



# Appraisal of wellness-lifestyle status among Malaysian undergraduate students: A cross-sectional and gender-based wellness survey

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## ABSTRACT

Wellness is a continuous and intentional attempt to remain healthy and attain a maximum potential for well-being. A high level of wellness is vital to produce a well-balanced and competent graduate. This study aims at evaluating the wellness status of Malaysian undergraduate students. A total of 250 undergraduate students drawn from various faculties in one of the public universities in Malaysia participated in this study from 2019 to 2020. The wellness-lifestyle inventory that evaluates an initial rating of a person's present attempt to remain healthy was used as a tool for assessing the wellness status of the students. Analysis for the rating scores in their awareness revealed that the students have an excellent to moderate awareness on key wellness elements consisting of avoiding chemical dependency, personal safety, emotional well-being, environmental health and protection, stress management, personal hygiene, and disease prevention, while poor scores were recorded in nutrition and health-related fitness. With reference to gender, it was observed that female students were significantly more informed in the four major areas of wellness elements, specifically health-related fitness, personal hygiene and health, disease prevention, and environmental health protection, while male students were better at avoiding chemical dependency ( $p < 0.05$ ). The findings of this study provide significant information on the wellness-lifestyle status of the students and its practices that could assist the stakeholders to be informed about the students' overall wellness, in order to be able to design appropriate activities and programs to cater to their needs.

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## INTRODUCTION

It has been reported that good health could no longer be seen as merely the absence of illness, but rather the concept of good health has evolved considerably and continues to change as researchers offer more insights on lifestyles behaviors that bring about illness as well as affecting wellness (Click *et al.*, 2017). Consequently, when the notion is upheld, it becomes apparent that fitness itself might not always decrease the risk of disease

and ensure better health, but also the need for health promotion programs and wellness concept should be emphasized. Wellness is seen as a continuous and intentional attempt to remain healthy and attain a maximum potential for well-being. To attain a high level of wellness status, it is required to imbibe the habit of implementing positive lifestyle habits that could modify behavior to enhance health and quality of life, prolong life, and achieve total well-being. It is worth mentioning that maintaining wellness status is a personal choice; however, an individual may require extra support to acquire the necessary wellness goals.

University life is a transition period experienced by students which brings about a range of new challenges. In preparing themselves for a new phase in life and future employment, students are faced with high expectations in terms of achieving academic excellence. This situation often takes a toll on their physical and

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mental health. According to a survey conducted by the Malaysian Ministry of Health known as the National Health and Morbidity Survey III, Malaysians aged between 16 (10%) and 24 years (26%) have a higher tendency to commit suicide than those of any other age (IPH, 2015) due to psychological problems related to stress and anxiety (Gan *et al.*, 2011). Moreover, when comparing this trend of anxiety and depression among college students, as reported by the American College Health Association Fall 2018 National College Health Assessment, 63% of college students in the US felt overwhelming anxiety in the past year. In the same survey, 23% reported being diagnosed or treated by a mental health professional for anxiety in the past year. These statistics have demonstrated that psychological problems among college students are increasing at an alarming rate and hence become a global concern.

Wellness is also an important agenda put forward by the Malaysian government to all university graduates. The Malaysian Education Development Plan 2015 has outlined the national goals of education to produce holistic, entrepreneurial, and balanced graduates (Ministry of Higher Education, 2015). The Eleventh Malaysia Plan (2016–2020) also seeks to enhance human capital through quality graduates who are knowledgeable and skillful and have positive attitudes. Furthermore, the Graduate Action Plan (2012–2017) outlines efforts to prepare students for employment through a good curriculum that prepares students to not only have excellent basic knowledge of subjects but to also have competence in terms of skills, qualities, and attributes desired by employers. Thus, research related to the wellness of university students needs to be conducted to identify the level of wellness and quality of life experienced by them. This study examines the wellness status of multiethnic Malaysian undergraduates' students.

## MATERIALS AND METHODS

### Participants

The participants of this study consist of a total number of 250 undergraduate students aged  $20 \pm 0.76$  years. The students are from the Universiti Malaysia Terengganu and are drawn from various faculties via simple random sampling consisting of Economics, Policy management, Maritime Management, Accounting, Marketing, Financial Mathematics, Food Science, Computer Science, Biodiversity, and Chemical Science. Before the commencement of data collection in this study, the students were informed about the purpose of the research and informed consent was obtained. It is worth noting that this study was revised and approved by the Departmental Ethics Committee (UMT/PPAL/500–28 JILD 2-2019).

