The Moderating Effect of Spirituality on the Relationship Between Academic Life Stressors and Perceived Stress in Medical Undergraduate Students

Abdul Mujib & Syahidah Rena
{abdul.mujib@uinjkt.ac.id & syahra84@gmail.com}
UIN Syarif Hidayatullah Jakarta Institut and Ilmu Al- Qur'an Jakarta

Abstract. This present study set out to examine whether spirituality would positively or negatively moderated the links between stressors and perceived stress. A total of 263 college students at state and private religiously affiliated universities (UIN Syarif Hidayatullah and University of YARSI) were involved in this study. Three scales namely the perceived stress scale, spiritual well-being questionnaire and medical students stressors questionnaire were utilized to measure stress, spirituality and academic life stressors. Using hierarchy moderated regression analysis, the results revealed that spirituality significantly moderated the relationship between academic life stressors and stress (β=.010, sig=0.03<0.05). The result explained that spirituality enervated the adverse effect of stressors on stress. Since, the spirituality was proved as a useful self-buffer among undergraduates in maintaining psychological well-being throughout facing and dealing with academic life stressors. These findings had implications for promoting prevention programs to develop students' coping skills by admitting greater emphasis on spirituality.

Keywords: spirituality, stressors, stress, self-buffer, psychological well-being

1 Introduction

Although regarded as a field of education which was highly attractive and prospective [1], medical education was also commonly known as difficult [2] as the students exposed to competitive milieu and pressured to deal with overload of subjects, assignments and assessments. Several changes in students' daily activities such as meal, sleep and leisure time, caused them even more stressful compared to their counterparts from other faculties [3][4], at the same time they surrounded with family and society who expected them with high achievements [5][6].

Since, various studies have shown the prevalence of stress among the students of medicine, such as study in Saudi Arabia revealed that 63% of severe stress occurred among the students particularly first three years [7], while study in Malaysia discovered that 78.3% of students' stress caused by the academic burdens [8]. Stress in medical students became one of the most imperative issues in the worldly academic discussion. Furthermore, the students perceived and experienced varying degrees of stress due to facing stressors differently. In addition, few studies have classified stressors into different numbers of categories; such Yusuff, Rahim and Yaacob [9] addressed six domains of stressors namely the Medical Students Stressors Questionnaire (MSSQ); academic related stressors (ARS), intrapersonal and

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interpersonal related stressors (IRS), teaching and learning-related stressors (TLRS), social related stressors (SRS), drive and desire related stressors (DRS), and group activities related stressors (GARS). Lastly, study of Nazeer and Sultana [10] listed stressors by reviewing several literatures and by involving students into directly discussion as academic, physical, social, emotional factors and hostel related stressors. The first six categories of stressors/MSSQ was used in this study to identify possible sources of stress in medical students.

Notwithstanding, several stressors as mentioned above approved to be predictors of stress in medical students, whereas academic related stressors were being the predominant factors generate stress in the majority of students [11], actually these stressors could either humiliate or motivate students in their tertiary education process [12][13]. Adhering to the different effect of stressors on individual's life, others psychological resources assumed will take role as self-counter. Spirituality is arguably one of the most powerful self-mechanism in countering the negative effects of stressors on psychological functioning [14][15][16].

In recent decades, many studies were conducted on examining the effect of spirituality in maintaining human's psychological positive functioning [17][18]. In confronting the life negative stressors, spirituality was used as a positive coping stress [19]. Yet, very few studies have examined the counter effect of spirituality for mental health in the context of academic settings.

Considering the notable lack of research which is interested in valuing the positive effect of spirituality particularly in medical college, the present study aimed to verify the moderating effect of spirituality in relationship between medical college stressors and perceived stress by students. Firstly, we hypothesized that the academic life stressors would be positively related to students' perceived stress. Secondly, we hypothesized that spirituality would temper the impact of stressors on students' stress level. To test the second hypothesis, we used hierarchy moderated regression analysis (MRA) which was modeled in the figure 1. The model posited that medical students stressors (X) directly effect the stress (Y), however the relationshipbetween X and Y was moderated by spirituality as interfere variable (Z).

2 Literature Review

2.1 Stress among Medical Students

In our modern-day society, stress is inherent in almost stages of human development. One period which has potential particular vulnerable to stress is adolescence [20]. Being a college students, the adolescent encountered numerous demands which were sometime they could not fulfill. Many experts defined stress as a circumstances involving demands physically and mentally exceed individual's capability to response [21], which might have consequences as pressure leading to anxiety, depressions, and others physical and psychological problems in students' academic performance [22].

