

## A Mixed Methods Study of Mental Health, Emotional Intelligence and Religiosity in Muslim Students

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**Abstract.** Current study employed an explanatory sequential mixed methods design explored the relationships between mental health, emotional intelligence (EI) and religiosity of Muslim students. Random sampling method was used to recruit students for the quantitative part of the study. 382 students (273 females and 109 males) from higher education institutions participated in the study. No significant difference was reported in the EI and religiosity between the genders and between students from Muslim majority and minority countries. Lower levels of EI and religiosity was reported in the students from non-Islamic institutions when compared to the students from the Islamic institutions as well as in students from the younger age-group in comparison to the students from the older age group. Additionally, this study reported no significant difference in the mental health in the students between the different categories. Majority of the groups showed a negative but significant correlation between mental health (psychological distress) and religiosity. A negative but significant correlation between EI and mental health (psychological distress) was found across all the groups. A positive and significant correlation was shown between EI and religiosity across all categories. To understand these results, a qualitative study was carried out to capture the voice of the experts from the fields of mental health, EI and religiosity. 16 experts participated in the study. Findings of this study showed that various Islamic religious aspects and practices act as protective factors for maintaining good mental health. The presence of a healthy and supportive upbringing was also important for having stable mental health. The experts also reported that many EI competencies are deeply embedded in the teachings of Islam which aids in having high levels of EI which in turn is crucial for sustaining healthy mental states.

*Keywords:* emotional intelligence; higher education, mental health, religiosity.

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The World Health Organization (WHO) defines mental health as ‘a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community’ (World Health Organization, 2010). Recent times have seen an increase in mental health problems in higher education students (Auerbach et al., 2016; Xiao et al., 2017). A 2020 Insight Network survey done on students from 10 universities shows that 1 in 5 students have a current mental health diagnosis and almost half of them have experienced a serious psychological issue for which they thought they required professional help. This was indicated to be an increase from 1 in 3 in comparison to the same survey conducted in 2018 (Pereira et al., 2019). University students report higher levels of depression in comparison to the general population (Lim et al., 2018).

The transition to higher education is encountered with several issues such as academic stress, sleep related issues, health problems, addictions, eating disorders and time management issues (Mohammad et al., 2018). The university years for students are intellectually and emotionally more demanding than any other stage of education. Students face increased pressures and challenges that cause various social, emotional, and physical difficulties (Rodgers & Tennison, 2009). During this

period of transition, there is a struggle to deal with the intellectual and social challenges of the university which is in turn vital for the professional development of the students (Kulsoom & Afsar, 2015; Ahsan ul Haq et al., 2018; Mamun et al., 2019). Mental illness is also shown to be associated with decreased academic performance and completion of the degree program (Thompson et al., 2013; Grøtan et al., 2019; Agnafors et al., 2020). Moreover, due to the COVID-19 pandemic which has led to online learning modes, social isolation, and the closure of colleges and universities which in turn has led to major interruptions in student lives and an increase in the mental health concerns (Kecojevic et. al., 2020; Sun et. al., 2021).

Emotional intelligence (EI) is shown to have protective factors for mental health problems (Nyarko et al., 2020; Persich et al., 2021). EI is also related to better adjustment and success in academic settings (Cazan & Năstasă, 2015). Since EI promotes well-being in students, and aids in understanding of the surroundings, additionally providing them with the necessary skills to deal with daily situations, it has become very important in the field of education (Puertas Molero et al., 2019). EI is an established educational process which must be continuous and permanent, facilitating the basic development of students (Petrides, 2016). EI comprises ‘the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions’ (Mayer et. al., 2004). Religion had disappeared from psychological studies for almost a century (Jones, 1994). But recent times have seen an increasing interest in the field of the psychology of religion (Aghababaei et. al., 2016; Emmons & Paloutzian, 2003). Religiosity is defined as ‘a particular institutionalized or personal system of beliefs, values, and practices relating to the divine - a level of reality or power that is regarded as the source or ultimate transcending yet immanent in the realm of human experience’ (Worden, 2005).

Akbari and Hossaini (2018) investigated the mediating role of emotional regulation in the relation between spiritual health with quality of life, burnout, and psychological health. Results showed that emotional regulation partially mediated the relationship between spiritual health and quality of life, and that emotional regulation had a full mediation between spiritual health and mental health. The study highlights the importance of spiritual health as a predictor of mental health, quality of life and burnout along with the mediating role of emotional intelligence. The prediction of mental health and EI based on the Islamic lifestyle of the students was studied by Abpeyma and Keshavarz (2017) in Kharameh. The results indicated that the components of an Islamic lifestyle predict the EI of students and reflects some parts of their mental health.

Chamani (2016) carried out studies in high school students in Neka city to understand the relationship between EI, religious attitude, and mental health. The results indicated that there is a direct relation between EI and mental health of students and between religious attitude and the mental health of the students. Another important study conducted by Dash and Patnaik (2015) examined the relation between EI, mental health, and spiritual intelligence (SI) from the perspective of gender. The study indicated that SI is significant for both mental health and EI. But the effect of gender was significant only for EI and not in the case of mental health. Results also showed that men and women do not differ from each other in terms of mental health. But there was a significant gender difference favouring men, with respect to EI. The study also concluded that those with high SI had significantly better mental health. A direct significant relation between EI and religious coping was indicated in a study done by Nesami et. al. (2015) through descriptive study on EI along with religious coping and mental health.

Butt (2014) explored the relation between EI, mental health and religious orientation of 209 university students. Results of the study showed that EI has a positive relation with psychological well-being. EI was also shown to be a strong predictor of psychological well-being and had a negative relation with psychological distress. The study showed that EI and religious orientation both positively impact mental health of the university students of Pakistan and that religiosity can play a beneficial role in developing EI. A study of the relationship between EI, positive religious coping and psychological distress carried out by Jahanara (2014) demonstrated that EI was negatively associated with psychological distress. The study also indicated that perceived stress was related positively to psychological distress and related negatively with positive religious coping. Adeyemo & Adeleye (2008) examined EI, self-efficacy and religiosity as predictors of psychological well-being. The study showed that EI, self-efficacy and religiosity have a significant relationship with the psychological well-being of the students. Religiosity showed a significant relationship with EI but not with self-efficacy. Self-efficacy showed a significant relationship with EI but not with religiosity. EI had a significant relationship with self-efficacy and religiosity.

Research with these variables in the Muslim population are very limited, the aim of this study was to carry out a mixed methods (Tashakkori and Teddlie, 2010) study unlike previous studies done in Muslim student population. Mixed method is a process of collecting, analyzing, and mixing or integrating both quantitative and qualitative data in the research process of the study (Creswell & Clark, 2018). The aim of the first part of the study examined the relationship between mental health, emotional intelligence, and religiosity in Muslim university students quantitatively. The other categorical variables that were considered in the study were gender, type of institute attended, country of residence and age. The second part of the study aimed at conducting a qualitative analysis which involved interviews with experts from the fields of mental health, emotional intelligence and religiosity based on the results obtained from the first part of the study. To the best of our knowledge, there is no published work with Muslim students considering these variables. The other limitation in the previous studies was also the lack of an appropriate measurement scale for religiosity in Muslim populations. Pargament's (1997) theory of religious coping elaborates the process and prevalence of religious involvement in the process of coping. Since this theory, there has been a rise in the number of studies that have been done to explore the complex role of religion in coping (Pargament & Raiya, 2007). This provided the theoretical background for the study.

## **Method**

Explanatory sequential design was used in this study. The idea of mixing both types of methods is that neither quantitative nor qualitative methods are sufficient by themselves to give a detailed idea of the trends. For the quantitative part of the study, the data were collected using standardized questionnaires which were self-administered. The participants were higher education students who were asked to fill in an online questionnaire. Certain demographic details were also included in the questionnaire such as gender, type of institute: Islamic or non-Islamic, country of residence: Muslim majority or Muslim minority and age. Age was initially considered as a demographic variable and then later considered as a categorical variable after the age range was gathered from the data. Mental health was measured using the General Health Questionnaire (GHQ-28), developed by Goldberg and Hillier in 1979. It is a widely used test for assessing mental well-being. The Emotional Intelligence Scale (EIS)

developed by Schutte et al. in 1998 was used to assess emotional intelligence. The scale indicated a high internal consistency (Schutte et. al., 1998). Religiosity was tested using the IIUM Religiosity Scale (IIUMReIS). This scale was designed by Mahudin et al. (2016) and is based on the Hadith of Jibreel (AS). For the qualitative part of the study, semi-structured interviews were conducted with five mental health experts, five emotional intelligence experts and six religiosity experts. The questions were based on the results obtained in the first part of the study.