### Instruments for data collection

The principal instrument for data collection was the Wellness Lifestyle Questionnaire (taken from the *Fitness and Program*, 2014; Hoeger and Hoeger, 2014). The instrument comprises 36 items. Responses are recorded on a 5-point Likert scale, from strongly agree (1) to strongly disagree (5). The 36 questions are grouped to contribute to 9 categories which can be further broken down into three categories of self that include "excellence," "good," and "need improvement." The categories include "health-related fitness," "nutrition," "avoiding chemical dependency," "stress management," "personal hygiene," "disease prevention," "emotional well-being," "personal safety," and

"environmental health and protection." The cumulative grade point average of the students were collected and utilized as an indicator of their academic achievement.

### Internal consistency reliability and power analysis

Reliability testing was carried out prior to the commencement of the full analysis in this study. The internal consistency reliability was conducted to examine the consistency of the responses on the items of the instrument. A Cronbach's alpha coefficient was employed to examine the degree of consistency among the items and to ensure that the items are evaluating a single construct (unidimensional) and the student's responses are independent of each other (Musa and Haque, 2017; Nunnally, 1994). It is worth noting that the coefficient values of the items demonstrated a satisfactory value ranging from 0.79 to 0.89. Moreover, a prior power analysis using G\*Power was conducted to determine the sample necessary to draw a meaningful conclusion in the study (Maliki *et al.*, 2018). A power analysis of multivariate analysis with a power equivalent to 0.95 and alpha of 0.05 suggested that a sample size of 150 respondents would be sufficient to detect a medium effect size of 0.25. Similarly, a power determination for the analysis of variance with a power equivalent to 0.80 and an alpha of 0.05 revealed that a sample size of 200 respondents would be effective to identify a medium effect size of 0.05 (Cohen, 1992). Therefore, a sample size of 250 would be adequate to avoid the problem of Type II error.

### Data analysis

In this investigation, the Mann–Whitney U test was applied to examine the statistical differences between the male and female students with respect to their awareness, as well as the status of their well-being. The Mann–Whitney U test is considered appropriate in this study due to its ability to cater for nonnormal data distribution as suggested by the preceding researchers (Musa *et al.*, 2019). The statistical analysis was carried out by means of XLSTAT 2014-Addinsoft Inc., New York, NY, add-in software for Windows. All the inferences were set at  $p \leq 0.05$ .

## RESULTS

Table 1 displays the demographic information of the respondents. A total of 56 respondents from this study were male students, while 194 students were female. A total of 164 (65.6%) respondents were Malays, 27 (10.8%) respondents were Chinese, 43 (17.2%) respondents were Indians, and 16 (6.4%) respondents were from other racial groups.

Table 2 tabulates the profile of the wellness status of the participants in this study with respect to gender. It could be observed from the mean scores of the students that, among the nine key elements of wellness, the highest mean score is attributed to avoiding chemical dependency, followed by personal safety, emotional well-being, environmental health and protection, stress management, personal hygiene, and disease prevention. The lowest mean score among students was found to be nutrition, as well as health-related-fitness which is also rated for needing improvement in the male category.

Table 3 projects the statistical differences between the male and female students of this study. It can be seen from the table that the scores of the rating between the genders significantly differed across some of the wellness parameters evaluated.

The female students are observed to be better in health-related fitness, personal hygiene and health, disease prevention, and environmental health protection, while the male students are only noted to be better at avoiding chemical dependency.

**Table 1.** Demographic information of the respondents.

Description		Frequency	Percentage (%)
Gender	Male	56	22.4
	Female	194	77.6
Age group	19–20	189	75.6
	> 21	61	24.4
Race	Malay	164	65.6
	Chinese	27	10.8
	Indian	43	17.2
	Others	16	6.4
	Economics	69	27.6
	Policy management	15	6
Course	Maritime management	19	7.6
	Accounting	18	7.2
	Marketing	47	18.8
	Financial mathematics	39	15.6
	Food science	21	8.4
	Computer science	5	2
	Biodiversity	6	2.4
	Chemical science	11	4.4

*n* = 250.