Students would perceive stress differently, it depended on whether they appraised the learning demands as challenging or threatening [23][24]. In line with stress theory "*the person environment model*" described by Misra and McKean [25], that stressful event when it is appraised as a challenge, it will render an optimistic of competence and capacity to handle. In reverse, when stressful event is appraised as a threat, it will gain a sense of hopelessness and inaptitude. In learning context, stress could be in two dimensions, when it leads to positive

track and enhance students' performance it's called "favourable stress", while it directs to negative outcomes and psychological dysfunctions it's named "unfavourable stress". [26].

Furthermore, number of researches revealed that perceived stress was vary among different socio demographic, for example it was found that female students were more likely to perceive stress higher than male students [27], in other study men reported more stressful that women [28]. Another academic constraints such as age, ethnicity, and marital status discovered have influences on students' severity of stress [29].

However, the level of stress exposed among the students should be noticed seriously. As several literatures reported that excessive stress among students causes numbers of academic problems such as anxiety [30], concentration difficulties; lack of motivation and desire; attendance poorness, and physical health such as headache and fatigate [31], lower grade point average (GPA) and poor clinical performance [32] and in extreme case it led to suicidal ideation and attempts [33]. The findings highlighted in these earlier studies indicated that untreated stress influences students' academic performance. Thus the higher level of stress resulted lower academic achievement.

2.2 Predominant Medical Students Stressors

Another common theme frequently discussed in medical literature is regarding a unique set of stressors faced by students. Stressors defined as an individual or an environmental event that causes stress. [34]. Stressors might be internal or external. Internal stressors might come from within students' themselves like physical condition, motivation, and type of personalities. While external stressors might come from outside of themselves such as family, college facilities, environment, lecturer, friends, etc. However, most of majority stressors were caused by academic demands compared to students' private problems [35].

Several studies discovered that students encountered several academic related stressors such workload, test difficulty and exam format [36], individual and external high expectation and pressure to perform [37], academic self- perceptions such as students underestimate their own capabilities and overestimates the failure consequence [38] and lower self-esteem [39].

Regarding academic life stressors, several studies also described that factors related to medical college students' stress were vary based on the year or the length of study. In the early years of study the most predominant factors were related to overload of material, perception of self ability, and high outcomes demands. While in next time of study periods, academic life stressors sourced from practical of medical science itself, such as the relationship with patients, contagious risk of illness etc. [40]

Yusuf et al [41] specifically developed several stressors related to medical college. The authors named measurement tools as "the medical student stressors questionnaire (MSSQ) and classified the stressors into six domains: 1) academic related stressors involved all affairs related to university, education, and activities are students join in such as examination formats, grading, overload study contents etc, 2) interpersonal and intrapersonal related stressors involved relations between students' selves and others, such as abasement in verbal, physical or emotions, conflict with friends, teachers or college staffs, 3) teaching and learning related stressors generally related to learning and teaching process that cause stress, such as an appropriateness of task given by lecturers, 4) social related stressors involved all relations in community that causenstress such as less time to meet family or friends, 5) drive and desire related stressors refered to any forces internally or externally influence students' attitude, emotion, thought and behavior such as unwillingness and unmotivated to study medicine, 6) group activities related stressors generally related to room learning activities such as group

discussion and presentations.

Another systematic review has revealed stressors generally grouped into three areas; academic pressures, social issues and education financial problems [42]. Despite of different types of stressors as classified by researchers, factually students were not only exposed by one type of stressors. For example students who experienced stress due to academic life stressors were likely to encounter other stressors at the same time. Thus, the more variety of stressors exposed simultaneously the higher risk of stress occurred.

2.3 Measuring Spirituality

The word "*spirituality*" was defined differently by many scholars [43] and used interchangeably with the word "*religiosity*" [44]. Before 21st century both words were defined same by many experts, but later many discussions rolled out to define those two words differently. Religiosity generally seen as dogma and set of rules described by institution of religion [45], it involved beliefs, practices, or ceremonial acts related to a higher power [46]. While spirituality was defined as a search for the sacred that individually defined not bound by any religions [47]. Pargement [48] asserted that spirituality did not have to be related to religion, but was often found in religious context. In other words, although being religious only was not sufficient, but we usually find individual who was spiritual was subset of those who were deeply religious. Notwithstanding, many people found spirituality through religion, but some people could find spirituality through others medias such as arts, connection with others people even the universe [49].

Furthermore, Fisher and Gomez [50] comprehensively defined spirituality as human's capability to harmonize within four domains in their life viz. 1) personal domain refered to relation with oneself with regard to meaning, purpose, and search for self-identity and self-worth; 2) communal domain, refered to any relations between self and others in form of morality and culture, and expressions of love, forgiveness, trust, hope and faith in humanity; 3) environmental domain refered to any relations between self and environment, related to sense of awe, care and wonder for the nature; 4) transcendental domain refered to any relationship beyond the human level, involves of faith, connectedness to God and worship.

