

A Quantitative Study of Quality of Life (QOL) on Postgraduate Students in Universiti Sains Malaysia

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A Quantitative study was done to analysis Quality of Life (QOL) between Iranian and Malay postgraduate students in Universiti Sains Malaysia (USM). For this purpose, data were elicited from 35 Iranian and 35 Malay students through a WHOQOL-BREF questionnaire. WHOQOL-BREF has 26 questions and four broad domains namely: Physical health, Psychological, Social Relationships and Environmental domains. Sample characteristics were determined using means and standard deviation and Independent t-tests uses to consider differences for the domain of QOL in two groups of postgraduate students. The participants were of the same language proficiency. Results showed that the internal consistencies (Cronbach alpha) in physical health, psychological, social Relationships and environmental domains are 0.74, 0.79, 0.61, and 0.72, respectively. Moreover, domains are evaluated 60.5 ± 10.6 , 62.9 ± 11.3 , 64.5 ± 14.5 , 60.2 ± 10.1 for Malay postgraduate students, and 66.5 ± 13.5 , 64.5 ± 16.1 , 63.6 ± 17.7 , 59.4 ± 13.4 for Iranian postgraduate students, respectively. According to these results, the physical domain is only significant between two groups ($P < 0.008$). Furthermore, our study indicates QOL is in the middle level (50 – 75 %) for all postgraduate students. This study provides comprehensive information that can be applied to improve education quality in national and international students.

Keywords: Quality of life, Malay and Iranian students, WHOQOL-BREF questionnaire

1. INTRODUCTION

Quality of life (QOL) is a multi-dimensional concept, which encompasses crucial areas such as physical health, psychological well-being, social relationships, economic circumstances, personal beliefs and their relationships to salient features of the environment (Daher et al., 2011).

QOL has been defined by the WHO as “individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, standards, expectations, and concerns”. It is a broad-ranging concept affected in a complex way by the person’s physical health, psychological state, and level of independence, social relationships, and their relationships to salient features of their environment. QOL refers to a subjective evaluation which is embedded in a cultural, social and environmental context (Orley et al., 1998).

There are many general instruments available to measure QOL. The WHOQOL-BREF is one of the best-known instruments that has been developed for cross-cultural comparisons of QOL and is available in more than 40 languages. It has been adopted in the United State of America,

Netherlands, Poland, Bangladesh, Iran, Thailand, India, Australia, Japan, Croatia, Zimbabwe and many more other countries (Ehlers et al., 1998). It is a shortened version of the WHOQOL-100 that looks at four QOL profiles, using all available data from the field trial version of the WHOQOL-100 (Ehlers et al., 1998). We selected this questionnaire because it is short and easy to use and this is first study to our best knowledge that has examined the QOL between Iranian and Malay students in USM. We thought this would allow to apply the questionnaire in both epidemiological and outcome studies and also could provide an opportunity for future research works to compare QOL between Iranian and Malay postgraduate students and people living in other communities. The aim of this study is therefore to assess the QOL among postgraduate students living in Penang, Malaysia.

2. METHODS

2.1. Participants

Seventy participants took part in this study: thirty five Iranian and thirty five Malay postgraduate students studying in different types of schools at universiti sains Malaysia. They were selected by

simple random sampling. The participants were contacted personally and were informed about the aims of the study and that the participation is voluntary. Also they were informed that the results of the study will be used for publication and no personal data will be revealed. The questionnaire was self-administered and participants were also requested to provide information relating to their sex, grade, marital status and nationality.

2.2. The Questionnaire

The WHOQOL-BREF is a self-report questionnaire which includes 26 items that 24 items of them are formed the four domains of physical health (seven items), psychological health (six items), social relationships (three items) and environment (eight items). The other two items measure overall quality of life and general health (Kuehner and Buerger, 2005). The first one is health and physical functioning it includes activity level, mobility, physical symptoms, ability to take care of responsibilities and participation in recreational activities (Bonomi et al., 2000; Ehlers et al., 1998), the second dimension is psychological and spiritual attitudes and responses which include satisfaction of life, anxiety, stress self-esteem achievement of goals, purpose in life, spiritual aspects; religion, sense of security and control over own life. The third dimension is social and economic involvement, which focus on employment work, education, financial status, friendship and social support. The last dimension is the environmental health domain covers issues related to financial resources, safety, health and social services, living physical environment, opportunities to acquire new skills and knowledge, recreation, general environment (noise, air pollution, etc.), and transportation (Hunt, 1997).

There is no overall score for the WHOQOL-BREF. Whereas an item is missing, the mean of other items in the domain can be substituted. Where more than two items are missing from the domain, the domain score should not be calculated, except for domain 3 in which more than one missing item is required to cancel the calculation. The questionnaires that have more than 20%

missing items should be also excluded (Bonomi et al., 2000).