For the quantitative analysis, the online data submitted was recorded in a Google excel sheet which was analyzed using the statistical package for social sciences (SPSS) version 28.0.1.1. Descriptive and inferential statistics were carried out to analyze and interpret the data. Descriptive statistics included frequency distributions, percentages and pie charts. The total scores for the three dependent variables were categorized into high, moderate and low. The responses of EIS were based on a 5-point Likert scale whereas the IIUM Religiosity Scale and General Health Questionnaire were based on a 4-point Likert scale. For inferential statistics, normality of the data was checked using the Kolmogorov-Smirnov test, Shapiro-Wilk Test, and the Normal Q-Q plot. The tests indicated that the data was not normally distributed hence further analysis was done using non-parametric tests. Mann-Whitney-U test was conducted to see if there was any significant difference in the independent groups: males/females, Islamic/non-Islamic institutes, Muslim majority/Muslim minority countries and younger/older age groups. The age variable was sorted into two categories based on the age range obtained while collecting the data. The younger age group was between 14-43 years, and the older age group was between 44-73 years. The reason for categorizing 14-43 as the younger-age group is based on the definition of youth discussed in '*Fath al-Bari*' by ibn Hajar al-Asqalani (1379) in volumes 5 and 9, where the Maaliki scholar Ibn Shaas mentioned in his book '*Al-Jawaahir*' that youth ends at the age of forty. Spearman's rank order correlation was used to determine the correlation between the three dependent variables: mental health, emotional intelligence and religiosity. For the qualitative part of the study, the interviews were transcribed and then coded using MAXQDA which is a computer-assisted qualitative data analysis software. These codes were then developed into themes by aggregating similar codes together. This process was repeated several times until the data was consolidated into well-defined themes.

## Findings

A total of 382 participants responded to the online survey. To obtain the levels of emotional intelligence, mental health and religiosity in higher education Muslim students, the total score obtained were classified into three categories: high, moderate, and low using descriptive statistics. For emotional intelligence, the range for high was 121-165, for moderate it was 77-120 and for low it was 33-76.

Table 1.1. Percentage of Students Having High, Moderate and Low Levels of Emotional Intelligence

Variable	Levels	Frequency	Percentage
Emotional Intelligence	High (121-165)	264	69.1
	Moderate (77-120)	116	30.4
	Low (33-76)	2	0.5
Total		382	100

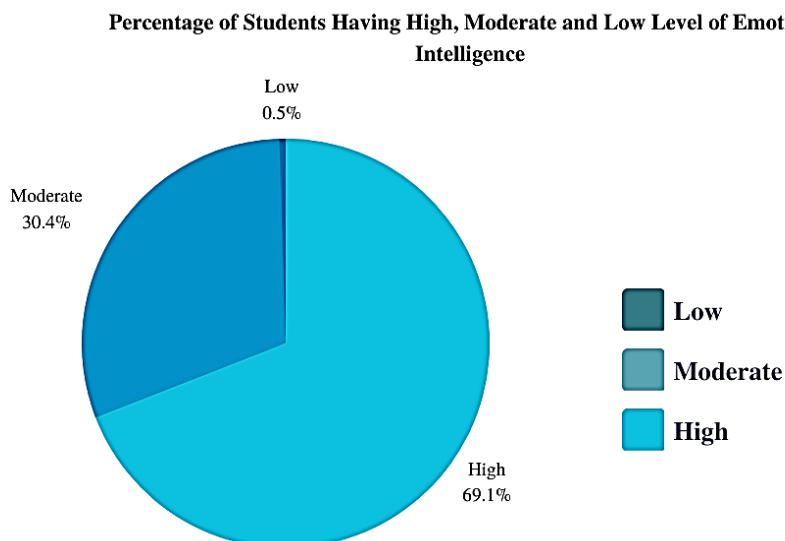


Figure 1.1. Percentage of Students having High, Moderate and Low Level of Emotional Intelligence

From Table 1.1 and Figure 1.1, it shows that 69.1% of the students had high levels of emotional intelligence, 30.4% had medium and 0.5% had low levels of emotional intelligence. For mental health, the range for high was 57-84, for moderate it was 29-56 and for low it was 0-28.

Table 1.2. Percentage of Students having High, Moderate and Low Levels of Mental Health

Variable	Levels	Frequency	Percentage
Mental Health	High (57-84)	14	3.7
	Moderate (29-56)	140	36.6
	Low (0-28)	228	59.7
Total		382	100

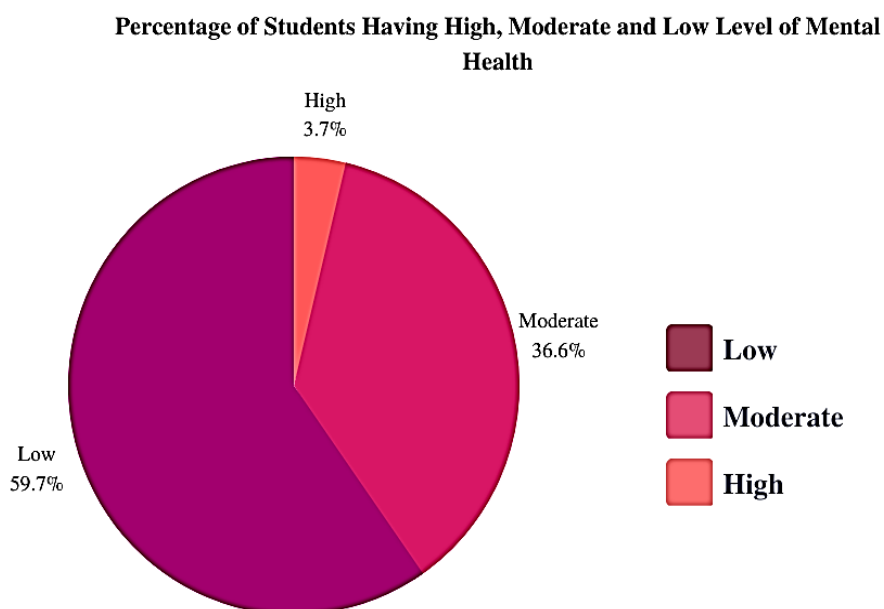


Figure 1.2. Percentage of Students Having High, Moderate and Low Levels of Mental Health

From Table 1.2 and Figure 1.2, it shows that 3.7% of the students had high levels of mental health issues, 36.6% had medium and 59.7% had low levels of mental health issues. For religiosity, the range for high was 31-40, for moderate it was 21-30 and for low it was 10-20.