2.4 Spirituality as Stress Self-Defense From Negative Life Events

Recently, psychologists had high interest in spirituality and its implication for human health and well-being. According to Pargament et al. [51], spirituality has been found to be an effective technique in reducing stress used by diverse populations such high- stress employers, cancer patients and college students. Spirituality was considered as one of an individual's good psychological balance used as effective tool to deal with stress [52].

A growing body of research documented that in facing negative life events, spirituality had potential to be psychologically beneficial, for example Fabricatore et al. [53] discovered the moderated effect of spirituality in relationship between life stress and subjective well-being. In addition, Tarakeshwar & Pargament [54] reported a link between spirituality and life stress. Several experts explained how spirituality might in fluence mental health, such as McCulloch [55] stated that spirituality might reduce feelings of negative emotions such as anger, fear and revenge; McColl et al. [56] described that spirituality provided individual to believe of not being alone inaffliction; and Leewen et al. [57], asserted through spirituality individual developed optimism and hope within himself and prepared himself to accept all life risks and to resist all life struggles.

Despite the reported benefits of spirituality on positive mental health, there were inconsistencies results in literature considering the role of spirituality in relation to negative life events and stress. For example Maselko et al. [58] found that individual who had attachment to God was at risk to have 50% higher depression. Elsewhere, Laurent et [59] overall found that spirituality and religiosity did not significantly approved beneficial as stress buffer. Conversely, an individual who had higher spirituality were at risk three times to experience depression compared to the lower one. These inconsistencies provided an opportunity to examine the impact of spirituality in suppressing the influence of stressors on the appearance of stress. Thus, from a conceptual standpoint, it is an interesting prospect to investigate such relations as those between spirituality, stressors, and stress as an outcome.

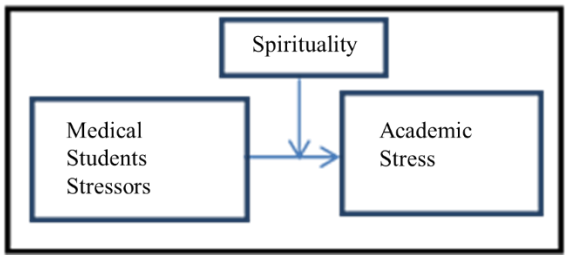

Fig. 1. Academic Stress in Medical Students

3 Methodology

3.1 Participants

The present study was undertaken at two religiously affiliated universities, ie UIN Syarif Hidayatullah and University of Yarsi. A total of 263 students enrolled in medical course were volunteered for the study after a permission was granted by the relevant institutional ethical committee such as Dean and head of students affair department. The study ensured all the data obtained were confidential and secure since the students were anonymous with the exception of their backgrounds, whereas gender (men, n=74 and women n=189) and class year (1st year, n=93; 2nd year, n=89; and 3rd year, n=81). The predominance of women in the present sample likely reflected a high portion of female students taking medical courses.

3.2 Measurements

A questionnaire was used for data collection which consisted of four sections. The first section A was demographic data which covered students' year of study, age and gender. Section B explored the medical students stressors questionnaire (MSSQ), which consisted 40 items and ranked on a 5- point likert scale from 0-4 (*causing no stress at al, causing mild stress, causing moderate stress, causing high stress,causing severe stress*). Of these 40 items, 13 were refered to academic related stressors (ARS); another seven refered to interpersonal and intrapersonal related stressors (IRS); another seven refered to teaching and learning related stressors (TLRS); another six refered to social related stressors (SRS); another three refered to drive and desire related stressors (DRS); and last four refered to group activities related stressors (GARS) [60]. According to Yusoof et al. [60] the predictive validity of the MSSQ was demonstrated in the range from 0.64 to 0.92.

Section C described the perceived stress scale (PSS), which consisted of 10 items with responses varying from 1 to 5 for each item and ranging from strongly disagree, disagree, undecided, agree, and strongly agree. Developed by Cohen et al [61], the PSS was a measure of the degree to any situations in one's life was considered as stressful during the past month. The scale was designed how respondent felt and thought the things were unpredictable, uncontrolled and overloaded in their lives. As the most widely used instruments in world to measure the perception of stress, the SPSS was demonstrated by the high internal consistency of 0.85 (cronbach alpha).

Section C consisted the spiritual well- being questionnaire (SWBQ). The scale constructed 20 items and explored spirituality well-being ranked on five levels of reply from 1 strongly disagree to 5 strongly agree. The SWBQ divided into four dimensions: personal, community, environmental, and transcendental. While, administered to 4462 nurses and carers, college students and staff, school students and teachers and analyzed with confirmatory factor anlyses (CFA), the SWBQ showed good convergent reliability in standarized loading factor , composite reliability, and variance extracted [62].

