

ASSESSING THE DRIVERS OF HEALTH-RELATED QUALITY OF LIFE AMONG STUDENTS THROUGH REGRESSION ANALYSIS

Az'lina Abdul Hadi¹
Akhtar Fatimah Abdul Manaf²
Nornadiah Mohd Razali³
Nur Niswah Naslina Azid@Maarof⁴
Nuralina Azlan⁵

^{1,2,3,5}Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA (UiTM) Negeri Sembilan Branch, Malaysia, (E-mail: azlinahadi@uitm.edu.my, akhtarfatimah6@gmail.com, nornadiah@uitm.edu.my, nuralina@uitm.edu.my)

⁴Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA Kelantan Branch, Malaysia, (Email: niswah@uitm.edu.my)

Article history

Received date : 18-8-2024
Revised date : 19-8-2024
Accepted date : 5-10-2024
Published date : 17-10-2024

To cite this document:

Abdul Hadi, A., Abdul Manaf, A. F., Mohd Razali, N., Azid@Maarof, N. N. N, & Azlan, N. (2024). Assessing the drivers of health-related quality of life among students through regression analysis. *Journal of Islamic, Social, Economics and Development (JISED)*, 9 (67), 57 - 69.

Abstract: *Health-related quality of life (HRQoL) is the term typically used to describe the quality of life that is associated with health and illness. HRQoL is comprised of two main components known as the Physical Component Summary (PCS) and the Mental Component Summary (MCS). This study intends to examine the significant associations between gender, Al-Quran recitation, sunnah practice, social activity, household income, and HRQoL, measured through the PCS and MCS. In addition to the primary objective, this study seeks to determine the significant difference in average PCS and MCS scores between genders. Hence, a cross-sectional study was conducted, involving 386 students who were selected through convenience sampling from a selected university. The Short Form-36 Quality of Life (SF-36) questionnaire was utilized to assess participants' HRQoL. The data were analyzed using multiple linear regression (MLR). The findings revealed significant effects between gender (p -value < 0.001), Al-Quran recitation (p -value < 0.001), sunnah practice (p -value < 0.001), social activity (p -value = 0.003), and household income (p -value < 0.001) on PCS. Likewise, MCS was affected by gender (p -value = 0.03), Al-Quran recitation (p -value < 0.001), sunnah practice (p -value < 0.001), social activity (p -value < 0.001), and household income (p -value < 0.001). This indicates that higher levels of Al-Quran recitation and adherence to sunnah practices are associated with a higher HRQoL among students. Moreover, increased engagement in social activities is positively correlated with better HRQoL. Additionally, students with a higher household income tend to have a higher HRQoL, reflecting the importance of financial comfort. Besides, the Independent Sample test reveals that there is a significant difference in the average of both components (PCS, p -value < 0.001; MCS, p -value = 0.013). In conclusion, religious practices, social activities, and financial stability have the potential to improve the HRQoL, as well as the mental and physical well-being, of students.*

Keywords: *MCS, PCS, Regression, Sunnah*

Introduction

Quality of Life (QoL) is articulated by the World Health Organization (WHO) as an individual's subjective assessment of their circumstances within the cultural and value frameworks that shape their existence, particularly in relation to their aspirations, expectations, standards, and concerns. QoL is often linked to affirmative values such as health, happiness, achievement, and overall life satisfaction, all of which underscore the essence of a fulfilling life. Conversely, a diminished quality of life may manifest through detrimental sleep patterns, strained interpersonal relationships, depression, and low self-esteem (Reba, Birhane, & Gutema, 2019).

Health-related quality of life (HRQoL) is the term typically used to describe the quality of life that is associated with health and illness. Measures of social, mental, emotional, and physical functioning make up the HRQoL instrument. It also has to do with gauging life happiness and well-being in connection to one's health. It incorporates two dimensions, which are the physical component summary (PCS) and the mental component summary (MCS). The Physical Component Summary (PCS) is composed of four scales assessing quality of life: physical functioning, role limitations due to physical problems, general health, and bodily pain. Higher scores will indicate better physical health, while lower scores will show physical illness on subscales of physical functioning, role limitations due to physical problems, vitality, and bodily pain. In addition, the Mental Component Summary (MCS) notes that mental health is given positive weights, which include vitality, role limitations due to mental problems, social functioning, and emotional well-being.

