

The Relationship between Spirituality and Stress: A Study of Medical Students at Islamic Universities in Jakarta

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ABSTRACT

Purpose – The study aims to analyze the relationship between spirituality and academic stress among medical students.

Design/method/approach – This study is field research with 225 subjects from UIN Syarif Hidayatullah (n = 115) and YARSI University (n = 110). The data collection instrument used two psychological scales, namely the spirituality scale and the stress scale. The data were analyzed using regression analysis techniques.

Findings – The results showed that most students tended to experience moderate stress (n = 134), however, the number of students who experienced severe stress was greater than those with mild stress (n = 53 'severe stress' > n = 38 'mild stress'). These results indicate that students should have a self-defense mechanism, namely spirituality. Moreover, the study found that spirituality had a significant negative relation with stress in medical students (r = -0.123, p = 0.00 and R² = 0.263). It means that the higher the student's spirituality, the lower the level of academic stress. The significance of the relationship between spirituality and academic stress has confirmed that spirituality in medical students serves as a form of self-protection mechanism to deal with factors that can trigger academic stress. However, the contribution of spirituality to stress was only 26.3%, while the rest (73.7%) were influenced by other variables outside this study. Low r and R² scores also indicated that in dealing with academic stress, students rely not only on internal defense resources but also on external social and environmental supports.

Research implications/limitations – This research has implications for promoting prevention programs designed by universities to improve the student's ability to overcome obstacles during their medical learning process, such as involving the dimension of spirituality in managing the mental well-being of medical students in dealing with academic pressure.

Originality/value – This research has significance in providing additional understanding of the positive impact of spirituality on the context of learning. The findings of this study have emphasized the importance of educational institutions paying attention to student self-protection mechanisms to prevent personal difficulties. The results showed that spirituality has a significant role in relieving stress in medical students.

 OPEN ACCESS

ARTICLE HISTORY

Received: 20-10-2023

Revised: 29-11-2023

Accepted: 30-12-2023

KEYWORDS

Stress factor;
Medical students;
Academic life;
Stress; Individual-based learning;
Stress-coping skills.

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Introduction

Medical studies are often considered a high-pressure learning environment, as students are exposed to many subjects, continuous evaluations, and tasks (Ragab, et al. 2021). When facing those various demands, medical students sometimes have difficulty meeting them. Stress is often defined as a condition in which the individual is unable to cope with demands, either physically or psychologically, and this definition is generally associated with negative stress or distress. Such stress can negatively affect an individual's well-being. Conversely, when a person responds to demands as challenges, this can lead to an optimistic attitude and the ability to overcome obstacles. Types of stress that are positive or eustress are known for potentially having a positive impact on individuals (Utari & Hamid, 2021).

However, it should be realized that the stress level experienced by medical students is a serious problem and requires more in-depth attention. Several studies have revealed that high-stress levels among medical students can result in a number of academic problems, including difficulty in concentrating, low motivation, high class absenteeism, physical problems like headaches and fatigue, as well as psychological problems like anxiety and suboptimal medical performance. In fact, stress at the highest level can trigger the emergence of suicidal thoughts or even suicide attempts. For example, a study by Mujib and Rena (2020) noted that in some countries like Saudi Arabia, 63% of first-year medical students experienced severe stress, while 78.3% of medical students in Malaysia experienced stress due to academic factors. Furthermore, more detailed research by Ramadianto, et al. (2022) found that 22.2% of medical students reported symptoms of depression, 48.1% experienced anxiety, and 3% experienced major depression. Therefore, paying attention to stress levels among medical students becomes crucial, since they are future doctors and excessive stress can compromise their ability to provide high-quality health care (Mansoori, 2019).

In dealing with these concerns, education must ensure that its process does not interfere with students' mental health. According to Alimni, et al. (2022), education should play a role as an effort to develop human resources. By involving education, it is expected that future generations will have various skills, not only to survive but also to give a deep meaning to life. One of the strategies to help students find meaning in their life journey is by integrating the value of spirituality into education. In a psychological context, the concept of spirituality is closely related to the dimension of human intelligence and is often referred to as "spiritual intelligence." According to Mujib and Mudzakir (2002), spiritual intelligence includes the desire to seek meaning in life and the aspiration to experience a meaningful life.