3.3 Data Analysis

Data were analyzed using the statistical package for social scientists (SPSS) version 20. Descriptive analyses were conducted to determine the frequency distribution of students' perceived stress, sources of stress experienced by the respondents, spiritual wellbeing, and demographic variables. In addition we estimated linear regression model to assess the relationship between academic life stressors and students' perceived stress. Next we ran the hierarchy moderated regression analysis (MRA) to examine the moderating effect of spirituality on relationship between academic life stressors and students' perceived stress.

4 Results

Overall, the participants reported lower levels of stress (M=20.94, SD= 5.49) than in previous researches with similarly sample undergraduate medical students [63][64]. Participants ranked that academic related stressors as the dominant causes of their stress (M=71.66, SD=12.58), which was consistent with previous research [65]. The mean level of spirituality for the current sample was 46.13 (SD= 4.94) on the spiritual well-being questionnaire, which was higher than in previous research [66].

Furthermore, t-test and one way ANOVA were conducted to determine whether the demographic variables of gender and year of study were related to either component of PSS. Neither gender (F(.079),p= .408) nor year of study (F(2.732), p= .067) accounted for a significant portions of the variance. Differently, gender was significantly related to participants' spirituality, whereas female showed (M=44.88) higher level of spirituality compared to men (M=46.62) and (F(.070), p=.010). However, year of study did not show any significant relation to participants' spirituality (F(2.248), p= .108).

4.1 Academic life stressors and perceived stress

We hypothesized that the academic life stressors would be positively related to students' perceived stress. The null hypothesis was rejected as medical students' stressors were significant predictors of perceived stress (b= 0.194, p<0.01) (Table 1). The value of 7.066

indicated that if stressors variable considered as constant, the academic stress among the students will be in value 7.066. X coefficient of 0.194 indicated that when the stressors increased 1000 points, the students stress will increase to 194 points.

Table 1. Pattern correlation between stressors and academic stress

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	7.066	1.763		4.009	.000
stressor	.194	.024	.443	7.993	.000

a. Dependent Variable: stress

4.2 The effect of spirituality on the relationship between academic life stressors and perceived stress

To test the main hypothesis we ran a hierarchy regression with an interaction term for stressors x spirituality. The null hypothesis for this assertion was also rejected as the level of spirituality had significantly modified the relationship between stressors and students' academic stress (b= 0.010, p<0.01) (Table 2).

Table 2. Hierarchy regression with interactive term for outcome of academic stress

Predictive Variables	Criterion variable of academic stress		
	Model 1	Model 2	Model 3
Stage 1 Stressors	0.194/*	0.191/*	-0.285/*
Stage 2 Spirituality		-0.181/*	-0.933/*
Stage 2 Stressors X spirituality			0.010/*
F	63.890	37.364	26.831
Coefficient of determination	0.197	0.233	0.237
Adjusted coefficient of determination	0.194	0.217	0.228
The change of adjusted coefficient of determination		+0.023	+0.011

In more detail, the result of table 2 showed that in model 1, academic stress was considered as criterion variable and stressors were considered as predictive variable, while the correlation coefficient value of stressors and stress academic was 0.194 positive significant. In model 2, spirituality was entered as the predictive variables into the model. Both predictive variables (stressors= 0.191, p<0.05and spirituality= -0.181, p<0.05) were significant related to academic life stressors. The negative value of spirituality coefficient (- 0.181) indicated that

when the spirituality increased 1000 points, the students stress will decrease to 181 points. The adjusted coefficient of determination (+0.023) was increased 2.3% to the previous stage. In model 3, the moderator variable (stressors x spirituality) was added to the predictive variables. In this kind of model, the obtained correlation coefficient was significant (0.010, $p<0.05$). This result indicated that spirituality successfully weakened the effect of stressors on the onset of academic stress. With stressors and spirituality in the equation as predictors, the interaction term (stressors x spirituality) predicted an additional 1.1% of the variance in academic stress (adjusted coefficient of determination=0.228).

5 Discussion

This study examined the roles of spirituality on the relationship between stressors and academic stress experienced by medical college students in two religiously affiliated universities (UIN Syarif Hidayatullah and University of YARSI).Overall, results of present study supported the hypothesis that spirituality significantly moderated the association between stressors and academic stress. The tested model suggested that a greater orientation to spirituality will weaken the impact of stressors on stress academic among the medical college students. These findings showed direct consistent association with the study of Young et al. [67] that spirituality seemed to provide a buffer from stressors effect which were perceived negatively. In another psychological study, this spirituality's fungtion was called "*stress counter balancing effect*", spirituality ameliorated the negative effect of stressors and functioned as a distress deterrent [68].However, another study of Kidwai et al. [69] failed to show an inverse relationship between spirituality and stress, but this study showed that people who had high spirituality were more likely to be unstressed following negative events compared to group who were low on spirituality.