The increasing prevalence of social issues among university students, such as substance abuse, culture shock, and bullying, is a growing concern that adversely impacts their physical and mental health, academic performance, and overall well-being. These challenges are often driven by peer pressure, stress, inadequate engagement in religious practices, and the heightened emphasis placed by communities and parents on academic achievement. The absence of religious guidance, such as reciting the Al-Quran with meaningful comprehension, may lead to a lack of moral direction, exacerbating social problems. Additionally, many students face financial difficulties, including high tuition fees and living expenses, which compromise their ability to meet basic needs like housing, food, transportation, and healthcare. These financial strains not only result in inadequate living conditions but also contribute to elevated stress levels that significantly affect students' mental health and well-being.

Furthermore, due to the demanding nature of their schedules, students often deprioritize physical activity and social engagement, which are vital for maintaining health and quality of life. It is imperative to measure the variation in physical health components affecting students' health-related quality of life (HRQoL) to fully understand the impact of these issues. Thus, this study aims to determine the significant effect that contributed to the PCS and MCS. Apart from the main goal of this study was to examine the significant difference in PCS and MCS according to their gender.

Literature Review

This section elucidates all the factors influencing HRQoL, with particular emphasis on PCS and MCS. Previous research found there are several factors contributing to HRQoL. Among the factors, gender differences are a significant factor in the HRQoL. Numerous studies conducted in China, India, Russia, South Africa, and Ghana discovered that men had a better quality of life than women (Lee, Xu, & Wu, 2020). As per Bonsaksen (2012) stated that males with higher levels of physical activity had better HRQoL than women, indicating that there is a correlation between gender and HRQoL. According to Ma et. al. (2019) finding, during the COVID-19 pandemic, females reported experiencing greater stress and depression than males. Stress and depression are part of MCS.

Studies showed that memorizing and reciting the Quran is an effective way to improve HRQoL for stroke patients by improving their functional communication skills and their level of independence, which stabilizes psychological aspects such as a mentally stable and relaxing mind (Ma'ruf, Hartanto, & Sulaeman, 2019). Furthermore, Amir et. al. (2022) stated that those who practiced religious activities had a better quality of life compared to those who did not. A local study conducted on students by Abd Rahman et. al. (2019) showed there is a significant positive relationship between the memorization of the Qur'an and sunnah practice and physical and mental health.

One important measure of economic well-being is household income, which is frequently used to evaluate how much money a family or group of people have available to them to meet their requirements and pursue their objectives. Numerous studies have examined this relationship, and findings may vary based on factors. Predominantly of the findings reported that higher household income will lead to better HRQoL. In light of the findings by Paula et. al. (2012), household income had a negative impact on HRQoL if the income was too low. Similar research done by Casey et. al. (2005) on HRQoL found that children with insufficient food households also had lower general health status and negative symptoms than children with food-sufficient households.

Social activity is connected to leisure pursuits like traveling, sightseeing, jogging, and studying arts and crafts; it entails communication and interpersonal connection. Some studies affirm that physically active individuals are more likely to present a better HRQoL (Bennett, 2005). Research done by Guedes et. al. (2012) found that social activities are positively associated with HRQoL. In layman's terms, increasing social activities will lead to an improvement in HRQoL

Everything from the Prophet Muhammad was considered the Sunnah. Sunnah practices refer to the actions, words, and habits of Prophet Muhammad that are recorded in the Hadith literature. A study for the elderly found that respondents who performed five times of obligatory prayers along with one Sunnah prayer had better HRQoL than respondents who performed five obligatory prayers only (Abdullah et al., 2021). The same study found by Amir et. al (2022) that those who fasted on Monday and Thursday reported higher HRQoL than those who did not. Equivalent findings reported by Abdullah et. al. (2021) showed that every person in the modern world can use Sunnah practices as a guide for practical application in life at different levels and events, leading to better HRQoL.

In conclusion, there are five factors considered in this study in achieving the listed objectives of the study. There are including gender, the frequency of Al-Quran recitation, household

income, social activity, and sunnah practice. The main objectives of the study intend to determine the significant effect that contributed to the PCS and MCS. Apart from the main goal of this study was to examine the significant difference in PCS and MCS according to their gender.