**Percentage of Students Having High, Moderate and Low Level of Religiosity**

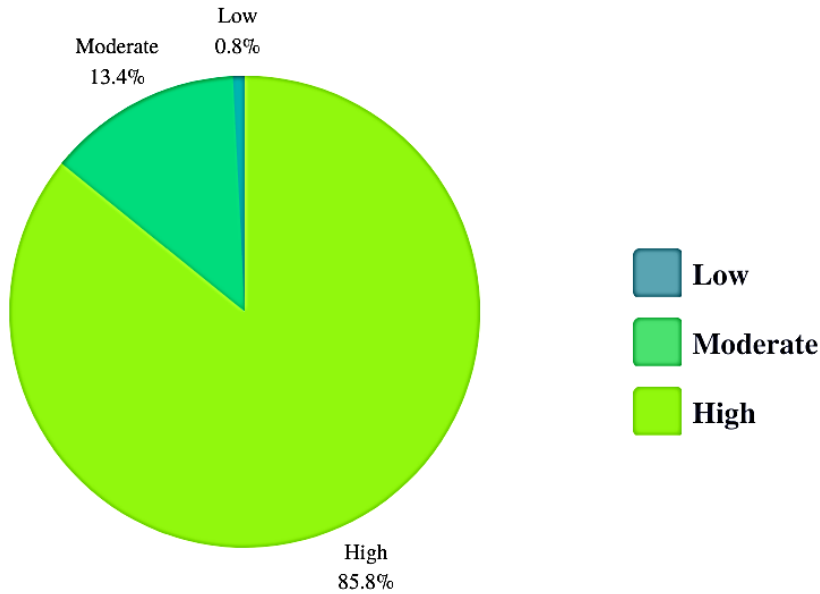


Figure 1.3. Percentage of Students Having High, Moderate and Low Levels of Religiosity

**Table 1.3 Percentage of students having high, moderate and low levels of religiosity**

Variable	Levels	Frequency	Percentage
Religiosity	High (31-40)	328	85.9
	Moderate (21-30)	51	13.4
	Low (10-20)	3	0.8
Total		382	100

From Table 1.3 and Figure 1.3, it shows that 85.9% of the students had high levels of religiosity, 13.4% had medium and 0.8% had low levels of religiosity.

Mann-Whitney U tests for emotional intelligence, mental health and religiosity between various groups: males (n=109)/females (n=273), students of Islamic institutions (n=236)/ students of non-Islamic institutions (n=146), students from Muslim majority (n=176)/ students from Muslim minority (n=206) countries and students in younger age-group (n=343)/students in older age-group (n=39) were conducted.

Table 1.4a. Mann-Whitney U test for comparing Emotional Intelligence between Males and Females

<b>Test Statistics<sup>a</sup></b>	
Total Score of Emotional Intelligence	
Mann-Whitney U	13556.500
Wilcoxon W	50957.500
Z	-1.357
Asymp. Sig. (2-tailed)	.175
a. Grouping Variable: Male and Female	

Table 1.4b. Mann-Whitney U test for comparing Emotional Intelligence between students of Islamic institutions and non-Islamic institutions

<b>Test Statistics<sup>a</sup></b>	
Total Score of Emotional Intelligence	
Mann-Whitney U	14690.500
Wilcoxon W	25421.500
Z	-2.421
Asymp. Sig. (2-tailed)	.015
a. Grouping Variable: Islamic Institute and Non-Islamic Institute	

Table 1.4c. Mann-Whitney U test for comparing Emotional Intelligence between students of Muslim majority and Muslim minority countries

<b>Test Statistics<sup>a</sup></b>	
Total Score of Emotional Intelligence	
Mann-Whitney U	17281.000
Wilcoxon W	32857.000
Z	-.788
Asymp. Sig. (2-tailed)	.431
a. Grouping Variable: Muslim majority and Muslim minority	

Table 1.4d. Mann-Whitney U test for comparing Emotional Intelligence between students of younger age-group and older age-group

<b>Test Statistics<sup>a</sup></b>	
Total Score of Emotional Intelligence	
Mann-Whitney U	5059.000
Wilcoxon W	64055.000
Z	-2.495
Asymp. Sig. (2-tailed)	.013
a. Grouping Variable: Age_Groups	

From Table 1.4a, there was no statistically significant difference between males and females on the rating scores for EI,  $U = 13556.50$ ,  $p = .18$ . From Table 1.4b Mann-Whitney U test showed that emotional intelligence was lower in the students from non-Islamic Institutes ( $Mdn = 125$ ,  $n = 146$ ) compared to the students from the Islamic Institutes ( $Mdn = 128$ ,  $n = 236$ ),  $U = 14690.50$ ,  $z = -2.421$ ,  $p = .015$ , with a weak effect size  $r = .12$ . From Table 1.4c, there was no statistically significant difference between students from Muslim majority and Muslim minority countries on the rating scores for EI,  $U = 17281.00$ ,  $p = .43$ . From Table 1.4d, Mann-Whitney U test indicated that EI was lower in the students from the younger age-group ( $Mdn = 127$ ,  $n = 343$ ) compared to the students from the older age group ( $Mdn = 134$ ,  $n = 39$ ),  $U = 5059$ ,  $z = -2.495$ ,  $p = .013$ , with a weak effect size  $r = .13$ .

Table 1.5a. Mann-Whitney U test for comparing Mental Health between males and female students

Test Statistics <sup>a</sup>	
Total Score of Mental Health	
Mann-Whitney U	14522.000
Wilcoxon W	20517.000
Z	-.366
Asymp. Sig. (2-tailed)	.714

a. Grouping Variable: Male and Female

Table 1.5b. Mann-Whitney U test for comparing Mental Health between students of Islamic institutions and non-Islamic institutions

Test Statistics <sup>a</sup>	
Total Score of Mental Health	
Mann-Whitney U	16178.500
Wilcoxon W	44144.500
Z	-1.001
Asymp. Sig. (2-tailed)	.317

a. Grouping Variable: Islamic Institute and Non-Islamic Institute

Table 1.5c. Mann-Whitney U test for comparing Mental Health between students of the Muslim majority and Muslim minority countries

Test Statistics <sup>a</sup>	
Total Score of Mental Health	
Mann-Whitney U	16197.500
Wilcoxon W	31773.500
Z	-1.795
Asymp. Sig. (2-tailed)	.073

a. Grouping Variable: Muslim majority and Muslim minority

Table 1.5d. Mann-Whitney U test for comparing Mental Health between students of the younger age-group and older age-group

Test Statistics <sup>a</sup>	
Total Score of Mental Health	
Mann-Whitney U	5481.500
Wilcoxon W	6261.500
Z	-1.848
Asymp. Sig. (2-tailed)	.065

a. Grouping Variable: Age\_Groups

From Table 1.5a, there was no statistically significant difference between males and females on the rating scores for mental health,  $U = 15235$ ,  $p = .71$ . From table 1.5b, there was no statistically significant difference between the students of the Islamic institutions and non-Islamic institutions on the rating scores for Mental health,  $U = 18277.50$ ,  $p = .32$ . From table 1.5c, there was no statistically significant difference between students from Muslim majority and Muslim minority countries on the rating scores for Mental health,  $U = 20058.50$ ,  $p = .07$ . From table 1.5d, there was no statistically significant difference between students from younger age-group and older age-group on the rating scores for Mental health,  $U = 5481.50$ ,  $p = .07$ .



Table 1.6a. Mann-Whitney U test for comparing Religiosity between male and female students

Test Statistics <sup>a</sup>	
Total Score of Religiosity	
Mann-Whitney U	14314.500
Wilcoxon W	51715.500
Z	-.581
Asymp. Sig. (2-tailed)	.561

a. Grouping Variable: Male and Female

Table 1.6b. Mann-Whitney U test for comparing Religiosity between the students of Islamic institutions and non-Islamic institutions

Test Statistics <sup>a</sup>	
Total Score of Religiosity	
Mann-Whitney U	14828.000
Wilcoxon W	25559.000
Z	-2.298
Asymp. Sig. (2-tailed)	.022

a. Grouping Variable: Islamic Institute and Non-Islamic Institute

Table 1.6c. Mann-Whitney U test for comparing Religiosity between the students of Muslim majority and Muslim minority countries

Test Statistics <sup>a</sup>	
Total Score of Religiosity	
Mann-Whitney U	16603.500
Wilcoxon W	32179.500
Z	-1.423
Asymp. Sig. (2-tailed)	.155

a. Grouping Variable: Muslim majority and Muslim minority

Table 1.6d. Mann-Whitney U test for comparing Religiosity between the students of the younger age-group and older age-group

Test Statistics <sup>a</sup>	
Total Score of Religiosity	
Mann-Whitney U	5014.500
Wilcoxon W	64010.500
Z	-2.573
Asymp. Sig. (2-tailed)	.010

a. Grouping Variable: Age\_Groups

From Table 1.6a, there was no statistically significant difference between males and females on the rating scores for religiosity,  $U = 14314.50$ ,  $p = .56$ . From table 1.6b, religiosity was lower in the students from the non-Islamic Institute ( $Mdn = 35$ ,  $n = 146$ ) compared to the students from the Islamic Institute ( $Mdn = 36$ ,  $n = 236$ ),  $U = 25559$ ,  $z = -2.298$ ,  $p = .022$ , with a weak effect size  $r = .12$ . From table 1.6c, there was no statistically significant difference between students from Muslim majority and Muslim minority countries on the rating scores for religiosity,  $U = 19652.50$ ,  $p = .16$ . From table 1.6d, religiosity was lower in the students from the younger age-group ( $Mdn = 35$ ,  $n = 343$ ) compared to the students from the older age-group ( $Mdn = 38$ ,  $n = 39$ ),  $U = 5014.50$ ,  $z = -2.573$ ,  $p = .01$ , with a weak effect size  $r = .13$ .