Regarding the meaning of spirituality as an effort to find the meaning of life, we can also interpret it as a relationship between individuals with God, nature, and fellow humans. Gomez and Fisher (2003) comprehensively understand spirituality as the human ability to maintain a balance of four dimensions, namely personal, communal, environmental, and transcendental. In a more detailed explanation, they have outlined the meaning of spirituality as follows: 1) the relationship of an individual with himself to find the meaning

of life and purpose, 2) the relationship between an individual and others, 3) the relationship between an individual and the environment, and 4) the connectedness between the individual and God. The fourth dimension of spirituality, which involves the connectedness with God, is in line with the concept of spirituality in Islam. This dimension, in Islam, which includes a relationship with God, must be embodied through devotion in the form of worship to Him. Bonab (2013), referring to Sayyed Husain Nasr (2008), stated that spirituality is a relationship with God that will later affect self-esteem, the meaning of life, relationships with others, and interconnectedness with the environment. This belief is believed to be an integral part of the teachings of the Islamic religion, involving elements like belief, performing worship rituals, daily behaviors, attitudes, and knowledge.

Muslim scholars generally consider spirituality as one of the essential needs in human life. Fulfilling spiritual needs is regarded to provide life satisfaction, security, peace, and happiness. Conversely, ignoring this need can make individuals feel uneasy, anxious, and haunted by fears of experiencing difficulties in the future (Rena, 2018). In the context of Islam, the spiritual need is naturally related to the concept of tawhid, drawing closer to Allah, returning to Him, and asking for His help when going through critical situations. Furthermore, spirituality is believed to have a role in helping individuals maintain health and overcome various problems (Arfianto, 2023).

In a medical higher education setting, engaging in the spiritual dimension can help students manage emotional responses to academic pressures. Studies conducted by Ekwonye, Sheikhomar, & Phung (2020) showed that students who are active in spiritual practices, such as meditation and yoga, are able to reduce psychological distress arising in academic contexts. Conversely, other studies affirmed that lack of spirituality and connection with God are more likely to cause any psychological disorders, such as stress (Aditama, 2017). Moreover, the research results by Ekwonye & DeLauer (2019) have indicated that the existence of spirituality plays a role in building student resilience in dealing with academic challenges.

In summary, previous research has confirmed the relationship between spirituality and students' ability to manage academic stress in medical schools. Therefore, it is important to consider the spirituality dimension in the learning process of medical students. Universities should consider spirituality-based programs. In Jakarta, two universities organize their medical study programs with Islamic-based curricula. Apart from imparting medical knowledge to ensure students become future professionals, both universities also emphasize a balanced education in cognitive, emotional, and spiritual aspects. Both integrate the curriculum of science and religious studies. Given the limited research on the relationship between spirituality and stress among medical students with an Islamic-based curriculum, thus, it requires further research to explore their ability to cope with academic stress through spirituality resources. Therefore, the purpose of this study was to assess the relationship between spirituality as a stress-coping strategy applied by medical students with an Islamic-based educational background.

Methods

This study used a quantitative associative research design with regression analysis aiming to identify the relationship between the levels of spirituality and stress in medical students. According to Esser & Vliegthart (2017), associative design is used to explore correlations between two or more variables without control from the researcher, which can be reflected in positive or negative correlation patterns. In this study, it was assumed that spirituality had a negative influence on academic stress levels among medical students.

This study used a simple random sampling technique involving medical students from two Islamic universities in Jakarta – Syarif Hidayatullah UIN and YARSI University. To determine the number of samples, researchers employed Issac and Michael’s sample table with an error level of 5%, obtaining the number of samples ($n = 225$) from the total population $N = 568$ (students in semesters I, III, and V from both universities). The selection of student samples followed university policy that only allowed students from those semesters to become respondents in this study. The sample is also limited to the age characteristics of respondents ranging from 18-20 years. The majority of respondents were women, up to 72% ($n = 163$), while the rest were men, about 28% ($n = 62$). More information on the subject of the study can be found in Table 1.

