

Health And Wellness Among Malaysian Adults: A Cross-Sectional Study Of Lifestyle Determinants

Tee Seow Ping^{1*}, Tan Seng Teck¹, Lim Swee Geok¹, Reynold Tom Fernandez¹, Jason See Toh¹, Subrun Veerunjaysingh², Shaurya Prakash³

¹*INTI International University, Malaysia*

²*Educator, M.P.S. Jugdambi, SSS, Mauritius*

³*Assam down town University, Guwahati, Assam, India*

ABSTRACT

Various lifestyle behaviors affect health and wellness and determine the physical and psychological health of individuals. The research investigated the most important lifestyle determinants of the general wellness among Malaysian adults with a special emphasis made on diet, physical activity, sleep quality, and stress management. A quantitative cross-sectional study was used and data were gathered using online questionnaire survey, which was conducted to the Malaysian adults aged 18 and above. One hundred and sixty-six responses were received, of which 150 valid responses were used in the process of data analysis, after data screening. The statistical techniques of analysis included descriptive statistics, independent samples t-test, one way ANOVA, Pearson correlation and multiple linear regression. The findings showed that the four lifestyle factors had a positive correlation with overall wellness. Nonetheless, the regression analysis showed that the quality of sleep and stress management had the strongest predictability of wellness, whereas the dietary habits and physical activity had positive but insignificant outcomes. Results also showed a significant difference in wellness among different age groups but no significant difference existed between the male and female respondents. These findings emphasize the need to consider psychological and behavioral aspects of lifestyle change in wellness programs. The research has implications for policymakers and health practitioners in the formulation of comprehensive wellness programs that can focus on behaviors that are associated with lifestyle balance, such as healthy sleep and coping with stress among adults

Keywords: Lifestyle Determinants, Wellness, Sleep Quality, Stress Management, Malaysian Adults; Economic Growth.

How to cite this article: Ping TS, Teck TS, Geok LS, Fernandez RT, Toh JS, Veerunjaysingh S, Prakash S; Health And Wellness Among Malaysian Adults: A Cross-Sectional Study Of Lifestyle Determinants..*Int J Drug Deliv Technol.* . 2026;16(11s): 449-461. DOI: 10.25258/ijddt.16.11s.45

Source of support: Nil.

Conflict of interest: Nil

INTRODUCTION

Health and wellness are very much known as the core aspects of quality of life and future societal productivity. However, over the recent decades, the sudden urbanization, technological progress, and the overall lack of movement have contributed to the alteration of daily habits and lifestyle, which can have a detrimental impact on the physical and psychological condition of individuals. The new workspace usually implies long hours of sitting, sleep disorders, and exposure to work-associated stress, which might affect the general well-being. The public health reports in Malaysia show that non-communicable diseases, including cardiovascular diseases, diabetes, and mental health disorders, are becoming more common, which emphasizes the need to deal with lifestyle behaviors that affect health outcomes (Ministry of Health Malaysia, Institute for Public Health, 2023). On a national scale, the healthcare

strategies consider preventive health and lifestyle improvement to be the primary focus areas when creating a healthier population (Ministry of Health Malaysia, 2023).

Lifestyle habits have been in the lead in establishing the condition of health and perceived well-being of people. Among such behaviors that have been repeatedly mentioned as the important constituents of the overall wellness were dietary habits, physical activity, quality of sleep and stress management. These include proper dieting which is associated with metabolic wellness, improved cognitive performance, and reduced risks of chronic disease. Research works that discuss the relationship between diet and sleep have shown that our eating patterns can positively influence the quality of sleep and the whole process of physiological functioning (Godos et al., 2021; Gazi et al., 2025). In addition, lifestyle habits are likely to be correlated i.e. the transformation in one of the areas, e.g. diet or physical

activity, can positively influence other such as mental health, sleep control.