**Table 2.** Wellness status profile of the students sampled.

Wellness parameters	Males		Females	
	Mean scores	Rating	Mean scores	Rating
Health-related fitness	10	NI	12	GD
Nutrition	12	GD	12	GD
Avoiding chemical dependency	18	EX	17	EX
Stress management	14	GD	15	GD
Personal hygiene health	13	GD	15	GD
Disease prevention	13	GD	14	GD
Emotional well-being	16	GD	16	GD
Personal safety	17	EX	16	GD
Environmental health and protection	13	GD	15	GD

Excellent (EX) = ≥ 17; good (GD) = 13–16; needs improvement (NI) = ≤ 12.

Figure 1 shows the boxplots of the differences in the rating scores of the participants based on the five major areas determined to be significantly different between the gender of the participants. It can be visualized from the figure that the mean differences of the female students are greater in four of the wellness elements, namely health-related fitness, personal hygiene and health, disease prevention, and environmental health protection, while the mean scores of male students in avoiding chemical dependency can be seen to be higher than female students.

**DISCUSSION**

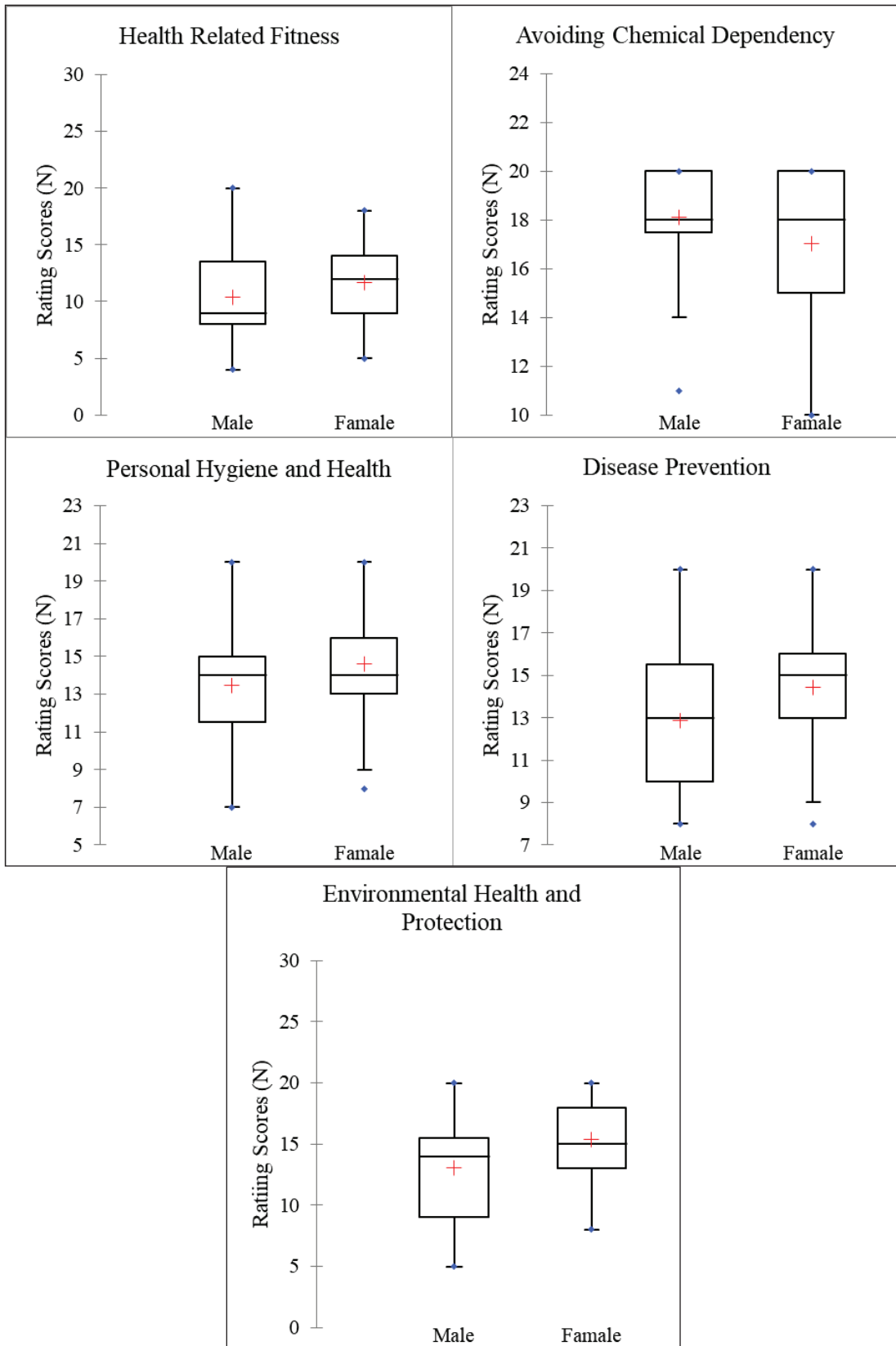
It is noted from the findings of this study that the students sampled have an excellent awareness in avoiding chemical dependency as shown to be the highest mean scores across both genders (Table 2). Avoiding chemical dependency is the well-being of individuals through self-care and personal security that is also closely related to the students’ understanding of their roles within the university, where they realize that they are responsible for taking care of themselves while dealing with stress in work and other related claims. The university is an environment where the highest level of cleanness should be observed. The students’ life should be full of clean energy and materials needed to sustain life, such as clean air, potable water, nutritious food, and safe places to live. Lack of the aforementioned materials could pose a health risk to the students that could increase the risk of cancer, heart disease, asthma, and many other illnesses (Musa and Haque, 2016).