Table 1.7. Relationship between Emotional Intelligence and Mental Health of Higher Education Muslim students

Variables	N	Spearman's correlation ( $r_s$ )	Significance
Emotional Intelligence and Mental Health	382	-.278**	<.001

\*\*Correlation is significant at the 0.01 level (2-tailed).

Spearman's rank-order correlation (Table 1.7) was computed to examine the relationships between emotional intelligence and mental health. There was a negative and significant correlation between emotional intelligence and mental health,  $r_s = -.278$ ,  $n = 382$ ,  $p < .001$ .

Table 1.8. Relationship between Religiosity and Emotional Intelligence of Higher Education Muslim Students.

Variables	N	Spearman's correlation ( $r_s$ )	Significance
Religiosity and Emotional Intelligence	382	.455**	<.001

\*\*Correlation is significant at the 0.01 level (2-tailed).

Spearman's rank-order correlation (Table 1.8) was calculated to examine the relationships between religiosity and the emotional intelligence of higher education Muslim students. There was a positive and significant correlation between religiosity and emotional intelligence,  $r_s = .455$ ,  $n = 382$ ,  $p < .001$ .

Table 1.9. Relationship between Religiosity and Mental Health of Higher Education Muslim Students.

Variables	N	Spearman's correlation ( $r_s$ )	Significance
Religiosity and Mental Health	382	-.244**	<.001

\*\*Correlation is significant at the 0.01 level (2-tailed).

Spearman's rank-order correlation (Table 1.9) was determined to examine the relationships between religiosity and the mental health of higher education Muslim students. There was a negative and significant correlation between religiosity and mental health,  $r_s = -.244$ ,  $n = 382$ ,  $p < .001$ .

Spearman's rank-order correlation (Table 1.10) was conducted to examine the relationships between mental health and religiosity in various categories of higher education Muslim students. The observed  $r_s$  value of mental health and religiosity was  $-.371$  for males and  $-.264$  for females. For students of Islamic institutions, it was  $-.308$  and for students of non-Islamic institutions, it was  $-.277$ . For students from Muslim countries, it was  $-.336$ ; for non-Muslim countries, it was  $-.289$ . For students in the younger age-group it was  $-.311$  and for those in the older age-group, it was  $-.154$ . It shows a negative correlation but significant relationship between mental health (higher scores on the General Health Questionnaire indicate psychological problems or distress) and religiosity amongst higher education Muslim students in the various categories.

Table 1.10. Relationship between Mental Health and Religiosity of Higher Education Muslim Students in Various Groups

<b>Variables</b>	<b>N</b>	<b>Spearman's correlation (r<sub>s</sub>)</b>	<b>Significance</b>
Males	109	-.371**	<.001
Females	273	-.264**	<.001
Students of Islamic institutions	236	-.308**	<.001
Students of non-Islamic institutions	146	-.277**	<.001
Students from Muslim Countries	176	-.336**	<.001
Students from Non-Muslim Countries	206	-.289**	<.001
Students in younger age-group	343	-.311**	<.001
Students in older age-group	39	-.154	.348

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 1.11. Relationship between Emotional Intelligence and Mental Health of Higher Education Muslim Students in Various Groups

<b>Variables</b>	<b>N</b>	<b>Spearman's correlation (r<sub>s</sub>)</b>	<b>Significance</b>
Males	109	-.333**	<.001
Females	273	-.351**	<.001
Students of Islamic institutions	236	-.322**	<.001
Students of non-Islamic institutions	146	-.388**	<.001
Students from Muslim Countries	176	-.449**	<.001
Students from Non-Muslim Countries	206	-.271**	<.001
Students in younger age-group	343	-.369**	<.001
Students in older age-group	39	-.087	.600

\*\* Correlation is significant at the 0.01 level (2-tailed)

Spearman's rank-order correlation (Table 1.11) was computed to examine the relationships between emotional intelligence and mental health in various categories of higher education Muslim students. The observed  $r_s$  value of emotional intelligence and mental health was -.333 for male and -.351 for females. For students of Islamic institutions, it was -.322 and for students of non-Islamic institutions, it was -.388. For students from Muslim countries, it was -.449 and for students from non-Muslim countries, it was -.271. For students in the younger age-group it was -.369 and for those in the older age-group, it was -.087. It shows that there was a negative correlation but significant relationship between emotional intelligence and mental health (higher scores on the General Health Questionnaire indicate psychological problems or distress) amongst higher education Muslim students in all groups, except for students in the older age-group where the correlation was not significant.

Table 1.12. Relationship between Emotional Intelligence and Religiosity of Higher Education Muslim Students in Various Groups

Variables	N	Spearman's correlation ( $r_s$ )	Significance
Males	109	.585**	<.001
Females	273	.417**	<.001
Students of Islamic institutions	236	.497**	<.001
Students of non-Islamic institutions	146	.384**	<.001
Students from Muslim Countries	176	.469**	<.001
Students from Non-Muslim Countries	206	.459**	<.001
Students in younger age-group	343	.461**	<.001
Students in older age-group	39	.494**	.001

\*\* Correlation is significant at the 0.01 level (2-tailed)

Spearman's rank-order correlation (Table 1.12) was calculated to examine the relationships between emotional intelligence and religiosity in various categories of higher education Muslim students. The observed  $r_s$  value of emotional intelligence and religiosity was .585 for males and .417 for females. For students of Islamic institutions, it was .497 and for students of non-Islamic institutions, it was .384. For students from Muslim countries, it was .469; for non-Muslim countries, it was .459. For students in the younger age-group it was .461, and for those in the older age-group, it was .494. It shows a positive correlation but significant relationship between emotional intelligence and religiosity amongst higher education Muslim students in various groups.

For the **qualitative study**, the following themes (Figure 1.4) were deduced from the interviews for the high levels of emotional intelligence and religiosity, and low levels of psychological distress as well as for the positive but significant correlation between emotional intelligence and religiosity and negative but significant correlation between emotional intelligence and mental health (psychological distress) and between religiosity and mental health (psychological distress).

