases the use of psychological, health and medical services. Therefore, the present study to investigate the correlation between spiritual experiences and self-care behaviors in students with health anxiety.

Methods: The present descriptive-correlational was conducted on male and female students of Farhangian University of South Khorasan Province, Iran in the summer of 2023. A total of 320 individuals were selected a stratified sampling method (boys and girls). The data collection tools included the daily spiritual experience scale developed by Underwood and Tersi, the self-care scale by Javdan and the health anxiety inventory by Salkovskis et al. SPSS software, version 24 was used for data analysis, employing Pearson correlation coefficient and multiple regression analysis.

Results: The results showed a negative and significant relationship between spiritual experiences ($r=-0.570$, $P<0.01$) and self-care behaviors ($r=-0.624$, $P<0.01$) and health anxiety. The components of spiritual experiences explained 32.7% of the variance in health anxiety, while self-care behaviors explained 39% of the variance.

Conclusion: The results showed the importance of strengthening spiritual experiences and self-care behaviors in the design and modification of interventions related to health anxiety within health system policies.

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Introduction

The students' period creates major changes in individual, family, and social life that can affect students' lifestyle and health behaviors, potentially having a negative impact on their health [1]. Considering the critical role of health in people's lives, it is unsurprising that most people sometimes experience health-related thoughts and concerns [2]. Health anxiety is a pervasive experience that occurs when bodily sensations or changes in the body indicate the possibility of illness [3]. Health anxiety involves worry and anxiety about health being threatened, which can range from a lack of awareness regarding health to extreme health anxiety or self-morbidity [4]. In this type of anxiety, individuals make extreme interpretations of their physical sensations, such as those related to viral infections (fever, cough, muscle pain, etc.) and they develop an extreme tendency to attribute these symptoms to signs of a severe medical condition [5]. Most people experience health anxiety to some extent, but if it becomes excessive, it can be dangerous and harmful to the individual [6]. Recent studies conducted during the COVID-19 pandemic showed an increase in health anxiety in both frequency and severity compared to before [7]. Roy et al. showed a high level of health anxiety and anxiety among people during the COVID-19 pandemic [8].

In care and treatment, it is vital to pay attention to components such as spiritual experience, especially because people are often in critical situations [9]. Spiritual experiences can play a prominent role in an individual's health. These experiences are genuine and inner, representing the individual's connection with the transcendent. They help individuals harmonize with their surrounding environment and achieve both internal and external integration, serving as a consistent strategy during life crises [10]. Spiritual experiences include finding meaning in life, positive experiences, feelings of happiness and satisfaction, and a person's overall sentiments about life, encompassing hope, contentment, passion and excitement. They also involve the impact of communication with God, prosperity, spiritual activity, sublime mystical experiences, negative experiences and religious social activities [11]. Studies have confirmed the role of spiritual experience in students' general health [12], quality of life (QoL) [13] and resilience [14].

Another factor that can contribute to health anxiety symptoms is self-care behaviors. Self-care refers to self-motivated activities, in which a person seeks personal health and independent well-being [15]. Self-care is the

conscious, purposeful and learnable activities that individuals engage in for themselves, their families and others to maintain health and enhance individual efficiency and skills in life [16]. Self-care is a strategy for coping with life events and stresses, defined as the ability of individuals, families and communities to promote health, prevent disease, maintain health and cope with illness and disability without the support of healthcare providers [17]. Individuals practicing self-care actively strive to retain their intellectual, mental, personality and psychosocial health aspects in the face of life events. The lack of self-care, which is a correctable risk factor for various health problems, such as coronary artery disease, cancers, obesity, and osteoporosis, has become a key issue in public health [18]. Studies indicate the role of self-care behaviors in employee anxiety [19], the depression and anxiety of people with type 2 diabetes [20], and the mental health of citizens [21].

Health anxiety is one of the crucial concerns of clinical professionals, which increases the use of psychological, health, and medical services [22]. The failure to perform self-care behaviors can lead to increased disease complications and even death in patients. Additionally, people's spiritual experiences can play a prominent role in their health. On the other hand, according to the research gap in the field of the relationship between these variables in the student community, the present study was conducted to determine the relationship between spiritual experiences and self-care behaviors in students with health anxiety. This study also aimed to answer the question of whether a relationship exists between spiritual experiences, self-care behaviors, and health anxiety in students.