An interesting aspect of our findings was the connection of God dominated students' answers in four dimensions of spirituality (personal; communal; environmental; and transcendental). This finding confirmed that spirituality was closely related to religion and could not even be separated. Our findings supported the previous of 22 studies conducted by Fisher [70] that connected To God becomes significant factor in spirituality manifest variable. Bonab et al. [71] asserted that a Moslem should getting attachment to God, whereas to Him he could seek the peacefulness from all events supressed him in life. Similarly, the study of Lindholm [72] found that students who were highly connected to God tended easier to do coping stress while encountering the distress.

Since this study was undertaken in religiously affiliated universities, the current study discovered that worshiping God as a manifestation of obedience dominated students' answer regarding connection to God. This result affirmed the study of McCullough [73] which revealed that someone who obey in performing his religion teaching such as worship God, will have positive points of view when dealing with unpleasant events happened in life. One explanation for this may be that along worshiping God, individual built the perception that God is all powerful in controlling the events of life. This kind of perception might be experienced as empowering in times of trouble. The study of Schieman et al. [74] emphasized this assumption as its study found that the perception of divine control was associated with personal empowerment.

6 Conclusion

There is a general agreement on the positive effect of spirituality on individual's mental. The result of this study supported this relationship among the college students as they were in adolescence age. Rehman et al. [75] proved that spirituality which defined as self- seeking for meaning and purpose in life was one of the keys to success in self management carried out by the majority students in responding to the various academic life stressors during their studies in medical settings. Moreover, Wills [76] mentioned that spirituality did not only effect the learning process for college students, but it also contributed positive results for mind and body. Thus, merging spirituality into learning process in higher education is needed to enable students to experience spiritual sensations such as being connected to God or seeking comfort from God or viewing stressors as self-motivation to achieve better academic performance.

The findings of current study should take account the limitations of cross-sectional data which may not be generalized to other series of time. In addition, limited respondents which were included only Moslems so the findings may prevent accurate causal ordering at other religious groups or to medical students from non-religiously affiliated universities. However, since the hypothesis was accepted, so this study added to the body of previous researches that asserted the beneficial effect of spirituality on positive outcomes. Finally, this study recommended that educational institutions should pay attention to the students' psycho Logical resilience by integrating spirituality into counseling service.

References

[1] Gan, Y., Hu, Y. & Zhang, Yiwen. Proactive and Preventive Coping in Adjustmen to College. *The Psychology Record*, 60: 643-658. (2010).

[2] Yusoff, M.S.B, Yee, L.Y., Wei, L.H., Siong,T.C., Meng, L.H., Bin, L.X., & Rahim, A.F.A. A study on stress, stressors, and coping strategies among Malaysian Medical Students. *International Journal of Students Research.* 1(2): 45-50. (2011).

[3] Jeong, Y., Kim, J.Y., Ryu, J.S., Lee, K.E., Ha,E.H., & Park, H. The Associations between social support, health-related behaviors, socioeconomic status and depression in medical students. *Epidemiol Health*. 32: 1-8. (2010).

[4] Salam, A., Yousuf, R., Bakar, S.M.A., & Haque, M. Stress among Medical Students in Malaysia: a sytematic review of literatures. *International Medical Journal*, 20(6): 649-655. (2013).

[5] Modi, K., & Kumar, D. Anxiety and depression in medical students and its association with coping methods adopted by them. *IJRRM*, 3(2): 20-2. (2013).

[6] Khan, M, Fatima, A. Shanawaz, M. Fathima, M, & Mantri, A. Comparative study of stress related factors in medical and engineering college of a South India City. *J. Evolution Med. Dent. Scie,* 5(48): 3053-3056. (2016).

[7] Abdulghani, H.M., Alkanhal, A.A., Mahmoud, E.S., Ponnamperuma, G.G. & Alfaris, E.A. Stress and its effects on medical students: A cross sectional study at a College of Medicine in Saudi Arabia. *J Health Popul Nutr*,5: 516-522. (2011).

[8] Rahman, N.I.A., Ismail, S., Seman, T.N.A.,Rosli, N.F.A., Mat Jusoh, S.A., Dali, W.P.E. W., Islam, Z., & Haque, M. 2013. Stress among preclinical medical students of University Sultan Zainal Abidin, *Journal of Applied Pharmaeutical Science*, 3 (11): 076-081. (2013).