Substance abuse and dependence are caused by multiple factors faced by students, including genetic vulnerability, environmental stress, social pressures, individual personality characteristics, and psychiatric problems (Gan *et al.*, 2011). Students give many different reasons why they may use drugs, including liking the sensations obtained, peer pressure, and being a part of a group. Sometimes drugs are used to avoid difficult situations that may arise at school, work, family, and friends. Others use drugs to avoid uncomfortable feelings, like anxiety or sadness. A serious problem can develop quickly, especially among college students. As with any health issue, prevention of addiction is far more effective and financially beneficial than treatment. Keeping college students informed of the potential consequences of substance abuse can ensure that they are able to make the best decisions for their future.

However, the findings show that “health-related fitness” and “nutrition” element scored the lowest mean as shown in Table 2. This finding is consistent with the study conducted

**Table 3.** Differences between the students on the wellness status scores.

Wellness parameters	Males		Females		<i>p</i> (Mann–Whitney)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Health-related fitness	10.395	4.025	11.657	2.983	0.012*
Nutrition	12.349	3.337	12.391	3.051	0.900
Avoiding chemical dependency	18.116	2.107	17.039	2.861	0.037*
Stress management	14.419	2.621	14.676	2.492	0.676
Personal hygiene health	13.465	2.604	14.589	2.391	0.019*
Disease prevention	12.860	3.328	14.454	2.833	0.004*
Emotional well-being	15.791	2.816	15.855	2.510	0.715
Personal safety	16.977	2.006	16.184	2.647	0.110
Environmental health and protection	13.093	4.208	15.343	3.031	0.001*



**Figure 1.** Differences in the students' scores across gender in the five wellness elements.

by the preceding researchers who indicated that a majority of undergraduate students, comprising both male and female, do not take nutritious breakfast (Click *et al.*, 2017; Gan *et al.*, 2011; Sun *et al.*, 2013). It was further noted by the previous investigators that more than half of the Malaysian undergraduate students sampled were unable to meet the criteria of Malaysian Recommended Nutrient Intake for energy, vitamin C, thiamine, riboflavin, niacin, iron, and calcium (Gan *et al.*, 2011). This study also pointed out students' poor diet, low nutrient intake, and a high rate of underweight students. Furthermore, it was stressed by other researchers that among the factors which contributed to this problem are students' time constraints, no appetite, not liking to eat in the morning, or sleeping too late to get up early (Moy *et al.*, 2009).

In the same vein, the findings of this investigation are also consistent with the findings of previous researchers who revealed that very few students (6.5%–27.1%) take responsibility for health awareness; only 31.2% participated in various physical activities; and only 13.8% regularly work out. Less than half (35.2%) of the students take fruits and vegetables daily (Lee and Loke, 2005). According to Lee *et al.* (1994), university students often do not eat a proper breakfast and simply grab a snack or fast food. In addition, they are found to be less involved in exercise as most of their times are allocated for academic matters. Although health is highly valued by university students where a majority of them do realize the importance of health and nutrition, only a few of them practice a healthy lifestyle, with regular exercise and consumption of healthy food. It is important to note that poor lifestyle among students leads to symptoms of obesity. Therefore, a healthy lifestyle and good eating habits are two vital elements to achieve a good health status.