2.3. Statistical analysis

All data were entered and analyzed using Statistical package for social sciences (SPSS) version 17.0. Descriptive statistics were calculated for all variables. Numerical variables were summarized as a mean \pm SD and categorical variables summarized by frequency and percentage. The WHOQOL-BREF was first summarized to a four domain construct (physical health, psychological health, social relationships and environment), and WHOQOL-BREF guidelines were followed to calculate mean domain scores and to deal with missing data, whereas an item is missing, the mean of other items in the domain can be substituted. Where more than two items are missing from the domain, the domain score should not be calculated (Critchley et al., 2000). All scores are transformed to reflect 0 to 100 for each domain and also for comparison to other studies, transformed to reflect 4 to 20 for each domain with higher scores corresponding to a better QOL. The internal consistency for each domain was estimated using Cronbach's alpha. Values equal to or greater than 0.70 were considered satisfactory (Bonomi et al., 2000). Independent t-tests uses to consider differences for the domain of QOL and overall in two group of postgraduate students and multiple regression uses to determines relationships between some factor (such as gender, marital status, income, and grade) and QOL between 2 groups of students. All levels of significance are two-tailed and the level of significance is considered 0.05.

3. RESULTS

A total of 70 postgraduate students from Universiti Sains Malaysia responded to the questionnaire. Majority of the respondents were females (60%), more than half of the respondents were singled (55.7%). The number of people in PhD and master are identical. The demographic characteristics of participants are presented in Table 1.

Table 1: Characteristics of the study participants

Domains	Number of items	Mean score (SD)*	Mean score (SD)**
Physical health	7	65.5(12.7)	14.5(2.0)
Psychological health	6	63.5(14.0)	14.2(2.2)
Social relationships	3	63.7(16.3)	14.2(2.5)
Environmental health	8	59.7(11.6)	13.5(1.9)

* The higher score represents a better condition (scores range from 0 to 100)

** The higher score represents a better condition (scores range from 4 to 20).

The mean score for all participants is presented in Table 2. The table also shows the internal consistency for the four WHOQOL-BREF domains. All domains in Iranian students except social relationships met or exceeded the 0.7 level

recommended as an acceptable internal consistency. But in Malay students all domains under 0.7 levels don't accepted internal consistency.

Table 2: Descriptive statistics for domains of QOL per two transformation domain score

Variable	All (n=70)	Iranian	Malay	P-value
Gender Freq. (%)				
Male	28(40)	14(40)	14(40)	N.S*
female	42(60)	21(60)	21(60)	
Grade Freq. (%)				
Master	35(50.0)	15(42.9)	20(57.1)	N.S
PhD	35(50.0)	20(57.1)	15(42.9)	
Marital status Freq. (%)				
Single	39(55.7)	16(45.7)	23(65.7)	N.S
Married	31(44.3)	19(54.3)	12(34.3)	

The adjusted means and standard deviation for the four WHOQOL-BREF domains are presented in Table 3 and figure 1. We estimated 55.43 ± 10.4 and 55.04 ± 7.5 respectively for total QOL

measures in Iranian and Malay students which was insignificant. Scores in physical health domain were significantly different in between groups ($p=.008$) and other domains were no significant.

Table 3: The known groups' comparison (controlled for confounders)

Domains	Malay	Iranian	P-value
	Mean (SD)	Mean (SD)	
Physical health	60.53 (10.61)	66.48 (13.56)	0.008
Psychological health	62.91 (11.29)	64.52 (16.08)	N.S
Social relationships	64.52 (14.48)	63.65 (17.76)	N.S
Environmental health	60.17 (10.15)	59.45 (13.38)	N.S

Table 4 presents correlations between the WHOQOL-BREF questions and domains. As expected, all of questions showed the highest correlations with domains to which they were originally assigned, except question of 15: mobility

showed the highest correlation with psychological domain but the Pearson correlation between mobility and psychological health is less than 0.4 and it is not satisfactory.