Methodology

This segment outlines the research's design, methodology for collecting data, instruments used, and approach to data analysis.

Study Design

For this study, a cross-sectional study design was chosen. The primary rationale for selecting this method was the simultaneous collection of data. Furthermore, this approach enabled the researcher to grasp the significant factors influencing various components of HRQoL.

Data Collection Method

The study population comprised students aged 22 to 27 years. A sample of 386 undergraduate students was drawn from the public higher education institutions in Malaysia that were specifically chosen. For reasons of secrecy, the name of the selected university was not disclosed in this study. Using Raosoft calculator (2004), the number of selected samples was ascertained. The chosen sample, whose ages varied from 22 to 27, was given access to a web-based (online) self-administered questionnaire using convenience sampling. The questionnaire came with a cover letter outlining the goals of the research and the requirements for participation. A QR (Quick Response) code was shared to the selected students, who had 15 to 30 minutes to access and finish the questionnaire. This study successfully achieved a 100% response rate from the students.

Instrument

The instrument consists of three sections. The first section is the demographic information, which includes information on gender, frequency recitation Quran, household income of parent, and hours spent on social activity. Section B comprised six items representing the sunnah practice (Abd. Rahman et. al., 2019). The main section (Section C) encompasses 36 items known as SF-36 (Ware & Sherbourne, 1992). In Section B, the scoring system for Sunnah practices involves assigning appropriate percentages to a pre-coded five-point scale. Each category is assigned a specific score by recoded the response on "never" as 0," rarely" as 25," sometimes" as 50," often" as 75, and "always" as 100. To calculate the overall score for Sunnah practice, the scores for all six practices are averaged (mean calculation). The initial step in measuring Section C is to recode all the items based on standard scoring (Table 1). The following step is all the 36 questions were ranged, scale scores were calculated by averaging the items corresponding to each component (PCS and MCS). The summary of the items is given in the following tables.

Table 1: Scoring Table

Item Number	Change Original Response Category	To Recoded Value of
1, 2, 20, 22, 34, 36	1	100
	2	75
	3	50
	4	25
	5	0

3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1	0
	2	50
	3	100
13, 14, 15, 16, 17, 18, 19	1	0
	2	100
21, 23, 26, 27, 30	1	100
	2	80
	3	60
	4	40
	5	20
	6	0
24, 25, 28, 29, 31	1	0
	2	20
	3	40
	4	60
	5	80
	6	100
32, 33, 35	1	0
	2	25
	3	50
	4	75
	5	100

Ethical Consideration

Ethical approval was acquired from the Research Ethics Committee at Universiti Teknologi MARA. Participants were informed that their participation in the questionnaire was voluntary, and they were assured that their responses would be treated with confidentiality and anonymity.

Data Analysis

In this study, a blend of descriptive and inferential analyses was employed. Both analyses were conducted using Statistical Package for Social Sciences (SPSS) version 26.

Descriptive Analysis

The initial phase of the data analysis employed numerical measures such as mean, standard deviation, minimum, and maximum values. These analyses helped the author form preliminary insights about the data.

Independent Samples t-test Analysis

This analysis aimed to ascertain if there exists a significant difference, on average, between PCS and MCS concerning gender. Before proceeding with further analyses, all assumptions regarding the Independent Samples t-test were thoroughly examined during the preliminary analysis.

The assumptions including normality and homogeneity of variances were tested on the data. Normality was assessed using the Shapiro-Wilk test and Q-Q plots, while for determining the homogeneity of variances was evaluated using Levene's test (Field, 2024).

Multiple Linear Regression Analysis (MLR)

The data analysis focuses on using MLR to determine the contributing factors to PCS and MCS. Multiple linear regression (MLR) was used to achieve the study's main goal. All the analyses in MLR were compared with a p-value of less than 0.05. The equation is given as follows in Eq. (1) and Eq. (2).

$$Y_1 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon \quad (1)$$

$$Y_2 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon \quad (2)$$

where Y_1 is the quality of life on PCS

Y_2 is the quality of life on MCS

X_1 is gender (male = 0, female = 1)

X_2 is frequency of Quran recitation

X_3 is household income

X_4 is social activity

X_5 is sunnah practice

B_0 is the intercept.