Table 1. Basic Characteristics of the Research Subject

Characteristic		N=225	%
Gender	Man	62	28
	Woman	163	72
Age	18-20	207	92
	21-22	18	8
Academic Year	First	93	41
	Second	89	40
	Third	43	19

Data were collected through questionnaire distribution after subjects agreed to actively participate in the study. The instrument consisted of four parts: The first part included a cover letter, informed consent, and demographic information such as the student’s university name, gender, age, and academic year. The second part was a research instrument based on variables in this study, namely spiritual variables using the spiritual well-being questionnaire (SWBQ) instrument and stress variables using the perceived stress scale (PSS) instrument.

The first instrument of the spiritual well-being questionnaire (SWBQ) is a questionnaire developed by Gomez and Fisher (2003), consisting of 20 items with four dimensions (personal, communal, environmental, and transcendental) and assessed using a 5-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree). While, the perceived stress scale (PSS) instrument consists of 10 items with five answer choices (ranging from strongly disagree, disagree, neutral, agree, to strongly agree). The

study adopted this scale for it is an instrument commonly used in studies to measure the stress had by respondents over the past month.

Since the study adopted the above two questionnaires as instruments widely used before, thus, it required validity and reliability tests. Twenty SWBQ items are valid with correct item-total correlation $> r$ table (0.131), while the reliability test has obtained Cronbach Alpha of 0.781. Slightly different, three items from the perceived stress scale (PSS) were removed due to corrected item-total correlation $< r$ table (0.131); after removing these three items, the reliability test obtained a Cronbach Alpha of 0.874. These results indicate that the two adopted questionnaires, namely SBQ and PSS, are ready to be used for further parametric statistical analysis.

Results and Discussion

The researcher used SPSS software and obtained some analysis results with the following interpretations:

1. Descriptive Statistical Test

Based on the descriptive analysis as listed in Table 2, the results have shown that the spirituality scale analysis has the lowest score of 52 and the highest score of 97, a mean hypothesis = 74, and standard deviation = 8. These results also disclosed that the stress scale analysis had a lowest score of 9 and a highest score of 34, a mean hypothesis = 21, and a standard deviation = 5. Based on these results, students' spirituality and academic stress groups can be described in the following Tables 3 and 4:

Table 2. Descriptive data analysis

Variable	Min	Max	Mean	SD
Spirituality	52	97	74	8
Stress	9	34	21	5

Table 3. Students' spirituality group

Group	Frequency	Percentage	Description
$x < 66$	25	11.1	Low
$66 \leq x < 82$	168	74.7	Moderate
$82 \leq x$	32	14.2	High
N	225	100%	

Table 4. Students' academic stress group

Group	Frequency	Percentage	Description
$x < 16$	38	16.9	Mild
$16 \leq x < 26$	134	59.6	Moderate
$26 \leq x$	53	23.6	Severe
N	225	100%	

Table 3 shows that most medical students (74.7%) had a moderate level of spirituality. In the comparison between high and low levels of spirituality, students at high levels of spirituality (n = 32/14.2%) were bigger in number than those at low levels (n = 25/11.1%). This result is different from the research by Arfianto et al. (2023) on health science students at the University of Muhammadiyah Malang, which showed that most students have spiritual well-being in the high category as much as 82.7%.

Table 4 shows the same result that most medical students (59.6%) had moderate levels of stress. In the comparison between severe and mild levels of stress, students who were at the level of severe stress (n = 53/23.6%) were greater than those at the light level (n = 38/16.9%). This result is in line with research conducted by Adryana et al. (2020) on medical students at the University of Lampung which showed that most medical students experienced moderate stress as much as 72.3%.

2. Assumption Test

The study was conducted to determine the influence of spirituality on the academic stress of medical students. Before conducting parametric statistical analysis, namely regression analysis, this study had to perform several assumption tests (normality, multicollinearity, heteroscedasticity, and homogeneity).