Methods

The present descriptive-correlational study was conducted on male and female students of Farhangian University of South Khorasan Province in the summer of 2023. Based on the Kejarsi and Morgan table, 320 individuals were selected among the eligible people using a stratified sampling method (boys and girls). The inclusion criteria included informed consent and desire to participate in the study, an age range of 18 to 24 years, no mental illness, and being in perfect health based on the health record. The exclusion criterion included incomplete or partially completed questionnaires. The data collection tools included the following questionnaires:

Daily spiritual experience scale developed by Underwood and Teresi

Underwood and Teresi designed this 16-item questionnaire, which measures three factors, including feeling the presence of God (items 1, 2, 4, 5, 6, 8, 9, 10 and 11) and communication with God (items 3, 7, 8, 12 and 15) and the sense of responsibility toward others (items 13 and 14) [23]. It uses a 6-option Likert scoring method where “most times of the day” receives a score of 6 and “never or rarely” receives a score of 1. Therefore, the range of scores is between 16 and 96, with higher scores indicating more spiritual experiences. Underwood and Teresi, while confirming the concurrent validity, reported the reliability of this scale using Cronbach’s α as 0.94 and 0.95 in two implementations [23]. In Iran, Taghavi and Amiri investigated the validity of the scale using concurrent validity methods and factor analysis. They confirmed the validity of the scale, with reliability coefficients of 0.96 for retesting, 0.88 for Spearman-Brown classification, and 0.91 for Cronbach’s α [24]. In the present study, reliability was obtained at 0.84 using the Cronbach’s α method.

Self-care questionnaire

Javdan created this 48-item tool, which measures three components, including physical self-care (items 1-17), psycho-social self-care (items 18-35), and emotional self-care (items 36-48) on a five-point Likert scale from always (4) to never (0). Its overall score ranges from 0 to 192, with higher scores indicating more self-care in each subscale and total score. In Javdan’s study, content validity was confirmed using construct validity and experts’ opinion, and the reliability of the whole questionnaire was 0.92 using Cronbach’s α method, with 0.91 for physical self-care, 0.84 for psychosocial self-care, and 0.87 for emotional self-care [25]. In the present study, reliability was obtained at 0.81 using Cronbach’s α method.

Health anxiety questionnaire

Salkoskis and Warwick designed this 18-item questionnaire, which includes questions about the probability of illness, severity of illness, and physical caution. The questions are graded from zero to three, with a total score range between 0 and 54; higher scores indicate more health anxiety in the respondent. Salkoskis and Rimes confirmed its content validity and reported the retest reliability of this questionnaire to be 0.90, with reliability measured by Cronbach’s α coefficient ranging from 0.70 to 0.82 [26]. Nargesi et al. showed that the construct validity of this questionnaire encompasses

three factors: disease, disease consequences and general health concern, with reliability obtained using Cronbach’s α method yielding a value of 0.75 [27]. In the present study, reliability was obtained using Cronbach’s α method, resulting in a value of 0.79.

In the procedure phase, the research was conducted face-to-face, taking into account the environmental conditions. Before implementation, necessary explanations were provided, including the purpose of the research, how to answer the questions, and the importance of volunteers’ cooperation. This information was included in the supplemental text accompanying the questionnaire, and participants voluntarily took part in the study. It should be noted that all ethical considerations were observed in the present study, and the researcher patiently resolved any ambiguities during the completion of the questionnaires. Participants were assured that the data obtained would be analyzed collectively for research purposes and would remain completely confidential.

Results

Table 1 presents demographic information of the participants, including age, study field, gender, marital status, and residence. There was a negative and significant correlation between spiritual experiences and self-care behaviors and health anxiety ($P < 0.01$). An inverse relationship was observed between spiritual experiences and self-care behaviors in students with health anxiety (Table 2). To predict students’ health anxiety based on spiritual experiences, multiple regression analysis was performed. The Durbin-Watson statistic was used to check the independence of the residuals. Considering that its value (1.887) was between 1.5 and 2.5, it can be concluded that the assumption of independence of the residuals was satisfied. Tolerance indices and variance inflation factor (VIF) were used to check the presence of multicollinearity among the predictor variables, and according to the obtained results, no deviation from the multiple co-collinearity assumption was observed.

In Table 3, the F value obtained for checking the regression model was equal to 52.696, which was significant at the alpha level of less than 0.01. This indicates that spiritual experiences can effectively explain the changes related to health anxiety and demonstrates the appropriateness of the regression model. The adjusted R-squared (R^2) value=0.327, which showed that the components of spiritual experiences explained 32.7% of the variance in health anxiety. The values of the standardized regression coefficients (Beta) for the feeling of God’s presence ($\beta = -0.342$, $P < 0.01$), communication with God

Table 1. Students' demographic information

| Variables | | No. (%) |
|----------------|---------------|-----------|
| Age (y) | 18 | 46(14.4) |
| | 19 | 116(36.3) |
| | 20 | 93(29.1) |
| | 21 | 28(8.8) |
| | 22 | 19(5.9) |
| | 23 | 11(3.4) |
| | 24 | 7(2.2) |
| Field of study | Primary | 114(35.6) |
| | Secretarial | 206(64.4) |
| Gender | Male | 148(46.3) |
| | Female | 172(53.7) |
| Marital status | Married | 282(88.1) |
| | Single | 38(11.9) |
| Resident | Dormitory | 304(95) |
| | Non-dormitory | 16(5) |