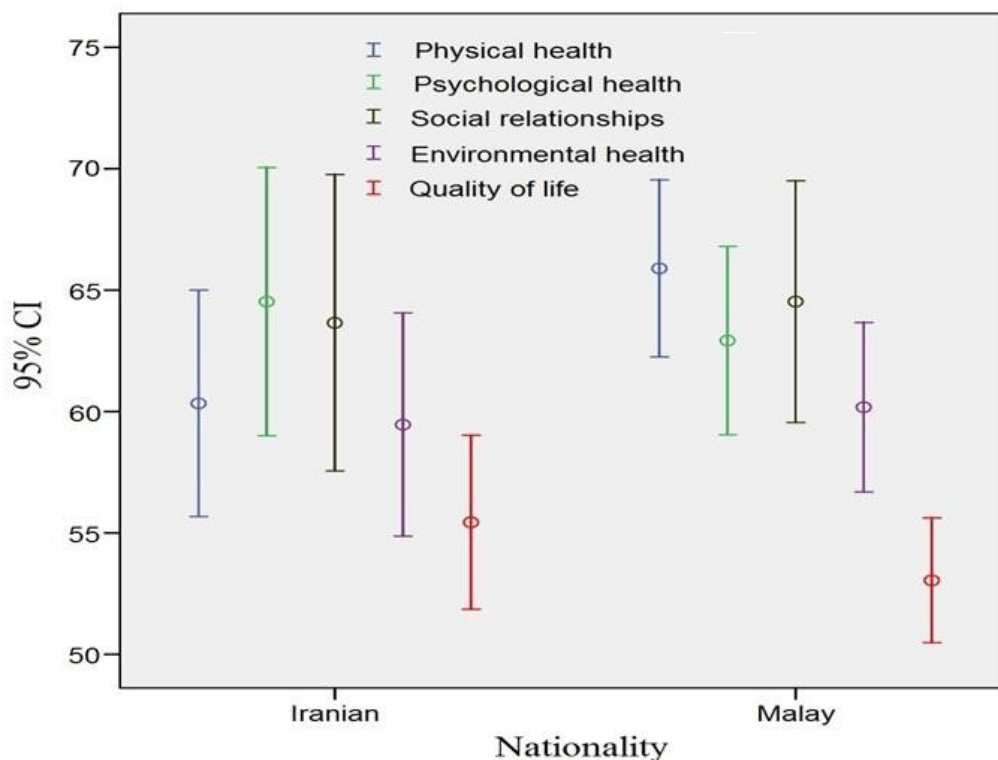


Fig. 1: 95 percent confidence intervals for both Iranian and Malay QOL domains

Table 4: Item-scale correlation matrix for WHOQOL-BREF measures* (n = 70)

	Physical health	Psychological health	Social relationships	Environmental health
Physical health (item number)				
Pain (3)	0.63	0.27	-0.02	0.16
Dependence of medical aids (4)	0.63	0.22	0.03	0.15
Energy (10)	0.66	0.46	0.34	0.33
Mobility (15)	0.37	0.24	0.19	0.28
Sleep and rest (16)	0.70	0.54	0.54	0.35
Activities of daily living (17)	0.75	0.56	0.43	0.31
Work capacity (18)	0.61	0.58	0.52	0.43
Psychological health (item number)				
Positive feeling (5)	0.36	0.74	0.28	0.48
Personal belief (6)	0.57	0.78	0.45	0.66
Concentration (7)	0.26	0.63	0.26	0.51
Bodily image (11)	0.60	0.73	0.31	0.24
Self-esteem (19)	0.44	0.70	0.44	0.22
Negative feeling (26)	0.44	0.60	0.41	0.30
Social relationships (number of items)				
Personal relationship (20)	0.40	0.41	0.75	0.22
Sexual activity (21)	0.44	0.44	0.83	0.43
Social support (22)	0.11	0.30	0.65	0.19
Environmental health (item number)				
Security (8)	0.40	0.49	0.29	0.64
Physical environment (9)	0.23	0.35	0.29	0.55
Financial support (12)	0.24	0.28	0.29	0.45
Accessibility of information (13)	0.30	0.30	0.22	0.60
Leisure activity (14)	0.07	0.33	0.12	0.45
Home environment (23)	0.19	0.32	0.31	0.63
Health care (24)	0.22	0.44	0.28	0.69
Transport (25)	0.40	0.21	0.10	0.69

4. DISCUSSION

The WHOQOL-BREF questionnaire is a brief and useful instrument to measure quality of life. This study has provided some preliminary evidence of the reliability and validity of the WHOQOL-BREF for use in USM, though further research is required to challenge problems of reliability in one dimension and the instrument's factor structure. This study shows effects of marital status, grade, state of health, and the number of daily contacts with other people. Since students don't have much time to sleep, rest and leisure activities due to spend time high for studying and doing their research works, then this problem can affect on physical health domains of WHOQOL-BREF. It is not amazing that physical health of the Iranian postgraduate students lower than Malay postgraduate students since this domain includes questions related to daily activities, discomfort, sleep and energy.

5. CONCLUSION

To our knowledge, this is the first study assessing QOL between Iranian and Malay postgraduate students in Universiti Sains Malaysia (USM). Though further research is required to challenge problems of reliability in one dimension and the instrument's factor structure the major objective of this study was to determine the perception of the postgraduate students about their quality of life within the Malay context. Quality of life as a measurement can identify physical or mental health problems and provide a guide to intervention and follow-up evaluation. As mentioned in section 2.2 The WHOQOL-BREF questionnaire is a brief and useful instrument to measure quality of life. Independent t-tests was used to consider differences for the domain of QOL in two group of postgraduate students and multiple regression utilizes to determines relationships between some factor (such as gender, marital status, income, and grade) and QOL between 2 groups of students. According to the present results, the physical domain is only significant between two groups ($P < 0.008$).

Furthermore, our study indicates QOL is in the middle level (50 – 75 %) for all postgraduate students.

Our study provides comprehensive information that may be applied to improve education quality of national and international students. This research will offer insight into the quality of life for new students who wish come to Penang for education.

6. REFERENCES

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