[9] Yusoff, M.S.B., Rahim, A.F.A., & Yacoob, M.J. The development and validity of the medical students stressors questionnaire (MSSQ). *ASEAN J Psychiatry.* 11(1). (2010).

[10] Nazeer, M., & Sultana, R. Stress and its coping strategies in medical students. *Scholars Journal of Applied Medical Science*, 2, (6D): 3111-3117. (2014).

[11] Bedewy, D & Gabriel, A. Examining perceptions of academic stress and its sources among university students: The perception of academic stress scale". *Health Psychology Open*: 1-9. (2015).
[12] Von, S., Hell, B., & Premuzic, T.C. The hungry mind: intellectual curiosity is the third pillar of academic performance. *Perspective on Psychological Science,* 6(4): 239-245. (2011).
[13] Farhan, S & Khan, I. Impact of stress, self- esteem and gender factor on students' academic achievemen. *International Journal of New Trends in Education and Their Implications*, 6(2): 154-167. (2015).
[14] Koenig, H.G., King, D.E, Carson, V.B. Coping with Stress. In *Handbook of Religion and Health*. 2nd ed. Oxford University Press. New York. (2012).
[15] Bjorck, J.P., Thurman, J.W. Negative life events, patterns of positive and negative religious coping, and psychological functioning. *J Sci Study Relig*, 46(2):159–167. (2007)
[16] Kidwai, R. Mancha, B.E. Brown, Q.L. & Eaton, WW. The effect of spirituality and religious attendence on the relationship between psychological distress and negative life events, *Soc Psychiatry Psychiatr Epidemiol*, 49: 487-497. (2014).
[17] Young, J.S., Cashwell, C.S. & Shcherbakova, J. The moderating relationship of spiritulity on negative life events and psychological adjustment. *Counselling and values*, 45: 49-57. (2000).
[18] Boswell, G.H., Kahana, E., & Dilworth- Anderson, P. Spirituality and healthy lifestyle behaviors: Stress-counter-balancing effects on the well- being of older adults. *Journal of Religion and Health, 45*(4):587-602. (2006)
[19] Kidwai, R. Mancha, B.E. Brown, Q.L. & Eaton, WW. The effect of spirituality and religious attendence on the relationship between psychological distress and negative life events, *Soc Psychiatry Psychiatr Epidemiol*, 49: 487-497. (2014).
[20] Suldo, S.H, Saunessy, E. & Hardesty, R. Relationships among stress, coping, and mental health in high-achieving high school students. *Psychology in the Schools, 45* (4). 273-290. (2008).
[21] (Bamuhair, Al-Farhan, Althubaiti, Agha, Rahman, & Ibrahim, 2015)
[22] Eswi, A.S., Radi, S., & Youssri, H. Stress/stressors as perceived by baccalaureate Saudi nursing students. *Midlle-East Journal of Scientific Research,* 2(14): 193-202. (2013).
[23] Yasin, M.D., & Dzulkifli, M.A. Differences in Depression, Anxiety, and Stress between low-and high-achieving students. *Journal of Sustainability Science and* Management, 6(1): 169-178. (2011).
[24] Ahmed, U., Riaz, A., Ramzan, M. Assessmenet of stress & stressors: a study on management students. *Interdisciplinary Journal of Contemporary Research in Business*. 4(9): 687-699. (2013).
[25] Misra, R. & McKean, M. College student's academic stress and its relations to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), 41-52. (2000).
[26] Helalah, M.A., Alshreidah, H., Al-Smadi, M., Hudaib, M., Abdallah, F., Ammarin, Z., & Hijazeen, J. Sorces and predictors of stress among medical students in Jordan. *Bull. Env. Pharmacol. Life Sci, 4*, (6):113-121. (2015).
[27] Morse, Z. & Dravo, U. Stress level of dental students at the Fiji School of Medicine. *European Journal of Dental Education*,11: 99-103. (2007).
[28] Saxena, Y., Shrivastava, A., & Singhi, P. Mental health and performance of medical students with high and low test anxiety. *Psychotherapie Psychosomatik Medizinische Psychologie*, 57: 287-297. (2014).
[29] (Hammer, Grigsby, and Woods, 1998)
[30] Shapiro, S.L., Shapiro, D.E., & Schwartz G.E. Stress management in medical education: a reviwe of the literature. *Academic Medicine*,75(7): 748-59. (2000).
[31] Yasin, M.D., & Dzulkifli, M.A. Differences in Depression, Anxiety, and Stress between low-and high-achieving students. *Journal of Sustainability Science and* Management, 6(1): 169-178. (2011).