Table 2. Correlation between spiritual experiences and self-care behaviors and health anxiety

| No. | Variables | Mean±SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|---|---------------|----------|----------|----------|----------|----------|----------|----------|----------|---|
| 1 | The feeling of God's presence | 43.58±4.075 | 1 | | | | | | | | |
| 2 | Communication with God | 24.20±2.768 | 0.310** | 1 | | | | | | | |
| 3 | A sense of responsibility toward others | 9.93±1.544 | 0.633** | 0.349** | 1 | | | | | | |
| 4 | Spiritual experiences | 77.71±6.677 | 0.885** | 0.685** | 0.762** | 1 | | | | | |
| 5 | Physical self-care | 46.02±6.341 | 0.534** | 0.229** | 0.496** | 0.536** | 1 | | | | |
| 6 | Psychosocial self-care | 57.62±9.298 | 0.535** | 0.323** | 0.512** | 0.579** | 0.468** | 1 | | | |
| 7 | Emotional self-care | 42.28±6.136 | 0.499** | 0.133** | 0.489** | 0.472** | 0.559** | 0.469** | 1 | | |
| 8 | Self-care behaviors | 145.92±17.790 | 0.642** | 0.297** | 0.613** | 0.656** | 0.794** | 0.851** | 0.789** | 1 | |
| 9 | Health anxiety | 35.67±4.721 | -0.525** | -0.332** | -0.484** | -0.570** | -0.501** | -0.497** | -0.538** | -0.624** | 1 |

*Significant at 0.05, **Significant at 0.01.

Table 3. Multiple regression analysis to predict health anxiety through spiritual experiences

| Model | Non-standardized Coefficients | Standard Error | Standardized Coefficients | t | Possible Value | R | Adjusted R ² | F | Possible Value |
|--|-------------------------------|----------------|---------------------------|--------|----------------|-------|-------------------------|--------|----------------|
| Constant | 65.694 | 2.662 | | 24.681 | 0.001 | 0.577 | 0.327 | 52.696 | 0.01 |
| The feeling of God's presence | -0.396 | 0.069 | -0.342 | -5.715 | 0.001 | | | | |
| Communication with God | -0.258 | 0.084 | -0.151 | -3.061 | 0.002 | | | | |
| A sense of responsibility towards others | -0.658 | 0.185 | -0.215 | -3.548 | 0.001 | | | | |

($\beta=-0.151$, $P<0.01$), and feeling responsible toward others ($\beta=-0.215$, $P<0.01$) were also noted. Therefore, it can be concluded that spiritual experiences negatively and significantly predicted students' health anxiety.

To predict students' health anxiety based on self-care behaviors, multiple regression analysis was performed. The Durbin-Watson statistic was used to check the independence of the residuals. Considering that its value (1.849) was between 1.5 and 2.5, it can be said that the assumption of independence of the residuals was satisfied. Tolerance indices and VIF were used to check the presence of multicollinearity between the predictor variables and according to the obtained results, no deviation from the multiple co-collinearity assumption was observed.

The F value obtained for checking the regression model was equal to 68.931, which was significant at the alpha level of less than 0.01. This indicates that self-care behaviors can effectively explain the changes related to health anxiety and showed the appropriateness of a regression model (Table 4). The adjusted $R^2=0.390$, indicating that self-care behaviors explained 39% of the variance in health anxiety. The values of the standardized regression coefficients (Beta) for physical self-care ($\beta=-0.214$, $P<0.01$), psychosocial self-care ($\beta=-0.257$, $P<0.01$), and emotional self-care ($\beta=-0.298$, $P<0.01$)

were also noted. Therefore, it was concluded that self-care behaviors negatively and significantly predicted students' health anxiety.

Discussion

Health anxiety is one of the common anxiety disorders among students that can affect their academic and professional performance. Therefore, to examine the relationship between spiritual experiences and self-care behaviors in students with health anxiety. The results showed that the correlation between spiritual experiences and health anxiety was negative and significant, and spiritual experiences negatively and significantly predicted students' health anxiety. These results are consistent with the results of previous studies. Shirzadi et al. showed that the relationship between the feelings of the presence of God, the feelings of responsibility toward others, and spiritual experiences with mental health was negative and inversely significant [12]. The regression analysis results of Khodadadi Sangdeh et al. showed that hope and daily spiritual experiences can predict the QoL in students [13]. Shahbazi Rad et al. showed that spiritual experiences and their components had a significant positive correlation with resilience [14].