2.1 Normality Test

To determine if the collected data were normally distributed, the researcher conducted a normality test using the Kolmogorov-Smirnov Normality Test. According to Alita et al. (2021), the normality test is used to determine whether the residual value is normally distributed or not. The output results of the Kolmogorov-Smirnov test using the SPSS application are shown in the table below:

Table 5. Normality Test

		Unstandardized Residual
N		235
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	5.28434324
	Most Extreme Differences	
	Absolute	.041
	Positive	.041
	Negative	-.040
Test Statistic		.041
Asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

The output result shows a significance value of $\text{sig} = 0.20$, which is greater than 0.05 ($\text{sig} > 0.05$), meaning that the data is normally distributed since being taken from a normal population.

2.2 Multicollinearity Test

This test is used to determine whether the regression model finds a correlation between independent variables or not. However, when a relationship between independent variables is found, it will cause difficulties in distinguishing the effect of the independent variable on the dependent variable. The results of the multicollinearity test are shown in Table 6 as follows:

Table 6. Multicollinearity Test

Variable	Collinearity Statistic	
	Tolerance	VIF
Spirituality	0.992	1.008

Table 6 shows that multicollinearity was not found in the regression models tested. The results of linearity statistics revealed that the VIF value was less than 10 ($1.008 < 10$) and the tolerance value was higher than 0.01 ($0.992 > 0.01$).

2.3 Heteroscedasticity Test

The researcher used scatterplot graphs to determine the presence or absence of heteroscedasticity. According to Ghozali (2018), the basic analysis used to determine the absence of heteroscedasticity is: 1) the dots do not form a certain pattern and 2) the dots are spread above and below zero on the Y-axis. The results of the heteroscedasticity test are shown in Figure 1 below:

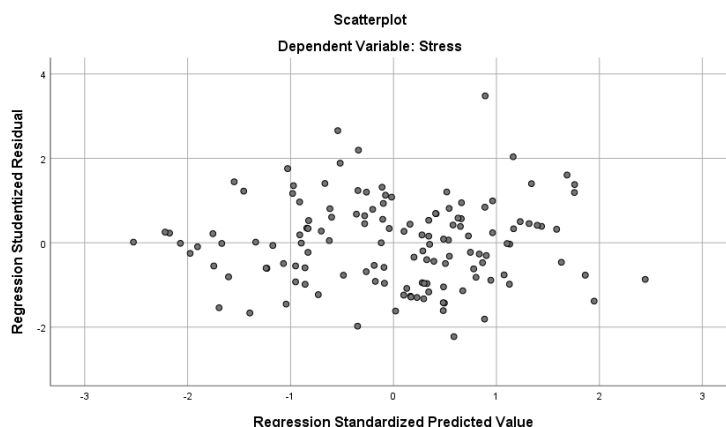


Figure 1. Scatterplot of the Heteroscedasticity test

Figure 1 illustrates that the distribution of dots does not form a specific pattern; 2) the distribution of dots occurs above and below zero on the Y-axis. It can be concluded that the model used in this study is feasible since no heteroscedasticity is found.

3. Hypothesis Test

The test used to answer the research hypothesis is linear regression analysis. This test was conducted to find out how academic stress perceived as the dependent variable could be predicted using spirituality as the independent variable. The results of linear regression analysis in determining the relationship between spirituality and stress among medical students are shown in the following table.

Table 7. Regression analysis test results

Variable	R square	Unstandardized	Sig
		Coefficients	
		B	
Spirituality	0.263	-0.123	0.009

Table 7 provides some results, the negative value of the regression coefficient ($r = -0.123$) showed a negative correlation between spirituality and academic stress. The participation score of students' academic stress will decrease by $(-)0.123$ as their spiritual well-being increases. In addition, these results also reveal that the higher the level of spirituality the students have, the less stress they will experience. Spirituality was proven to be a stress-suppressing factor in students, as seen from the result of an R^2 (R squared) value of 0.263. This value means that spirituality contributed as much as 26.3% to the level of stress experienced by medical students, while the remaining 73.7% of stress by students was influenced by other variables outside this study.