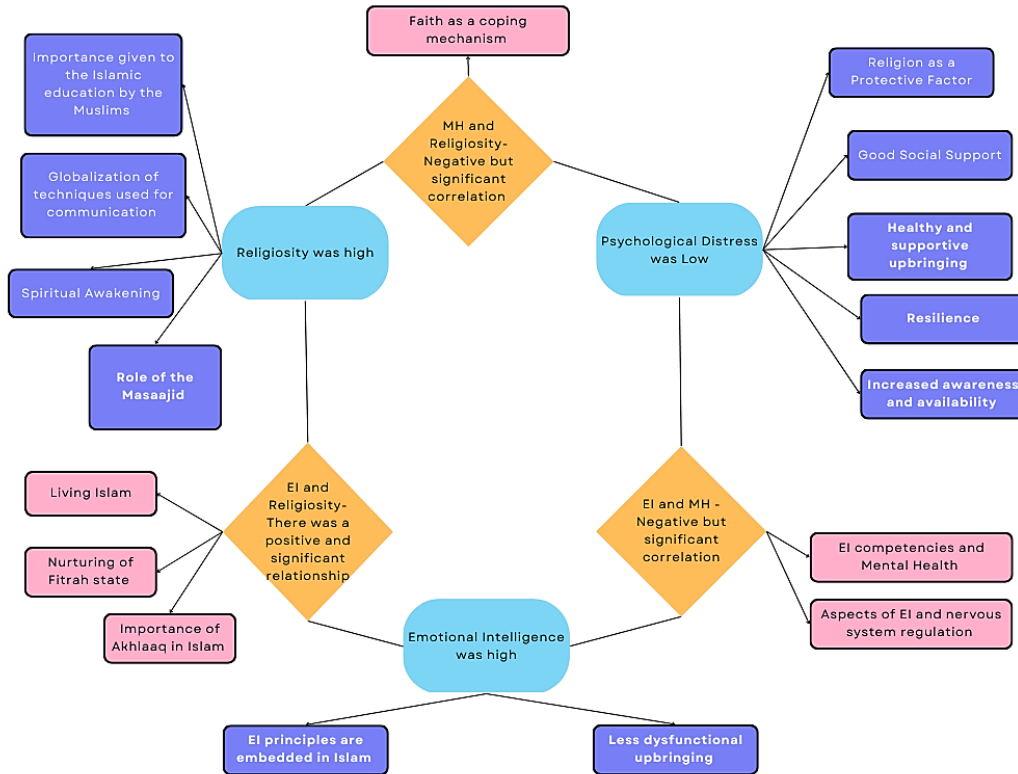


Figure 1.4. Themes for high religiosity and EI, for low psychological distress, for positive correlation between EI and religiosity and for negative correlation between EI and psychological distress, and religiosity and psychological distress

With respect to the Mann-Whitney U tests, there was no statistically difference with regards to mental health in the following groups: Males and females, Islamic and non-Islamic institutes, Muslim majority and Muslim minority countries; and younger-age and older-age group, the reasons shared by the experts are listed in Figure 1.5:

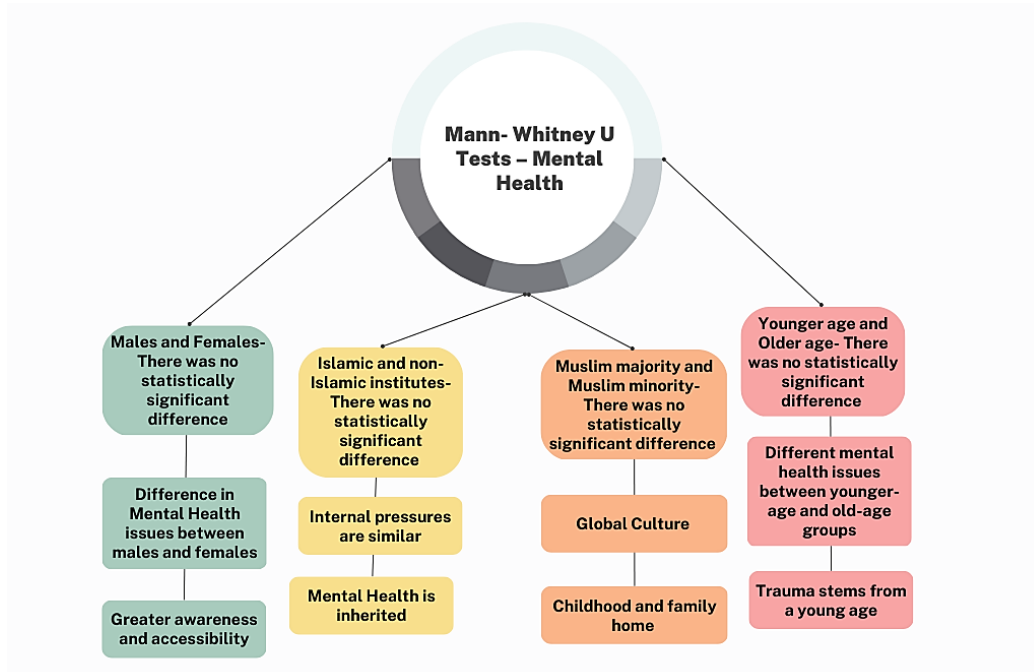


Figure 1.5. Themes for Mental Health for Gender, Type of Institute, Type of Country and Age

There was no statistically difference with regards to emotional intelligence in the following groups: Males and Females; and Muslim majority and Muslim minority countries. But EI was low in students from non-Islamic institutes compared to those from Islamic institutes and in younger-age group compared to the older-age group. The reasons shared by the experts are shown in Figure 1.6:

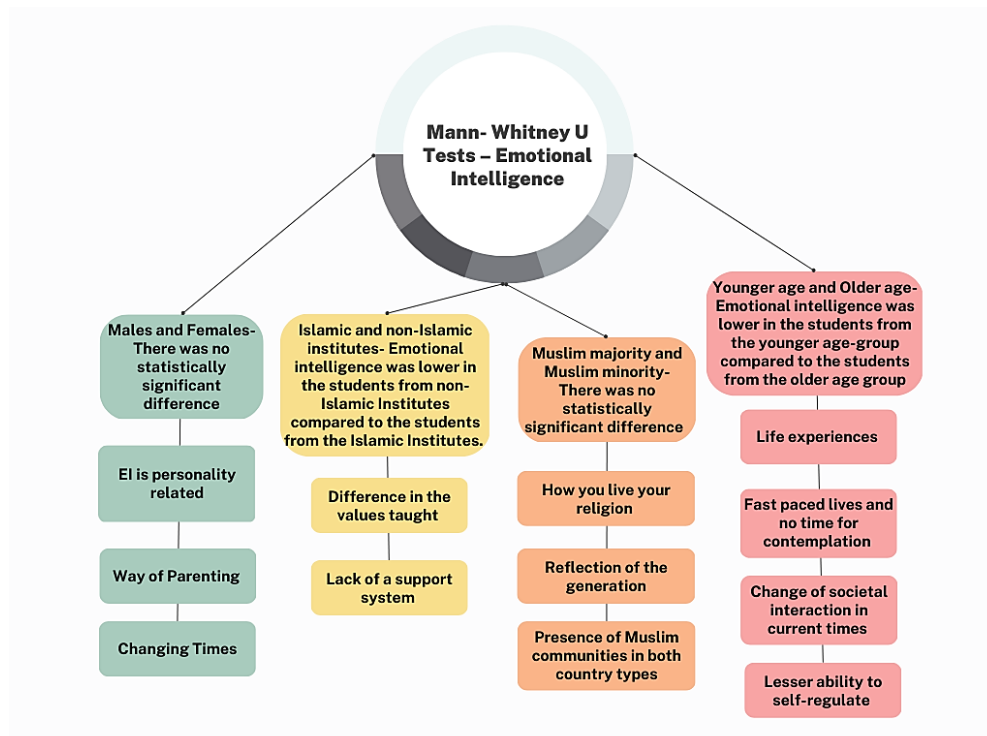


Figure 1.6. Themes for Emotional Intelligence for Gender, Type of Institute, Type of Country and Age

There was no statistically difference with regards to religiosity in the following groups: Males and Females; and Muslim majority and Muslim minority countries. But religiosity was low in students from non-Islamic institutes compared to those from Islamic institutes and in younger-age group compared to the older-age group. The reasons shared by the experts are indicated in Figure 1.7:

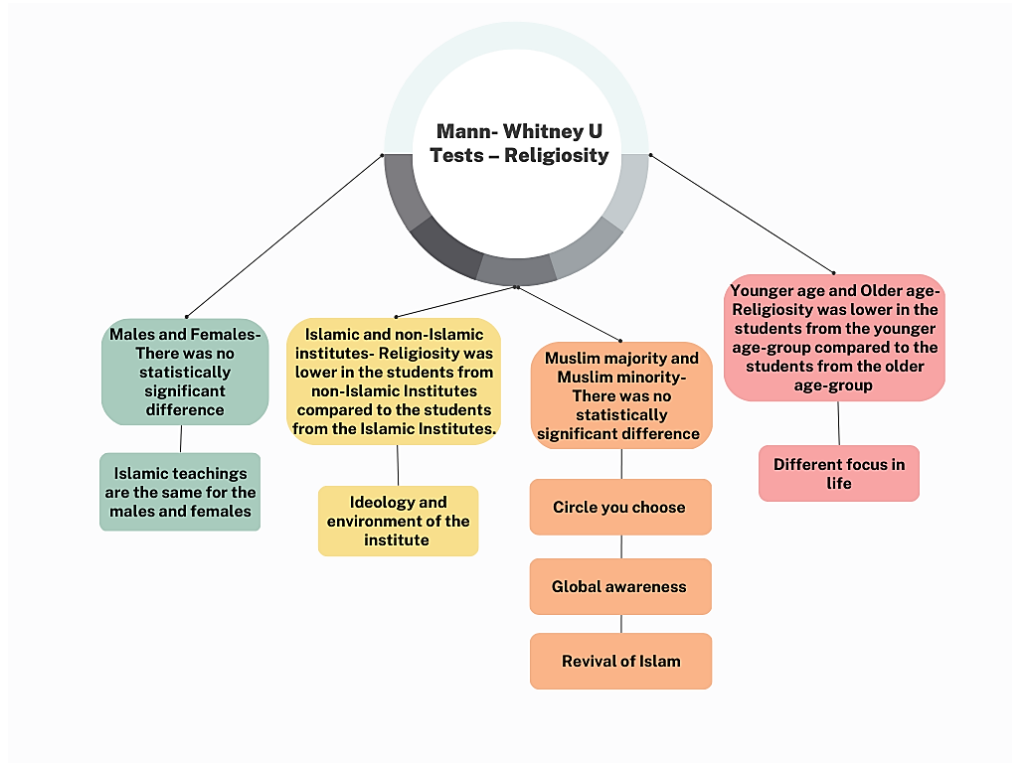


Figure 1.7. Themes for Religiosity for Gender, Type of Institute, Type of Country and Age

## Discussion

The present study reported that participants had lower psychological distress. This is in line with other Muslim student population studies (Oberoi & Trickett, 2018; Janon & CHE IZHAR, 2020). Various reasons were cited by experts which have been proved by previous research. These include:

- Religion acts as protective factor against psychological distress (Mahamid & Bdier, 2021). Certain religious concepts that were highlighted by the experts were: concept of hereafter, faith in a higher being and presence of the Prophet ﷺ in the life of Muslims.
- Good social support was also cited as one of the important reasons for lowering psychological distress. This is also found in previous studies (Shao et al., 2018)
- Healthy and supportive upbringing: Mental health concerns of the youth were significantly related with parental psychological symptoms (Bai et al., 2022).
- Resilience: A study in Hong Kong showed that depression and anxiety symptoms were less common in students with higher resilience (Lai et al., 2022).
- Increased awareness and availability: This reason has been supported by research conducted in Australia between 2008 to 2019, where mental health is shown to have improved with increased access to treatment (Skinner et al., 2022).

Present study showed that the participants had high levels of emotional intelligence which was in line with other studies on EI in Muslims students (Makbul et al., 2021; Sulaiman, 2013). Experts cited two important reasons for this:

- a) EI principles are embedded in Islam: The heart (*qalb*) is considered to be the leader of sensations and feelings. The Quran uses the term '*aqal*' as a function or act of the heart and not as a separate entity (Ozalp, 2015). The Prophet ﷺ said: 'There is a piece of flesh in the body if it becomes good (reformed) the whole body becomes good but if it gets spoilt the whole body gets spoilt and that is the heart.'<sup>1</sup> Self-awareness and self-restraint aspects of EI can be found in the teachings of Islam such as in the Quran in 51:21. The concept of self-motivation is also evident in the various aspects of Islam. The primary motivation for every Muslim is to seek the pleasure of Allah (Quran 2:207) and the attainment of *Jannah*. Empathy is another aspect which is emphasized in Islam (Quran 16:91) The Prophet ﷺ said: 'The believers in their mutual kindness, compassion and sympathy are just like one body. When one of the limbs suffers, the whole body responds to it with wakefulness and fever'.<sup>2</sup> Islam also promotes social interaction. One of the first things that the Prophet ﷺ did when he migrated to Madinah was to form an alliance between the Muhajir and the Ansar (Al-Mubarakpuri, 2002).
- b) Less dysfunctional upbringing: This is corroborated with past studies (Sloan, 2020; Dutra Cipriano Lara, et al., 2022).

The present study showed that the students had a high level of religiosity. This is in support to the previous studies in Muslim student populations (Zubairu & Sakariyau, 2016; Abdel-Khalek, 2013). Reasons cited by experts include:

- a) Importance given to Islamic education by Muslims: Islam gives a lot of importance to seeking knowledge. The first command that was given to the Prophet ﷺ was *Iqra* which means to read (Quran 96:1-5). Knowledge is considered prayer and worship (Aboo Zayd, 2000). The Prophet ﷺ said: "Seeking knowledge is a duty upon every Muslim...".<sup>3</sup> He ﷺ also said: "If anyone travels on a road in search of knowledge God will cause him to travel on one of the roads of paradise, ...".<sup>4</sup>
- b) Globalization of techniques used for communication: Globalization has impacted in the field of education (Cornali, & Tirocchi, 2012). Globalization coupled with the information revolution as well as increase in the demand of highly skilled workforce has resulted in nations giving increased importance to prioritizing effective learning. The advances in information and communication technologies (ICT) are the result of globalization. This form of learning promotes development of important skills for student success (Hrehová & Teplická, 2020).
- c) Spiritual awakening: The current times have been increasingly stressful for the Muslim world, particularly for the youth. Scholars have explained that the Islamic revival occurring in the West is due to the result of immigration, foreign money, transnational ties, and the events that are taking place in the Muslim world (Cainkar, 2004).
- d) Role of *Masaajid*: The *masaajids* and imams have an important role to play in identifying crises within the Muslim youth (Chaudhry, 2016). A study of Muslim youth in Australia showed that the role of the *masjid* is multifaceted and serves as the center point for major socialization and networking (Karimshah et al., 2014).

<sup>1</sup> Extracted from <https://sunnah.com/bukhari:52> Sahih al-Bukhari 52 accessed on 20/04/2023.

<sup>2</sup> Extracted from <https://sunnah.com/riyadussalihin:224> Riyad as-Salihin 224 accessed on 20/04/2023.

<sup>3</sup> Extracted from <https://sunnah.com/ibnmajah:224> Sunan Ibn Majah 224 accessed on 21/04/2023.

<sup>4</sup> Extracted from <https://sunnah.com/mishkat:212> Mishkat al-Masabih 212 accessed on 21/04/2023.



## Spearman's rank-order correlation

**Emotional Intelligence and Mental Health:** The present study showed that there is a negative but significant correlation between EI and mental health. This was in line with other studies done in Muslim students (Butt, 2014; El-Khodary et al., 2021). The reasons explained by the experts were:

- a) EI competencies and Mental Health: There has been growing evidence to indicate that emotional abilities are related to “prosaic behaviors” like management of stress as well as physical health. The research also showed that misfit behaviours were observed in individuals (Richards et al., 2010).
- b) Aspects of EI and nervous system regulation: EI is related with autonomic reactivity responses. It has a positive connection to the parasympathetic and a negative connection with the sympathetic system which emphasizes the relationship of the sympathovagal balance with the EI of a person. Higher parasympathetic reactivity was strongly related to emotional intelligence (Sharma et al., 2019).