Table 4. Multiple regression analysis to predict health anxiety through self-care behaviors

| Model | Non-standardized Coefficients | Standard Error | Standardized Coefficients | t | Possible Value | R | Adjusted R ² | F | Possible Value |
|------------------------|-------------------------------|----------------|---------------------------|--------|----------------|-------|-------------------------|--------|----------------|
| Constant | 60.228 | 1.735 | | 34.709 | 0.001 | 0.629 | 0.390 | 68.931 | 0.01 |
| Physical self-care | -0.159 | 0.041 | -0.214 | -3.896 | 0.001 | | | | |
| Psychosocial self-care | -0.131 | 0.026 | -0.257 | -4.983 | 0.001 | | | | |
| Emotional self-care | -0.229 | 0.042 | -0.298 | -5.420 | 0.001 | | | | |

In explaining the above results, it can be said that spiritual experiences include concepts, such as communication with divine power and a feeling of peace through seeking help from God and feeling close to God. These experiences enable a person to feel the presence of God throughout the day and moment by moment in life, making them more resilient in facing problems and better able to manage the tensions and stresses of life [28]. Spiritual experiences are a form of adaptation and problem-solving that leads to achieving internal and external harmony and integration in individuals. A person who uses personal spiritual experiences can navigate life crises and find meaning in life. Therefore, having a spiritual orientation not only provides meaning to life but also reduces incompatible and undesirable behaviors. This is because religious confrontations and the use of spiritual experiences lead to greater understanding and improved coping with situations. Moreover, trusting in God can bring comfort to the soul and spirit of an individual [29].

In other words, by targeting one's beliefs, spirituality helps a person to evaluate negative events in a new way, fosters a stronger sense of control over those events, increases individuals' thresholds for ability and patience, and cognitively enhances their adaptation and adaptability [30]. Alternatively, it can be said that a spiritual person, through thoughts, has a special understanding of God, humanity, creation, and the mutual relationship among them. By tearing the veil of appearances and accessing the inner truth, his/her whole life becomes a divine direction, leading to special spiritual states, such as attraction to God, altruism, and trust, thereby resulting in greater physical and mental health. With religious commitment, a person's life will become meaningful and purposeful; he/she will find enthusiasm for life, and depression will decrease. The person feels happier and tries to become a useful member of his/her community, while feelings of inferiority diminish, and despair, disappointment and failure dissipate, leading to psychological security.

The results showed an inverse relationship between self-care behaviors and students' health anxiety, indicating that self-care behaviors negatively and significantly predict students' health anxiety. This finding is consistent with the results of previous similar studies. Ghazanfarpour et al. showed that awareness and self-care had no significant relationship with overt and hidden anxiety [19]. The results of Ramesh et al.'s research on type 2 diabetes patients showed that self-care had a significant negative correlation with anxiety, depression, and stress [20]. Alizadeh Aghdam et al. showed a positive and significant relationship between self-care and mental health among the citizens of Tabriz City [21].

In explaining the above result, it can be said that self-care is the ability of individuals, families and communities to perform activities that promote health, prevent disease, maintain health, and adapt to illness and disability. Therefore, self-care strengthens a person's sense of worth and self-perception, as well as self-efficacy beliefs. It enhances individuals' skills in utilizing health resources and ultimately improves health while reducing anxiety [31]. Furthermore, self-care enables a person to leverage all their opportunities and abilities; consequently, psychological self-care can foster and enhance adaptability to various conditions. An adaptable person must find meaning and direction in life, set aside negative feelings of emptiness and isolation and achieve a level of self-confidence that allows them to develop their unique self rather than simply compromising with life's threats. Self-care increases a person's efficiency and skills; therefore, it can lead to better adaptation to the circumstances, resulting in a compatible person with higher mental health.

Because this study was cross-sectional and correlational, causality cannot be inferred from its findings. Also, due to the limited sample of the study, which consists of students from [Farhangian University](#), the generalization of the results to the broader clinical community is restricted. Therefore, it is suggested that studies using experimental methods be conducted to facilitate the inference of causality. According to the results of the present study, psychiatric clinics, counseling centers and health networks can use the findings of the research in the field of health anxiety.

Conclusion

The results showed the importance of the role of spiritual experiences and self-care behaviors in improving students' health anxiety. It is necessary to focus on strengthening spiritual experiences and self-care behaviors in health system policies when designing and modifying interventions related to health anxiety.

Ethical Considerations

Compliance with ethical guidelines

This research was approved by the Ethics Committee of [Birjand University of Medical Sciences](#) (Code: IR.BUMS.REC.1401.381).

Funding

The present research was carried out with the financial support of [Farhangian University](#) of South Khorasan.

Authors' contributions

Supervision: Mino Miri; Data collection: Seyed Alireza Ghasemi; Data analysis: Ali Tayarani Rad; Writing: Mojtaba Salmabadi.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgments

The authors thank all the students and officials of the **Farhangian University** who collaborated in this research.

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