It was also demonstrated from the findings of this study that the scores of the female students are significantly different from the male in the four major areas of wellness elements, specifically health-related fitness, personal hygiene and health, disease prevention, and environmental health protection as tabulated in Table 3. This finding is congruent with the reported data of the previous researchers who observed in their study that a larger percentage of female college students (86%) practised personal hygiene of handwashing as opposed to only 14% of the male students (Anderson *et al.*, 2008). It is imperative to note that good practice of personal hygiene among students is nontrivial owing to the fact that a large number of students spend most of their time in public places, such as schools, colleges, or universities in direct contact with other people. The transmission of communicable disease to students may lead to the abscondment from school, which could consequently affect their academic performance (White *et al.*, 2003).

In an earlier study, gender variations in exercise habits, as well as reasons for engaging in exercises, were carried out to assess gender differences in the predictability of quality of life form and the possible contribution toward the quality of life (Craft *et al.*, 2014). It was observed from the study that females exercised more than males. Moreover, the results indicated female partake in physical activity for weight-related and toning reasons, while male endorsed enjoyment reasons more than women. It was ascertained from the study that female reported a higher quality of life than male. On the other hand, it has been demonstrated from this study

that males are better in avoiding addiction to chemical substances as compared to the female (Table 2 and Figure 1). While it is noted that, in a general population, individuals differ in their risk for addiction owing to a variety of elements encompassing genetic as well as personality traits, nonetheless, evidence has demonstrated that males are more likely to avoid the addiction of chemical substances due to the biological differences between females and males that influence how each response to drugs abuse and engage in addictive behaviors (Becker *et al.*, 2017; Kandall, 1999; McClellan, 2017).

## CONCLUSION AND RECOMMENDATION

This study highlights the overall wellness status among university Malaysian undergraduate students. It is observed from the findings of this study that the Malaysian undergraduate students have an excellent to moderate awareness on key wellness elements consisting of avoiding chemical dependency, personal safety, emotional well-being, environmental health and protection, stress management, personal hygiene, and disease prevention. However, the students fell short in the aspect of health-related fitness and nutrition. It is evident from the results that fewer students engaged in physical activities and considered nutritious foods. Conversely, it is demonstrated that female students are significantly more informed in the four major areas of wellness elements, specifically health-related fitness, personal hygiene and health, disease prevention, and environmental health protection, while male students are better at avoiding chemical dependency.

The findings of this study provide significant implications for the understanding of wellness and its practices. The findings could serve as a foundation for the university to understand the students' overall wellness, in order to be able to design appropriate activities and programs to cater to their needs. The findings also implied that wellness and lifestyle-related programs need to be integrated within the university's curriculum. The higher institution of learning should introduce appropriate campaigns to promote a healthy lifestyle among students. Certain rewards should be introduced to enhance students' overall wellness, especially given that they are now engaged in gadgets and a wide range of technological equipment that often leads to sedentary lifestyles.

## LIMITATION OF THE STUDY

While it is noted that the students involved in this study represent the major racial groups in Malaysia, however, the samples of this study were drawn from a single public university in the country; therefore, the findings may not reflect the true representation of other private university students or students undertaking different courses in some of the public universities within the country. More universities and students from different courses should be considered in future research to draw a more definite conclusion.

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## AUTHORS' CONTRIBUTIONS

Rabiu Muazu Musa contributed to conceptualization. Jessica A/P Kannan, Nur Wahyu Fatihah Md Rashid, and Auni

Mardhiah Ali contributed to data collection. Nur Ain Syazwani Abdul Rashid, Umami Kalsum Wan Nek, and Rabi'u Muazu Musa contributed to data analysis. Jessica A/P Kannan, Nur Ain Syazwani Abdul Rashid, and Auni Mardhiah Ali contributed to original draft of the manuscript. Rabi'u Muazu Musa, Nur Wahyu Fatihah Md Rashid, and Umami Kalsum Wan Nek contributed to final version of the manuscript.

#### DISCLOSURE STATEMENT

This work was carried out as part of the students' assignment; therefore, no funding was received.

#### CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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None.

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