4. Spirituality in Medical Students

In the context of higher education in Islamic-based universities, spirituality is believed to be integrity and self-identity for medical students. They are expected to grow into “whole students/holistic students.” Research by Ekwonye et al. (2020) stated that most students admit they uphold spirituality in living their daily lives as students. The research of Ekwonye et al. (2020) is similar to the data found in this study, where most of the students involved in this study showed a moderate level of self-spirituality (74.7%/n=168). This result is also in line with a study by Leung & Pong (2021) which disclosed that the level of spirituality among college students usually occurs in the moderate to high level range. Even, a study by Arfianto et al. (2023) did not find students with low levels of spirituality. These results confirm that university students believe that spirituality plays a crucial and meaningful role in their lives during their college time.

Fisher (2011) explains that spirituality should include dimensions of vertical and horizontal relationships. The horizontal dimension reflects the relationship of the individual with himself, society, and the surrounding environment. Meanwhile, the vertical dimension suggests that spirituality is supposed to provide a transcendent experience. At Islamic-based universities, students believe that their spirituality should bring them closer to a relationship with God. They believe that God is the source of strength and support in dealing with daily activities on campus. Moreover, Islamic-based universities like UIN Syarif

Hidayatullah and YARSI University have their excellences due to an integrated curriculum between Islamic studies and science. UIN Syarif Hidayatullah has the motto of “Piety,” which emphasizes the university’s commitment to developing inner qualities through individual piety (“self-piety”) and societal piety (“social-piety”). This motto is in line with Fisher’s argument that spirituality is not only related to the relationship between an individual and God but also involves the relationship between the individual and his society and environment.

5. Stress in Medical Students

Some studies have found that medical students face more academic stressors compared to their peers from other majors. Academic stressors, such as study material load, assignments, and exam difficulties, have caused them to be subject to academic stress.

The results of this study showed that more than half of the subjects experienced moderate levels of academic stress (59.6%/n=134 out of a total of 235 respondents). This result is in line with Inama and Sarastri’s research (2022) where students with moderate academic stress levels dominate the percentage. On the other hand, this result contradicts the research by Arfianto et al. (2023) which found that most health science students experienced mild levels of stress.

When the researcher analyzed further, subjects who experienced severe stress level had a higher percentage (23.6%/n=53) compared to the percentage of subjects who experienced mild stress levels (16.9%/n=38). These results illustrate that a large number of university students experience excessive stress due to pressure from stressors as medical students. According to Yusuf et al. (2010), there are six domains of stressors commonly experienced by medical students, namely 1) academic-related stressors (ARS); 2) interpersonal and intrapersonal related stressors; 3) teaching and learning-related stressors (TLRs); 4) social related stress (SRS); 5) drive and desire stressors (DRS); and 6) Group-activity related stressors (GARS). Students usually experience severe stress due to exposure to stressors, in which students who face one type of stressor usually experience other stressor domains at the same time. The more stress-inducing domains experienced by students, the higher the risk of stress they experience.

6. The Relationship of Spirituality and Academic Stress in Medical Students

Based on the results of regression analysis, the obtained significance showed a p-value of 0.00 ($p < 0.05$). This score reveals that there is a significant relationship between the spirituality of university students and the stress they experience. A negative coefficient value ($r = -0.123$) indicates that the higher the well-being of spirituality, the lower the stress the students will feel in daily activities. The significance of these results is closely related to the relationship of student spirituality with academic stress supported by previous studies that have disclosed that spirituality has a relation with psychological disorders like anxiety, stress, and depression (Leung & Pong, 2021). In more detail, a study by Arfianto (2023) explained the relationship between spiritual well-being and stress levels in health science

students, where most students with high spirituality experience low stress levels and no students experience low, medium, or high stress levels since none of them are at low-level spirituality.

The results of this study confirm the role of spirituality as a self-balancing while facing stressful situations. The study of Baloochi et al. (2018) states that medical students who have higher spiritual intelligence have better self-ability in controlling tenacity during medical studies. Students with higher spirituality have a better ability to improve their skills to manage stress (Zamani et al., 2023). In another study, Sari et.al (2020) used another term for stress management “stress resistance.” Researchers define stress resistance as an individual’s skill to deal with stressors of everyday life in a positive way. This ability causes the individual not to experience psychological disorders. Researchers also stated that spirituality will serve as a therapeutic mediator in improving one’s ability to manage stress among 167 first-year medical students at Diponegoro University, with an R² (R square) score of 31.3%.