B_i is the coefficient for each independent variable.

ϵ is the error term.

With the intention to produce an accurate result in MLR, the model adequacy checking process was used to check whether the assumptions were fulfilled. A multiple linear regression was conducted to predict quality of life on PCS and MCS based on the selection of the predictor variables.

Prior to analysis, the assumptions of linearity, independence, homoscedasticity, normality of residuals, and no multicollinearity were tested. Linearity was confirmed by scatter plots and residual plots. While independence was ensured through study design. Besides, the homoscedasticity was checked using residual plots and the Breusch-Pagan test with the intention to failed rejecting the null hypothesis at 0.05 significance level. The most crucial assumption to achieve when using MLR which is normality of residuals was assessed using Q-Q plots and the Shapiro-Wilk test ($p > .05$). Further assessment on avoiding perfect multicollinearity was evaluated using VIF values, which were all below 10 (Field, 2024). All regression assumptions presented in accordance with model adequacy checks.

Result and Discussion

Descriptive Analysis

Table 2 illustrates the average PCS and MCS scores segmented by gender. According to the study conducted by Ul-Haq et. al., (2014) individuals with higher scores in PCS and MCS generally experience enhanced overall HRQoL. This study demonstrates that the average PCS score for male students surpasses that of female students, indicating that males tend to have better HRQoL in terms of PCS compared to females. Consistent with these findings the previous research done by Valdelamar et. al., (2023) reported the same findings. Conversely, females tend to exhibit better HRQoL in terms of MCS compared to male students which is contradict with the previous findings wrote by Anguzu et. al. (2021).

Table 2: Average PCS and MCS Segmented by Gender

Gender	N	PCS	MCS
Male	197	63.6159	53.7918
Female	189	58.3023	57.9353

Table 3 exhibits a descriptive overview of several factors among students, including Quran recitation frequency, household income, engagement in social activities, and adherence to Sunnah practices. Concerning Quran recitation, the mean recitation count of approximately 5.59 suggests that, on average, students engage in reciting the Quran approximately 5 to 6 times per week. This demonstrates a notable variance in recitation frequency among students, as indicated by the relatively high standard deviation. While some students consistently recite the Quran several times weekly, others do so infrequently or not at all. Moreover, the mean household income of RM 6,155.68 offers insight into the typical income level of households. While certain households approximate the mean income, others experience significantly higher or lower incomes.

Additionally, the mean duration of 5.38 hours illustrates the average time students allocate to engaging in social activities per week. Nonetheless, the standard deviation of 3.413 underscores the diversity among individuals, with some students participating in social activities more frequently than others or dedicating less time to such endeavours.

Table 3: Average PCS and MCS Segmented by Gender

Factor	Mean (S)
Quran Recitation	5.59 (3.31)
Household Income	6155.68 (3885.18)
Social Activity	5.38 (3.41)
Sunnah Practice	53.11 (16.62)

Independent Samples t-test Analysis

An independent samples t-test was conducted to compare the scores on PCS and MCS of male and female. Prior to conducting the analysis, the assumptions of normality and homogeneity of variances were tested. Normality was assessed using the Shapiro-Wilk test and Q-Q plots, which indicated that the data were approximately normally distributed ($p > .05$). Homogeneity of variances was evaluated using Levene's test, which was not significant ($p > .05$), indicating that the assumption of equal variances was met.

Table 4 revealed a significant disparity in PCS between genders (p -value < 0.001). As indicated in the preceding section, male students exhibited higher levels of PCS (mean = 63.6159) compared to their female counterparts (mean = 58.3023). This suggests that male students enjoy better HRQoL in terms of PCS compared to females. This observation aligns with prior research conducted by Bonsaksen (2012), who found that males with higher levels of physical activity tended to have better HRQoL than females.

Similarly, the same analysis was conducted on MCS, uncovering a significant difference between genders (p -value = 0.013). Surprisingly, the average MCS score for female students (57.9353) was higher than that of male students (53.7918). This finding contradicts previous research by Ma et al., (2021) which reported that females typically have lower HRQoL in terms of MCS compared to males.