Physical activity is another attribute that is considered in the overall health and wellness. Exercises are useful in keeping a healthy heart, enhancing the immune system and keeping a person psychologically strong. In spite of the fact that the advantages of an active lifestyle are very clear, according to the recent news reports, not every individual is active enough. According to a survey carried out in Malaysia, it is demonstrated that a good proportion of adults are characterized by the lack of interest in introducing regular exercise, and it is alarming when it comes to addressing the possible problems with health in the long run in the case of the sedentary lifestyle (Gimino and Vethasalamini, 2024). Physical activity has been the normative factor associated with increased risks to be obese, metabolically and mentally unhealthy. Consequently, active lifestyles have also taken a major health promotion agenda and a wellness initiative.

Sleeping quality has also become a health determinant and well-being. Sleep allows cognitive and emotional management and physiological rejuvenation and sleep deprivation can lead to negative health effects, including exhaustion, inability to concentrate, and stress. A study that has been conducted on the working population in Malaysia has shown that the number of individuals who lack sufficient sleep is quite high, and thus, it is possible that most people lack sufficient sleep in order to remain healthy (Chan et al., 2021). Physical and psychological morbidity has been associated with lack of good quality sleep and there is a need to put into consideration sleep patterns as a significant factor in overall wellness. The outcomes of mental and physical health were also found to be highly interdependent with the quality of the sleep, which further suggests that lifestyle habits and well-being have an interdependent relationship (Clement-Carbonell et al., 2021).

Stress management is another important lifestyle factor that affects the outcomes of health. Chronic stress can cause both physical and mental illnesses since the victim becomes vulnerable to anxiety, depression and cardiovascular diseases. Individuals are predisposed to different stressors nowadays: work-related stress, financial problems, and social pressures. As the recent regional research on the mental health statistics shows, the prevalence of psychological stress among individual members of Southeast Asia is growing, which makes the need to strengthen mental health support and stress management strategies (Naluri, 2024). Stress management skills like mindfulness, stress relievers, and healthy work-life habits may therefore prove to be very essential towards making sure that there is a general well-being.

The lifestyle determinants are not individual but rather intertwined to a great extent with regard to influencing the health outcome of the individuals. The literature comparing the relationship of lifestyle behaviors proved that the quality of sleep and physical activity may co-determine the psychological well-being and mental health outcomes (Trabelsi et al., 2021). Similarly, studies involving the older population have established that sleep, diet and physical activity are all contributors to the physical and mental health and this suggests that wellness is a consequence of multiple interrelated lifestyle habits (Zhao et al., 2021). Based on this finding, the research has emphasized the necessity to examine the determinants of lifestyle as an entity and not an independent variable in health and wellness.

Another sector that is increasing in Malaysia is health and wellness as there is an increased awareness of a healthy lifestyle in Malaysia. Based on the market data, the demand of the kind of services associated with wellness activities, including health coaching and digital wellness applications, will continue to rise within several years (Statista, 2025). In as much as this augmented interest shows the growing acknowledgement of the role of lifestyle selections to maintain health there is a relative lack of empirical research to examine the interaction impacts of different lifestyle determinants on the wellness of Malaysian adults. Literature pays much attention to individual lifestyle determinants, such as sleep or exercise, but not a combination of various behaviors.

Therefore, the given study is going to examine the most significant lifestyle determinants of health and wellness among Malaysian adults with a focus on four most significant elements, such as diet, exercise, sleep quality, and stress management. The policymakers, medical professionals, and wellness agencies that may be interested in developing more effective health promotional strategies could also find the results of great help. The major objectives of this study are:

1. To examine the differences in overall wellness among Malaysian adults based on gender and age groups.
2. To determine the influence of dietary habits, physical activity, sleep quality, and stress management on overall health and wellness among Malaysian adults.

The Hypotheses of this study are:

H1: There is a significant difference in wellness between male and female adults.

H2: There is a significant difference in wellness across age groups.

H3: Dietary habits significantly influence overall wellness.

H4: Physical activity significantly influences overall wellness.

H5: Sleep quality significantly influences overall wellness.

H6: Stress management significantly influences overall wellness.

2. Methodology

2.1 Study Design

A quantitative cross-sectional study design was applied to investigate the relationship between lifestyle and the general health and wellness of Malaysian adults. The design enabled the researchers to estimate measures of data at one point and determine the relationship between the variables of choice of lifestyle and the results of wellness. The survey took the structured format where it gauged the perception and behavior of the respondents in the survey with regards to the dietary pattern, exercise, sleep quality and management of stress. Cross-sectional design was considered as the appropriate one as it gave the researchers a chance to investigate patterns and relationships between variables among a given population without the prospects of controlling the study environment.