[32] Wintre, M.G. & Yaffe, M. First-year students' adjustment to university life as a function of *Medical Journal*, 18(4): 305-309. (2000).
[33] Rizwan, M. Self esteem deficits among psychiatric patients. *SAGE open*, 5(2): 1-6. (2015).
[34] Myers, D.G. *Stress and Health in Exploring Psychology*. 6th ed. Worh Piblishers. New York. (2005).
[35] Gutheries, E.A., Black, D., Shaw, C.M., Hamiliton, J., Creed, F.H., & Tomenson, B. Embarking upon a medical career: psychological morbidity in first year medical students. *Medical Education Journal*: 29(5): 337-341. (1995).
[36] Harikirin, A., Srinagesh, J., Nagesh, K., & Sajudeen, N. Perceived sources of stress amongst final year dental under graduate students in a dental teaching institution at Banglore, India: a cross sectional study. *Indian Journal of Dental Research*, 23(3): 331- 336. (2012).
[37] Tangade, P.S, Marthur, A., Gupta, R. & Shikha, C. Assessment of stress level among dental school students: an Indian outlook. *Dental Research Journal*, 8(2): 95-101. (2006).
[38] Hancock, D. Effect oftest anxiety and evaluating threat on students' achievement and motivation. *The Journal of Educational Research*, 94: 284-290. (2001).
[39] Xu J, Xie, Y.N., Zhaoi J.B. & Xu, J. Effects of self-concept on test anxiety level among sophomores in a medical college. *Di Yi Jun Yi Da Xue Xue Bao,* 25(6): 759-760. (2005).
[40] Stewart, S.M., Betson, C., Lam, T.H.,Marshall, I.B., Lee, P.W., & Wong, C.M. Predicting stress in first year medical students; a longitudinal study. *Medical Education*, 31(3): 163-168. (1997).
[41] Yusoff, M.S.B., Rahim, A.F.A., & Yacoob, M.J. The development and validity of the medical students stressors questionnaire (MSSQ). *ASEAN J Psychiatry.* 11(1). (2010).
[42] Shendarkar, A.T., & Patil, V. A study of stressors in medical college students (hostilities) in Northern Maharashtra. Journal India Acad Forensic Med, 35 (5): 227-229. (2013).
[43] Kellehear, A. Spirituality and palliative care: a model of needs. *Palliative Medicine*, 14: 149-155. (2000).
[44] Hill, P.C., Pargament, K.I. Hood, R.W., McCullough, M.E., Swyers, J.P. Larson, D.B., & Zinnbauer, B.J. Conceptualizing religion and spirituality: points of commonality, points of departure. *Journal for the Theory of Social behavior*, 30(1): 51- 77. (2000).
[45] Frazier, R.E., & Hansen, N.D. Religious/spiritual psychotherapy behaviors: Do we do what we believe to be important?. *Professional Psychology: Research and Practice*, 40(1): 81-87. (2009).
[46] Koenig, HG., King, D.E., & Carson, V.B. *Definitions in Handbook of Religion and Health*. 2nd ed. Oxford University Press. New York. (2012).
[47] Koenig, H.G. *Definitions, in Spirituality and Health Research: Methods, Measurement, Statistics,, and Resources*. Templeton Press. West Conshohoken. (2011).
[48] Pargament, K. Advances in the conceptualization and measurement of religion and spirituality: Implication for physical and mental health research. *Am Psychol.* 58: 64-74. (2003).
[49] Mckinley, E. *Spiritual Growth and Care in the Fourth Age of Life.* Jessica Kingsley Publisher. London. (2006).
[50] Gomez, R. & Fisher, J.W. Domains of spiritual well-being and development and validation of the Spiritual Well-Being Questionnaire. *Personality and Individual Difference*.35(8): 1975-1991. (2003).
[51] Pargament, K.I., Loenig, H.G. & Perez, L. Pattern of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion*. 37(4): 710-724. (1998).
[52] Pariat, M.L., Rynjah, A., Kharjana, J.M.G. Stress levels of college students: Interrelationship between stressors and coping strategies. *IOSR Jurnal of Humanities and Social Science*. 19(8): 40-46. (2014).
[53] Fabricatore, A.N., Handal, P.J., & Fenzel, L.M. Personal spirituality as a moderator between stressors and subjective well-being. *Journal of Psychology and Theology*.28(3): 221-229. (2000).
[54] Tarakeshwar, N., & Pargament, K. Attributional style and self-esteem in vulnerability to adolescent depressive symptoms following life stress: A 14-week prospective study.