**Emotional Intelligence and Religiosity:** The present study showed that there is a positive and significant correlation between EI and religiosity. This was in line with other studies done in Muslim students (Nesami et al., 2015; Kamal & Ghani, 2014). Reasons discussed were:

- a) Living Islam: One of the reasons cited for a positive relationship between EI and religiosity was how much one practices Islam and how much of the *Sunnah* of the Prophet ﷺ is incorporated in one's life. Islam emphasizes on both belief and action (Quran 2:82). Muslims also have an example in the Prophet ﷺ (Quran 33:21) and his life. He was the Quran in action. His actions and emotions were balanced and controlled.
- b) Nurturing of *Fitrah* state: One of the main aspects of EI is to be self-aware. People who are self-aware and are certain about how they feel can manage their lives better. To be self-aware, Muslims are encouraged to know Allah (Quran 59: 19). It is important to know Allah to know oneself and to increase self-awareness. Those who do not remember Allah and do not remember their origin, will not be self-aware. Self-awareness, thus, can be increased by nurturing the *fitrah* which is the natural inclination that is instilled in the souls and hearts of human beings which drives one's belief in Allah and the desire to know Him.
- c) Importance of *Akhlaaq* in Islam: Islam puts a lot of emphasis on *Akhlaaq* or manners. This also explains why those who are high in religiosity also had high levels of EI. There are several *ahadith* which emphasize this. The Prophet ﷺ said: ‘I was sent to perfect good character.’<sup>5</sup> He ﷺ also said: ‘The best among you are those who have the best manners and character.’<sup>6</sup>

**Mental Health and Religiosity:** The present study showed that there is a positive and significant correlation between mental health and religiosity. This was in line with other studies done in Muslim students (Salmabadi et al., 2015; Raza, 2016). The primary reason highlighted by the experts was that faith is used as a coping mechanism. This study was also based on the theory of religious coping devised by Pargament (1997). Religious coping is the use of cognitive-behavioral techniques for managing stressful situations through one's religious beliefs or spirituality (Pargament, K. I. (1997). There are several ways in which religion is used as a means of coping in a positive way such as involving in religious practices, redefining events of stress in reference to one's relationship with God, and seeking social support through religious leaders and congregations (Boudreaux, Catz, Ryan, Amaral-Melendez, & Brantley, 1995; Krägeloh, Chai, Shepherd, & Billington, 2012; Pargament, Smith, Koenig, & Perez, 1998) Some of the

<sup>5</sup> Extracted from <https://sunnah.com/urn/2302710> Al-Adab Al-Mufrad accessed on 23/04/2023.

<sup>6</sup> Extracted from <https://sunnah.com/bukhari:6029> Sahih al-Bukhari 6029 accessed on 23/04/2023.

Islamic coping strategies are briefly highlighted below: trust and reliance on Allah; seeking help through prayer, remembrance of Allah (*dhikr*), positive thinking, recitation of the Quran, practicing patience, helping and volunteering, and social support.

## Mann-Whitney U Tests

### Mental Health

**Males and Females:** There was no statistically significant difference reported between genders in this study. Large scale studies have looked at the rates of mental disorders between genders, in the United States (Kessler et al., 1993; Kessler et al., 1994; Kessler et al., 2005). The reasons for the same discussed by the experts were:

- a) Difference in Mental Health issues between males and females: Men tend to develop alternate disorders when experiencing stress like alcohol abuse and anti-social behaviour. They are more prone to have been socialized to express anger in comparison to women who have been socialized to express dysphoria when stressed. Women are shown to have elevated numbers of affective and anxiety disorders, and men are shown to have elevated numbers of substance abuse and antisocial personality disorder (Kessler et al., 1994).
- b) Greater awareness and accessibility: Educational institutions now have a wider variety of services available in order to incorporate varying proportions of students with greater availability of support being directly proportional to greater use (Osborn et al., 2022). Interventions such as cognitive behavioural therapy, mindfulness-based interventions and interventions delivered via technology were shown to be effective (Worsley et al., 2022).

**Islamic and non-Islamic institutes:** There was no statistically significant difference between reported between the students of these two types of institutes. There have been no such studies done in the past where these two institute types have been compared. Reasons highlighted were:

- a) Internal pressures are similar: Studies have reported that Muslim students face internal pressures such as academic, financial, and interpersonal in addition to the mental health stigma that is prevalent in the Muslim communities regarding mental health. This leads to downplaying of emotions and inhibits expression of what they were going through (Abid & Hyat, 2021).
- b) Mental Health is inherited: There have been indications to show that trauma can be passed down through the mechanisms of epigenetics, with the possible impact on DNA and gene function (Yehuda & Lehrner, 2018). One of the ways in which intergenerational trauma passes down is due to stress during pregnancy (Chan et al., 2018).

**Muslim majority and Muslim minority countries:** There was no statistically significant difference in these two categories. There have been no such studies done in the past where these two country types have been compared. Studies done in Muslim minority countries indicate that Muslim students do have high levels of psychological distress. There are additional layers of challenges that are unique to their Muslim identity and on-campus experiences (Abid & Hyat, 2021; Khan, 2021). The reasons highlighted for no difference were:

- a) Global Culture: Globalization has changed the nature of human interaction at the social, political, economical, environmental, cultural and technological levels. Globalization affects psychiatry in three ways: by its effect on the forms of individual and collective identity, by the impact of economic differences on mental health and by the diffusion of psychiatric knowledge itself (Bhugra & Mastrogianni, 2004). Increasing migrations across the globe, coupled with increasing distress due to acculturation, inequalities and changing identities add to the rates of common mental disorders (Cheema et al., 2010).
- b) Childhood and family home: There is a deep-rooted connection between the mental health of the parents and their children. Significant differences in the family structures were shown to be a

reason for children being admitted to inpatient psychiatric hospitalization. A history of trauma and psychiatric disorders were a predictor of readmission. Thus, the family structure was shown to have adverse effects on the mental health of the children (Behere et al., 2017).

**Younger age and older age groups:** There was no statistically significant difference between the younger age group in comparison to the older age group. A study in Bangladesh, however, has shown that older students suffered from greater depression (Islam, 2020). Reasons for no difference in the present study were:

- a) Different mental health issues between younger-age and old-age groups: For the younger age groups common mental health concerns included depression and anxiety, post-traumatic stress disorder (PTSD), self-harm, suicidal thoughts, psychosis, adult attention deficit hyperactivity disorder (ADHD), eating disorders, antisocial personality disorder, borderline personality disorder (McManus et al., 2009). As for the older population, above 20% of adults aged 60 and above suffer from a mental or neurological disorder. These include depression, dementia and anxiety (World Health Organization, 2017).
- b) Trauma stems from a young age: Childhood trauma, especially complex trauma, can cause neurobiological changes which impact development causing changes in brain function. These changes are responsible for physical and cognitive functioning. Childhood trauma is linked to mental, emotional and physical symptoms which can persist into adult life (Dye, 2018).

### Emotional Intelligence

**Males and Females:** There was no statistically significant difference between the genders with respect to EI in the present study. This is in support of the previous research (Meshkat & Nejati, 2017; Priya & Jaswanti, 2020). Reasons discussed were:

- a) EI is personality related: There are several researches that have indicated a strong relationship between EI and personality traits (Dhani & Sharma, 2017; Taneja, et al., 2020). Islam expects Muslims to develop a strong character and personality. They have the example of the Prophet ﷺ to emulate. When his wife Aishah (RA) was asked about this character, she said: ‘The character of Messenger of Allah (ﷺ) was the Qur'an’.<sup>7</sup>
- b) Way of parenting: Children’s EI is shown to be influenced and contributed by the parenting style of their parents (Reyes-Wapano, 2021).
- c) Changing times: Another reason shared by the experts for no significant difference in EI between the genders was due to the change in the role that women play in the society in recent times. A study conducted by Joyce and Magesh (2017) on women employees working in the IT sector indicated that their EI was quite low (Joyce & Magesh, 2017). Customarily, women were considered as nurturer and guardians of the family while the men were considered as providers. However, this has rapidly changed in recent times. The concept of double worker couples has been on the rise (Sagar & Mathur, 2020).

**Islamic and non-Islamic Institutes:** Emotional intelligence was lower in the students from non-Islamic Institutes compared to the students from the Islamic Institutes. There have been no such studies done in the past where these two institute types have been compared. Reasons shared were:

- a) Difference in the values taught: Islam lays great emphasis on the surrounding or environment as a crucial factor that shapes behavior and affects learning. Since Islam actively commands the Muslims to be at their best behaviour, Islamic institutes tend to lay greater emphasis on the *Tarbiyyah* of the students. This in turn also aids in increasing the EI of the students. Islam strictly discourages negative attributes like ridiculing and defaming (Quran 49:11), slandering and

<sup>7</sup> Extracted from <https://sunnah.com/abudawud:1342> Sunan Abi Dawud 1342 accessed on 25/04/2023.

backbiting (Quran 104:1-9) to name a few. It instead encourages to conduct oneself in a gentle manner (Quran 20:44; 3:159; 26:215).