Table 4: Mean Difference Analysis on PCS and MCS

	PCS	MCS
Test Statistic	2.632	0.159
sig.	< 0.001	0.013

Multiple Linear Regression Analysis (MLR)

In pursuit of the primary objective of this study, multiple linear regression (MLR) analysis was conducted. Diagnostic checks were performed to ensure that all necessary assumptions were upheld, and based on the examination, it was confirmed that all assumptions were met. The ensuing Tables 5 and 6 present the outcomes of the analysis.

Table 5 indicates that gender, Quran recitation frequency, household income, engagement in social activities, and adherence to Sunnah practices have a significant impact on PCS, as evidenced by p-values for these factors being less than 0.05. The coefficient of determination, R-squared (0.798), indicates that approximately 79.8% of the total variation in PCS is accounted for by these significant predictor variables, while the remainder is explained by other unexamined factors in this study.

Moreover, the overall fit model statistic indicates that the model is highly significant (p-value < 0.001). In conclusion, five significant factors were identified to affect PCS: gender (p-value < 0.001), Quran recitation frequency (p-value < 0.001), household income (p-value < 0.001), engagement in social activities (p-value = 0.003), and adherence to Sunnah practices (p-value < 0.001).

Table 5: Coefficient of PCS

Model	Unstandardized	
	Beta	sig.
Constant	16.032	< 0.001
Gender	-5.353	< 0.001
Quran Recitation	1.716	< 0.001
Household Income	0.001	< 0.001
Social Activity	0.657	0.003
Sunnah Practice	0.516	< 0.001
R ²		0.798
Overall Fit Mode, F (p-value)		< 0.001

Hence, the final equation is given as follows in Eq. (3).

$$Y = 16.032 - 5.353X_1 + 1.716X_2 + 0.001X_3 + 0.657X_4 + 0.516X_5 \quad (3)$$

Y is the quality of life on PCS

X₁ is gender

X₂ is frequency of Quran recitation

X₃ is household income

X₄ is social activity

X₅ is sunnah practice

Based on Eq. (3), it is anticipated that male students will exhibit superior HRQoL in terms of PCS compared to female students (5.353). Additionally, a higher frequency of Quran recitation (1.716) is expected to correlate with better HRQoL. Moreover, an increase in household income (0.001) is anticipated to have a positive impact on HRQoL. The statistical equation also suggests that increased participation in social activities (0.657) is associated with improved HRQoL. Furthermore, each additional instance of Sunnah practice (0.516) is expected to contribute to an increase in HRQoL.

Table 6 illustrates that all the variables of interest exert an influence on MCS, with p-values less than 0.05. The coefficient of determination, R-squared (0.799), indicates that approximately 79.9% of the total variance in MCS is accounted for by these significant predictor variables, while the remaining portion is explained by other unexamined factors in this study. Additionally, the overall fit model statistic indicates that the model is highly significant (p-value < 0.001). In summary, five significant factors were identified to affect MCS: gender (p-value = 0.03), Quran recitation (p-value < 0.001), household income (p-value < 0.001), engagement in social activities (p-value < 0.001), and adherence to Sunnah practices (p-value < 0.001).

Table 6: Coefficient of MCS

Model	Unstandardized	
	Beta Coefficients	sig.
Constant	18.144	< 0.001
Gender	3.609	0.03
Quran Recitation	1.604	< 0.001
Household Income	1.899	< 0.001
Social Activity	0.001	< 0.001
Sunnah Practice	0.712	< 0.001
R ²		0.799
Overall Fit Mode, F (p-value)		< 0.001

Hence, the final equation is given as follows in Eq. (4).

$$Y = 18.144 + 3.609X_1 + 1.604X_2 + 1.899X_3 + 0.001X_4 + 0.712X_5 \quad (4)$$

- Y is the quality of life on MCS
- X₁ is gender
- X₂ is frequency of Quran recitation
- X₃ is household income
- X₄ is social activity
- X₅ is sunnah practice

Based on Eq. (4), it is expected that female students will demonstrate better HRQoL in terms of PCS compared to male students (3.609). Moreover, a higher frequency of Quran recitation (1.604) is anticipated to be positively correlated with improved HRQoL. Additionally, an increase in household income (1.899) is expected to have a favorable impact on HRQoL. The statistical equation also indicates that increased engagement in social activities (0.001) is associated with enhanced HRQoL. Furthermore, each additional instance of Sunnah practice (0.712) is expected to contribute to an elevation in HRQoL.