2.2 Participants and Sampling

The research population consisted of adults aged 18 years old and Malaysian adults. The sample size was obtained by use of online survey that was sent to the members of target population. One hundred and sixty-six responses were originally obtained and after data screening one hundred and fifty valid responses were saved to be analyzed. Incomplete and inconsistent responses were eliminated to ensure that the dataset was of quality. The last sample was that of adults with diverse demographic characteristics such as differences in gender, age categories, level of education, working or not and income range. This sample was deemed to be sufficient to conduct the statistical tests needed to test the hypotheses of the study.

2.3 Data Collection Procedure

The online questionnaire survey was used to gather information on respondents' lifestyle choices and general wellness perceptions. The questionnaire was electronically mailed to the Malaysian adults meeting the eligibility criteria of the study. The participants voluntarily completed the survey after being made aware of the study's objectives. Precise questions were also structured in the questionnaire and they were used to measure both the outcomes of wellness and lifestyle determinants. The data was documented in a standard form in order to give consistency in the analysis process. The responses once collected had to be met and filtered

after data collection process, without any incomplete responses being readied before it was subjected to statistical analysis.

2.4 Measurement of Variables

The overall health and wellness and dietary habits, physical activity, sleep quality, and stress management were the dependent and independent variables in the study, respectively. The constructs were all measured using various survey questions which were developed to reflect on the lifestyle behaviors and perceptions of the respondent. The measurement of all the variables was taken using a five-point Likert scale according to which the respondents were requested to inquire about the level of their agreement with this statement. A high score was linked to more agreement of lifestyle behaviors or a more positive lifestyle behaviors. The researcher was able to measure the perceptions of respondents due to standardized Likert-scale measurements that were used and allowed the researcher to apply the statistical procedures so as to test the relationships between the variables.

2.5 Reliability Analysis

The reliability test was conducted in order to ascertain internal consistency of measurement scales used in questionnaire. The survey items were tested relative to their reliability by determining the value of alpha of every construct. The results indicated that alpha Cronbach values ranged between 0.797 and 0.914 that were acceptable in the terms of internal consistency of each construct. These values were above the standard level of 0.70 meaning that the items used to measure each of the variables were valid and would always measure the constructs. Such reliability test demonstrated that the questions in the questionnaires could be used in subsequent statistical analysis and interpretation of study results.

2.6 Statistical Analysis

To analyze the correlation between the lifestyle determinants and the wellness outcomes, statistical analyses were conducted by using Microsoft Excel with Analysis ToolPak. Various analytical processes have been used in the study. To begin with, demographic characteristics and variables distributions were summarized by means of descriptive statistics. Second, the variations in wellbeing between male and female respondents were to be established using an independent samples t-test. Thirdly, a one-way ANOVA was used to examine the variation in wellbeing among the age groups. Additionally, the link between the variables was calculated using Pearson correlation, and the relevant

predictors of overall wellbeing were identified using multiple linear regression.

3. Results

3.1 Demographic Characteristics

The data screening showed that 156 responses were obtained; 150 of these responses were valid responses used in the statistical analysis of the data. The gender distribution was as follows, 49.3% of participants were female, 46% were male and 4.7 percent did not want to

disclose the gender. In terms of age distribution, the majority (42.7) were respondents between the age categories of 36 to 45 years, then there are those who were between 26 to 35 years of age (30.7), as indicated in Table 1. Other demographic information included variations in ethnicity, education level, employment status, and income categories. Overall, the demographic profile indicated that the sample represented Malaysian adults from diverse socioeconomic backgrounds (Figures 1 and 2).