Several studies have been interested in finding a connection between spirituality and stress among adolescents at a young age, as the incidence of stress among young people accounts for 75% of total stress cases worldwide. The study by Erindana et al. (2021) and Musabiq & Karimah (2018) stated that nearly 350 million people around the world experience stress, more particularly in Indonesia over 1.33 million people also face mental health problems or stress. One of the reasons why stress occurs in an individual’s life is due to losing self-defense resources, one of which is spirituality. As expressed by Alsadi and Assaf (2002), spirituality is considered one of the psychological resources that can be used as an effective coping strategy in dealing with stress and pursuing life satisfaction.

Nasrollahi et al. (2020) propose the best time to improve spirituality in a person is through the educational process (teaching and learning processes). Instilling spirituality in education is not only teaching material related to it but also aiming to increase spiritual insight in student’s learning process. In addition, education with spirituality gives meaning to students about what they are learning and building relationships with others and the world. Fisher (2011) states that spiritual well-being will build individual relationships both vertically (transcendent / relationship with God) and horizontally (communal). In the context of Islamic-based educational institutions, connectedness with Allah will make students believe that through difficulties they will find ease. Meanwhile, the relationship between individual and communal lives will create a sense of mutual support among students in dealing with daily academic stressors (Utari & Hamid, 2021).

Since this research was conducted at Islamic-based universities–UIN Syarif Hidayatullah and YARSI (Islamic Hospital Foundation) University in Jakarta, spirituality is used as a basic value in the educational process. In these two Islamic-based universities, medical faculty students are also given courses related to the Islamic view of medical science. For example, students of the medical faculty of UIN Syarif Hidayatullah Jakarta are given a course called IMDB or Integrated Moslem Doctor and Bioethics, where in all courses related to medical science, students are also taught to understand the course from an Islamic perspective. The purpose of imparting knowledge to students is to bring them to

the level of piety. Even for science students, knowledge should be able to bring them to connectedness with God. In line with these study results, worshiping God dominates the dimension of student spirituality. This finding is in tune with research by Chanifah et al. (2021) which showed that someone who obeys the teachings of their religion will have a higher level of spirituality. Oktaviani et al (2022) and Prasetya et al (2021) added that spirituality can augment moral value to students. Spirituality will give them a positive outlook when facing difficulties in life. In the context of medical students, spirituality will help them cope with different types of stress during their studies.

Conclusion

The results of this study disclosed a significant correlation between spirituality and stress levels in medical students. Other studies, such as those conducted by Will (2020), also support these findings by showing that spirituality not only affects the learning process of university students but also has a positive impact on physical, mental, and spiritual aspects. The negative orientation between spirituality and stress levels expressed in this study suggests that students' spirituality may play a role in counteracting the impact of daily academic stress that can lead to stress disorders. It can be concluded that the higher the spirituality level of students, the more effective they are in coping with academic stress. However, the relatively low values of the coefficients (-0.123) and R^2 (0.263) indicate that in facing academic stress, students not only rely on spirituality coping mechanisms but are also influenced by other self-defense resources, both from themselves and social support. Therefore, it is advisable to conduct further research to investigate various stress management factors in medical students.

By agreeing on the benefits of spirituality in reducing stress levels in students, it is recommended that educational institutions implement intervention programs aimed at improving aspects of spirituality. In the context of higher education, it needs to be directed so that students can grow into holistic individuals. Universities should not only focus on improving students' cognitive aspects but also ensure that each student can have balanced growth in physical, mental, spiritual, and social dimensions.

Declarations

Declaration of interest statement

The author states that there is no potential conflict of interest during the preparation of this research article. This research was conducted without funding or grant support from any individual, organization, or institution. The author would like to thank all respondents who have participated in the study.

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