Cognitive Therapy and Research.26: 563-579. (2001).
[55] McCulloch, A. Keeping the faith- Spirituality and Recovery from Mental Health Problems. Mental Health Foundation- www.mentalhelath.org.uk. (2007).
[56] McColl M.A., Bickenbach, J., Johnston, J., Nishihama, S., Schumaker, M., Smith, K., Smith, M., Yealland, B. Spiritual issues associated with traumatic-onset disability. *Disabil Rehabil,* 22(12): 555-64. (2000).
[57] Van Leewen, R. Tiesinga, L.J., Jochmensen, H. & Post, D. Aspects of spirituality concerning illness. *Scandinavian Journal of Caring Science,* 21(4): 482-489. (2008).adole
[58] Maselko, J., Gilman, S.E., & Buka S. Religious service attendance and spiritual well-beingare differentially associated with risk of major depression. *Psychol Med.* 39(6): 1009-1017. (2009).
[59] Laurent, B. Nazareth, I., Bellon-Saameno, J., Geerlings, M.I., Maaroos, H., Saldivia, S., Syab, I, Torres-Gonzalez, F., Xavier, M., & King, M. \Spiritual and religius beliefs as risk factors for the onset of major depression: an International Cohort study. *Psychological Medicine*. 43(10): 2109-2120. (2013).
[60] Yusoff, M.S.B., Rahim, A.F.A., & Mohd Jamil Yaacob, M.J. Prevalence and Sources of Stress among Universiti Sains Malaysia Medical Students. *Malaysia J Med Sci*. 33: 145-8. (2010).
[61] Cohen, S.T., Kamarck, T., & Mermelstein, R. A global measure perceived stress. *J Health Soc Behav.* 24: 385-96. (1983).
[62] Gomez, R. & Fisher, J.W. Domains of spiritual well-being and development and validation of the Spiritual Well-Being Questionnaire. *Personality and Individual Difference*.35(8): 1975-1991. (2003).
[63] Siddiqui, A.F., Al-Amri, S.A., Al-katheri, A.A., & Al-Hassani, K.H.H. Perceived Stress in Saudi Undergraduate Medical Students. *J Med Allied Sci.* 7(1): 41-47. (2017).
[64] Shah, M. Hasan, S., Malik, S. Sreeramareddy, C.H. Perceived Stress, sources, and severity of stress among medical undergraduates in a Pakistani Medical School. *BMC Medical Education*. 10(2). (2010).
[65] Yusoff, M.S.B., Rahim, A.F.A & Yaacob, M.J. The Prevalence of Final Year Medical students with Depressive Symptoms and Its Contributing Factors. *International Medical Journal.* 18(4): 305 - 309. (2011).
[66] Mathad, M.D., Rajesh, S.K., & Pradhan, B. Spiritual well-being and its relationship with mindfullnes, self –compassion, and satisfaction with life in Baccalaureate nursing students: A correlation study. *J Relig Health*. 58(2): 554-565. (2019).
[67] Young, J.S., Cashwell, C.S. & Shcherbakova, J. The moderating relationship of spirituality on negative life events and psychological adjustment. *Counselling and values*, 45: 49-57. (2000).
[68] Boswel, G.H. Kahana, E. & Peggye, D.A. Spirituality and healthy lifestyle behaviors: Stress counter-balancing effects on the well-being of older adults. *Journal of Religion and Health*l. 45(4): 587-602. (2006)
[69] Kidwai, R. Mancha, B.E. Brown, Q.L. & Eaton, WW. The effect of spirituality and religious attendence on the relationship between psychological distress and negative life events, *Soc Psychiatry Psychiatr Epidemiol*, 49: 487-497. (2014).
[70] Fisher, J. The importance of relating with God for spirituality well-being. *Journal of Beliefs & Values*. 31(3): 323-332. (2010).
[71] Bonab, B.G., Miner, M., & Proctor, M.T. Attachment to God in islamic spirituality. *Journal of Muslim Mental Health*. 7(2): 77-104. (2013)
[72] Lindholm, J.A. Spirituality in the academy: Reintergrating our lives and the lives of our students. *About Campus*. 12(4): 10-17. (2007).
[73] McCullough, M.E. Prayer and health: conceptual issues, research review, and research agenda. *Journal of Psychology and Theology*. 23: 15-29. (1995).
[74] Schieman, S., Purdrovska, T. & Milkie, M. The sense of divine control and the self-concept: A study of race differences in late life. *Research in Aging*. 27(2): 165-196. (2005).

[75] Rehman, R, Syed, S., Hussain, M., & Shaikh, S.. Health and spirituality-walk along in wellness journey of medical students. *J Pak Med Assoc.* 63(4): 495-500. (2013).
[76] Wills, M. Connection, action and hope: an invitation to reclaim the spiritual in health care. *Journal Religion Health*. 46:423-436. (2007).