- b) Lack of a support system: A study looked at the moderating and mediating effect of family support, peer support and teacher support on the relationship between EI and suicidal ideation in adolescents. Results indicated that family support and teacher support mediate the relationship between EI and suicidal ideation. Peer support helped EI in reducing suicidal ideation with older adolescents (Galindo-Domínguez & Losada Iglesias, 2023).

**Muslim majority and Muslim minority countries:** There was no statistically significant difference reported in these two groups in the present study. There have been no such studies done in the past where these two country types have been compared. Experts highlighted the following reasons:

- a) How you live your religion: As one of the experts mentioned that the reason why there was no difference in EI between students from these two country types is because, she believed EI is related to how much one practices Islam. Research has proven that there are certain concepts of Islam such as *taqwa* (God-consciousness) and *shukr* (gratitude) which positively influence EI. Those who have greater levels of *taqwa* and *shukr*, demonstrated greater levels of self-emotional appraisal. Such individuals also gave more priority to comprehending and distinguishing the positive and negative emotions due to their understanding of Islam. They also displayed concern before responding to others (Wahab et al., 2022).
- b) Reflection of the generation: One of the experts mentioned that since the participants were mostly from the younger age group, this data was more reflective of the current generation of young people who are more aware of the concepts of EI. This is proven by a study done by Machová et al. (2020).
- c) Presence of Muslim communities in both country types: one of the experts discussed about there being no difference between these two country types was because though Muslim minority countries may not have Islamic principles in practice, but Muslim communities are built in such countries which provide a strong support system which is crucial for EI. For Muslims in the United States, the Islamic centers or mosques play an important role in the maintenance of their association with a religious community (Ali et al., 2022).

**Younger age and older age groups:** Emotional intelligence was lower in the students from younger-age group compared to the students from the older age groups. This is in corroboration with another study that have reported lower EI in the youngest generation (Generation Z: 1995-2010) in comparison to the Baby Boom (generation 1946-1964), X (generation 1965-1979), Y (generation 1980-1994) (Machová et al., 2020). Reasons shared were:

- a) Life experiences: Research has shown that older people have higher EI through lifelong learning and may be more likely to use EI for emotional regulation in comparison to young adults (Chen et al., 2016).
- b) Fast paced lives and no time for contemplation: One of the reasons for lower EI in the younger age group in comparison to the older age group was due to the kind of lives that the younger age individuals lead. The current age is a period of rapid advancement in technology and its use also increases distraction (Pang, 2013). This is also why worship done during one's youth is highly appreciated (Quran 18:10-20). One of the categories of people who will be under the Shade of Allah on the Day of Judgement will be the one who spent their youth worshipping Allah.<sup>8</sup>
- c) Change of societal interaction in current times: The use of social media by young adults has increased in the recent years. Dror and Gershon (2012), found that loneliness and a large number

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<sup>8</sup> Extracted from <https://sunnah.com/riyadussalihin:449> Riyad as-Salihin 449 accessed on 24/04/2023.

of social networking interactions with virtual friends were directly associated. They found that virtual friendships could be less gratifying than face-to-face friendships.

- d) Lesser ability to self-regulate: In studies that looked at age and emotional regulations, studies have shown that during childhood and adolescence, skills acquisition for modulating emotional responses was closely related to neurobiological maturation. Children and pre-adolescents scored lower in emotional regulation strategies than the 13-16 year group (Sanchis-Sanchis et al., 2020).

## Religiosity

**Males and Females:** There was no statistically significant difference in religiosity between males and females in this study. This is in contrast to previous studies that showed females were more involved in religious activities than males (Saleem et al., 2020; Moon et al., 2022). Experts highlighted that Islamic teachings are the same for the males and females. This was the overarching theme for the reason as to why there was no statistically significant difference when it came to religiosity. Contrary to popular opinion that men are given preference in Islam, the Quran addresses both men and women in 4: 124. The Quran mentions the criteria by which Allah judge's human beings is *Taqwa* (God-consciousness) and not their gender (49: 13). The spiritual duties of men and women are the same in Islam.

**Islamic and non-Islamic Institutes:** Religiosity was lower in the students from non-Islamic Institutes compared to the students from the Islamic Institutes. There have been no such studies done in the past where these two institute types have been compared. The main reason mentioned was due to the ideology and environment of the institute. As one of the experts elucidated that the reason why higher levels of religiosity were reported in students who were from Islamic institutes was due to the presence of the Islamic ideologies to a greater extent in such institutes. These serve as reminders and aid in increasing one's religiosity and maintaining it. This is also reiterated in the Hadith of the Prophet ﷺ

**Muslim majority and Muslim minority countries:** There was no statistically significant difference reported in this study with respect to the students from these two country types. There have been no such studies done in the past where these two institute types have been compared. Expert discussed the following reasons:

- a) Circle you choose: One of the reasons that there was no statistically significant difference in students' religiosity from Muslim minority and majority countries was because the circle of friends one chooses which has a significant influence on an individual's religiosity. Islam lays great emphasis on friendship and choosing good friends as they have a great influence on their life in this world and their final destination in the Hereafter as the Quran mentions in 43:67.
- b) Global awareness: This theme was also cited as one of the reasons for higher levels of religiosity. Due to globalization and the ICT boom, information is easily available online and can be accessed by anyone across the globe. As mentioned by one of the experts, it does not really matter which country one resides in due to the 'global village' phenomenon, both the countries have a lot in common unlike previously.
- c) Revival of Islam: This is yet another theme that is closely connected with the point regarding spiritual awakening which was cited as one of the reasons for higher religiosity in the earlier section. Due to the challenging times, there has been an increase in the search for the truth and to find one's purpose in life. Ali (2012) explains that work on Islamic revivalism has shown that it is multifaceted and complex. It is rooted in European colonialism and a defence reaction to modernity. Islam is required to re-emerge as a universal system that will save the world from

<sup>9</sup> Extracted from <https://sunnah.com/muslim:2750b> Sahih Muslim 2750b accessed on 26/04/2023.



sliding into *jaahiliyaah* (ignorance). This requires Muslims to return back to the fundamentals of their faith.

**Younger age and older age groups:** Religiosity was lower in the students in the younger age group compared to the students from the older age group. This is in support of the previous research (Bengtson et. al., 2015; Koteneva et. al., 2021). The primary reason for the same was due to different focus in life. The younger group are largely influenced by their peers and social media. There is an increased level of interest in the attractions that life has to offer. They participate less in religious activities in comparison to the older age group. The older age group tend to be more religious so that they can prepare for the Hereafter as they feel close to death (SARI, 2017).

## Conclusion

The present study showed that it is important to enhance religiosity and religious practices in students to maintain good mental health and increase EI levels. As highlighted earlier, religion was absent from psychology for a long time, it is time to bring it back into mainstream psychology. For a majority of Muslims, Islam is a complete way of life that influences the behavioral, affective, cognitive and spiritual components of the self (Abu Raiya & Pargament, 2011). Thus, incorporating religious activities such as redefining events of stress in reference to one's relationship with God, involving in religious practices, and seeking social support through religious leaders and congregations can be used to cope with various stressors. Additionally, training student counsellors and healthcare professionals to address the spiritual and religious beliefs of the students during therapy will be beneficial. There is a need for professionals working in the fields of mental health and religious groups to work together so that the collaborative approach can maximize the benefits of therapy.

Individuals with EI high levels have a better ability to cope with stress (Fteiha & Awwad, 2020) while those with lower levels of EI show inappropriate emotional reactions. Hence, those with lower EI could be at an increased risk for mental health issues. Thus, there is a need for both religious education and EI courses and workshops to be part of the education system so that students are better equipped to deal with stress and to develop skills that aid in the understanding, and managing of emotions which in turn can enhance good mental health. This study has significant implication for parents, teachers as well as future researchers for showing how incorporating religiosity and EI can lead to enhanced psychological well-being of the students.

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