Conclusion

The findings suggest that frequent recitation of the Quran significantly influences both physical and mental component summaries (PCS and MCS), thereby enhancing students' health-related quality of life (HRQoL). The analysis reveals that students who regularly recite the Quran experience improvements in their physical and mental well-being. These results are consistent with previous research by Amir et al. (2022), which demonstrated that engaging in religious activities improves quality of life compared to those who do not participate. A similar study by Abd Rahman et al. (2019) also found a positive correlation between Quran memorization, recitation, sunnah practice, and physical and mental health. This indicates that memorizing and reciting the Quran effectively enhances HRQoL by promoting psychological well-being, mental stability, and relaxation (Ma'ruf, Hartanto, & Sulaeman, 2019). Additionally, another study by Ramirez et al. (2012) investigated the relationship between religious coping strategies, including engagement with the Quran, and HRQoL in hemodialysis patients. They found that positive religious coping, which included seeking comfort and support from religious beliefs and practices, was associated with higher levels of HRQoL.

Furthermore, practicing sunnah activities, which include actions, behaviors, and personality traits aligned with those of Prophet Muhammad, significantly impacts students' health-related quality of life (HRQoL). Adhering to sunnah practices offers various benefits that can positively influence HRQoL. For instance, studies have shown that following sunnah practices related to hygiene, such as regular ablution (wudu) and brushing teeth (miswak), positively affects oral health and reduces the risk of dental diseases (Haque, & Alsareii, 2015). Similarly, adopting dietary practices recommended in the Sunnah, such as consuming moderate portions, eating a balanced diet, and avoiding excessive consumption, can enhance overall physical well-being and reduce the risk of chronic diseases (Latif, & Rahman, 2020).

This study demonstrates that frequent engagement in sunnah practices, such as dhikr, qiyamul-lail (night prayer), dhuha prayer, recitation of selected surahs, sending blessings (selawat), and fasting on Mondays and Thursdays, can enhance students' HRQoL. This finding is supported by Abdullah et al. (2021), who observed that sunnah activities are linked to improved musculoskeletal health, flexibility, and overall well-being. Additionally, previous research by Amir et al. (2022) indicates that individuals who frequently engage in sunnah practices experience better quality of life compared to those who do not participate.

Moreover, household income significantly affects both physical and mental component summaries (PCS and MCS), thereby influencing students' HRQoL. Adequate income is crucial as it provides for basic needs and reduces distress associated with limited financial resources. This study found that students with higher incomes tend to have better physical health outcomes. They are more likely to afford healthcare services, medication, nutritious food, and a healthier lifestyle overall, which can contribute to improved HRQoL. Conversely, lower income levels are often linked to higher rates of stress, anxiety, and depression, negatively impacting HRQoL. Financial strain, limited access to mental health services, and reduced social support contribute to these mental health disparities. This finding aligning with a study by Quon and McGrath (2014) found that higher socioeconomic status, including income, was associated with better mental health outcomes. Individuals with higher household income experienced lower rates of psychological distress and had higher levels of well-being compared to those with lower income. Additionally, research by Paula et al. (2012) and Casey et al. (2005) demonstrates the negative impact of insufficient household income on individuals' lives.

Furthermore, social activity plays a significant role in both physical and mental component summaries (PCS and MCS), thereby contributing to health-related quality of life (HRQoL). Active participation in social activities has been shown to improve brain health, weight management, disease prevention, bone and muscle health, and the ability to perform routine activities. Engaging in social activities that involve physical movement, such as exercise, sports, or outdoor recreational activities, has been associated with improved physical health outcomes. Regular physical activity can help prevent chronic diseases, enhance cardiovascular fitness, improve muscular strength and flexibility, and promote overall physical well-being. These positive effects on physical health contribute to improved HRQoL.

This study reveals that social activities can have a significant impact on mental health and emotional well-being. Engaging in hobbies, artistic pursuits, mindfulness practices, or activities that promote relaxation and stress reduction can reduce symptoms of anxiety and depression, enhance mood, and improve overall mental well-being. Such activities provide opportunities for self-expression, personal growth, and emotional rejuvenation, leading to improved HRQoL. Studies conducted by Rodríguez-Fernández et al. (2017) and Elavsky et al. (2005) also support the positive effects of social activity on overall well-being, life satisfaction, physical activity-related self-efficacy, and positive affect on HRQoL.

The outcome from this study reported that gender significantly contributed to PCS and MCS. A previous study by Liao et al. (2021) and other research such as "Psychometric properties of the World Health Organization WHOQOL-BREF quality of life assessment in Singapore" by Reba et al. (2019) and Suárez et al. (2018) did find a correlation between gender and HRQoL.

In summary, engaging in Quran recitation, practicing sunnah, participating in social activities, and having a higher household income can significantly enhance students' health-related quality of life (HRQoL) in both physical and mental aspects (PCS and MCS). These activities not only contribute to better HRQoL but also strengthen their connection with God, providing a sense of tranquility. Additionally, students should actively participate in university life to develop social skills and boost confidence, leading to a more enjoyable and fulfilling experience.

Numerous avenues exist to enhance the study's outcomes. Future research should expand its purview to encompass a broader and more diverse demographic, including adults and the elderly, to furnish a more holistic perspective and consider varied experiences. Given that the current study predominantly emphasizes quantitative data, simplifying survey questions to capture qualitative insights may prove advantageous, facilitating a deeper comprehension of individual choices and behaviours. Furthermore, augmenting the sample size in alignment with the target population is advisable. Such an adjustment would bolster the reliability of the findings, as larger sample sizes are more apt to accurately reflect the broader population.

References

- Abd Rahman, S., Ishak, I., Abd Warif, N., Ibrahim, F. W., Che Din, N., Harun, D., & Ghazali, A. R. (2019). Hubungan antara hafazan al-Quran dan kualiti hidup pelajar Tahfiz di Selangor, Malaysia. *Jurnal Sains Kesihatan Malaysia*, 17(SI), 11-1111.
- Abdullah, M. M. A., Fazlan, M. A. C. A., Sheefa, M. I. F., & Mazahir, S. M. M. (2021). The Application of Life Skills in Sunnah: A Study Based on Recommended Life Skills by WHO. *World Journal of Social Science*, Vol 8, No. 2.
- Amir, S. N., Juliana, N., Azmani, S., Abu, I. F., Talib, A. H. Q. A., Abdullah, F. & Aziz, N. A. S. A. (2022). Impact of Religious Activities on Quality of Life and Cognitive Function among Elderly. *Journal of Religion and Health*, 1-21.
- Anguzu, R., Nagavally, S., Dawson, A. Z., Walker, R. J., & Egede, L. E. (2021). Age and Gender Differences in Trends and Impact of Depression on Quality of Life in The United States, 2008 To 2016. *Women's Health Issues*, 31(4), 353-365.
- Bennett, K. M. (2005). Social Engagement as A Longitudinal Predictor of Objective and Subjective Health. *European Journal of Ageing*, 2, 48-55.
- Bonsaksen, T. (2012). Exploring Gender Differences in Quality of Life. *Mental Health Review Journal*, 17(1), 39-49.
- Casey, P. H., Szeto, K. L., Robbins, J. M., Stuff, J. E., Connell, C., Gossett, J. M., & Simpson, P. M. (2005). Child Health-Related Quality of Life and Household Food Security. *Archives of Pediatrics & Adolescent Medicine*, 159(1), 51-56.
- Elavsky, S., McAuley, E., Motl, R.W., Konopack, J. F., Marquez, D. X., Hu, L., Diener, E. (2005). Physical Activity Enhances Long-Term Quality of Life in Older Adults: Efficacy, Esteem, and Affective Influences. *Annals of Behavioral Medicine*, 30(2), 138-145.
- Field, A. (2024). *Discovering Statistics Using IBM SPSS Statistics*. Sage Publications Limited.
- Guedes, D. P., Hatmann, A. C., Martini, F. A. N., Borges, M. B., & Bernardelli Jr, R. (2012). Quality of Life and Physical Activity in A Sample of Brazilian Older Adults. *Journal of Aging and Health*, 24(2), 212-226.
- Haque, M. M., & Alsareii, S. A. (2015). A Review of The Therapeutic Effects of Using Miswak (Salvadora Persica) on Oral Health. *Saudi Medical Journal*, 36(5), 530.
- Latif, M. A., & Rahman, S. A. (2020). Knowledge And Attitude on Sunnah Food and Islamic Eating Practices Among Students of Universiti Malaysia Sabah. *Journal of Halal Industry & Services*, 3(1).
- Liao, Y.-H., Kao, T.-W., Peng, T.-C., & Chang, Y.-W. (2021). Gender Differences in The Association Between Physical Activity and Health-Related Quality of Life Among Community-Dwelling Elders. *Aging Clinical and Experimental Research*, 33(4), 901-908.
- Lee, K. H., Xu, H., & Wu, B. (2020). Gender Differences in Quality of Life Among Community-Dwelling Older Adults in Low-And Middle-Income Countries: Results from The Study on Global Ageing and Adult Health (SAGE). *BMC Public Health*, 20, 1-10.
- Ma, L., Mazidi, M., Li, K., Li, Y., Chen, S., Kirwan, R., & Wang, Y. (2021). Prevalence Of Mental Health Problems Among Children and Adolescents During The COVID-19 Pandemic: A Systematic Review and Meta-Analysis. *Journal of Affective Disorders*, 293, 78-89.
- Ma'ruf, I. J., Hartanto, O., & Sulaeman, E. S. (2019). Memorizing Al Quran Improves Quality of Life Stroke Patients with Motoric Aphasia Disorders. *In IOP Conference Series: Earth and Environmental Science*, Vol. 292, No. 1, p. 012030, IOP Publishing.
- Quon, E. C., & McGrath, J. J. (2014). Subjective Socioeconomic Status and Adolescent Health: A Meta-Analysis. *Health Psychology*, 33(5), 433.
- Paula, J. S., Leite, I. C., Almeida, A. B., Ambrosano, G. M., Pereira, A. C., & Mialhe, F. L. (2012). The Influence of Oral Health Conditions, Socioeconomic Status and Home

- Environment Factors on Schoolchildren's Self-Perception of Quality of Life. *Health and Quality of Life Outcomes*, 10, 1-8.
- Ramirez, S. P., Macêdo, D. S., Sales, P. M. G., Figueiredo, S. M., Daher, E. F., Araújo, S. M., Carvalho, A. F. (2012). The relationship between religious coping, psychological distress and quality of life in hemodialysis patients. *Journal of psychosomatic research*, 72(2), 129-135.
- Reba, K., Birhane, B. W., & Gutema, H. (2019). Validity and Reliability of The Amharic Version of The World Health Organization's Quality of Life Questionnaire (WHOQOL-BREF) in Patients with Diagnosed Type 2 Diabetes in Felege Hiwot Referral Hospital, Ethiopia. *Journal of Diabetes Research*, 2019(1), 3513159.
- Raosoftware, Inc. (2004). Sample Size Calculator. Retrieved from http://www.raosoftware.com/sample_size.html.
- Rodríguez-Fernández, A., Zuazagoitia-Rey-Baltar, A., & Ramos-Díaz, E. (2017). Quality of Life and Physical Activity: Their Relationship with Physical and Psychological Wellbeing. *Quality of Life and Quality of Working Life*.
- S.N. Amir, N. Juliana, S. Azmani, I.F. Abu, A.H.Q.A. Talib, F. Abdullah, I.Z. Salehudin, N.I.M.F. Tengku, N.A. Amin, N.A.S.M. Azmi, and N.A.S.A. Aziz, (2022). Impact of Religious Activities on Quality of Life and Cognitive Function Among Elderly. *J Relig Health*, vol. 61, pp. 1564-1584, doi: <https://doi.org/10.1007/s10943-021-01408-1>
- Suárez, L., Tay, B., & Abdullah, F. (2018). Psychometric Properties of The World Health Organization Whoqol-Bref Quality of Life Assessment in Singapore. *Quality of Life Research*, 27(11), 2945–2952.
- Ul-Haq, Z., Mackay, D. F., & Pell, J. P. (2014). Association between physical and mental health-related quality of life and adverse outcomes; a retrospective cohort study of 5,272 Scottish adults. *BMC public health*, 14, 1-10.
- Valdelamar-Jiménez, J. R., Narváez Betancur, M. B., Brites, C., & Lins-Kusterer, L. (2023).