Table 1. Frequency Distributions of Demographic Variables (n =150)

| Variable | Category | Frequency (n) | Percentage (%) |
|--------------------------|---------------------|---------------|----------------|
| Gender | Male | 69 | 46.0 |
| | Female | 74 | 49.3 |
| | Prefer not to say | 7 | 4.7 |
| Ethnicity | Chinese | 89 | 59.3 |
| | Indian | 26 | 17.3 |
| | Malay | 35 | 23.3 |
| Age Group | 18–25 | 16 | 10.7 |
| | 26–35 | 46 | 30.7 |
| | 36–45 | 64 | 42.7 |
| | 46–55 | 19 | 12.7 |
| | 56 and above | 5 | 3.3 |
| Marital Status | Single | 48 | 32.0 |
| | Married | 91 | 60.7 |
| | Divorced/Separated | 10 | 6.7 |
| | Widowed | 1 | 0.6 |
| Educational Level | No formal education | 2 | 1.3 |
| | Primary | 3 | 2.0 |
| | Secondary | 42 | 28.0 |
| | Diploma | 57 | 38.0 |
| | Bachelor’s degree | 42 | 28.0 |
| | Postgraduate | 4 | 2.7 |
| Employment Status | Employed full-time | 88 | 58.7 |
| | Employed part-time | 18 | 12.0 |
| | Self-employed | 32 | 21.3 |
| | Unemployed | 5 | 3.3 |
| | Retired | 3 | 2.0 |
| | Student | 4 | 2.7 |
| Income Level | Below 2,500 | 12 | 8.0 |
| | 2,500–4,999 | 46 | 30.7 |
| | 5,000–7,499 | 58 | 38.7 |
| | 7,500–9,999 | 24 | 16.0 |
| | 10,000 and above | 10 | 6.7 |

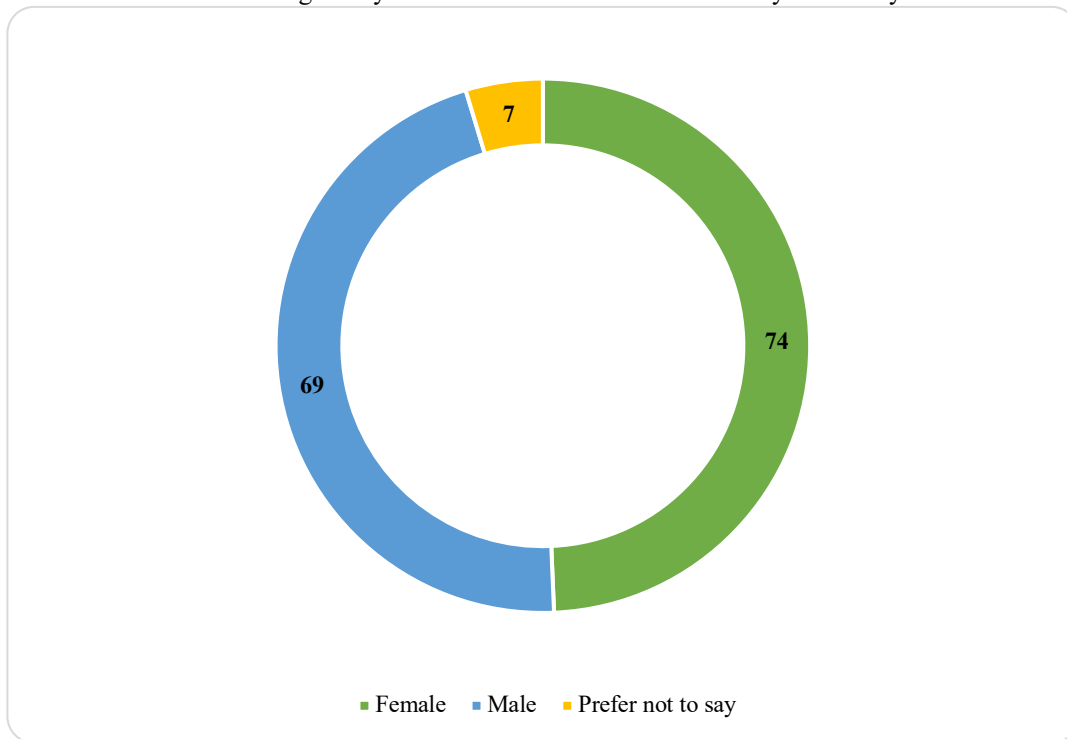


Figure 1. Gender Distribution of Respondents

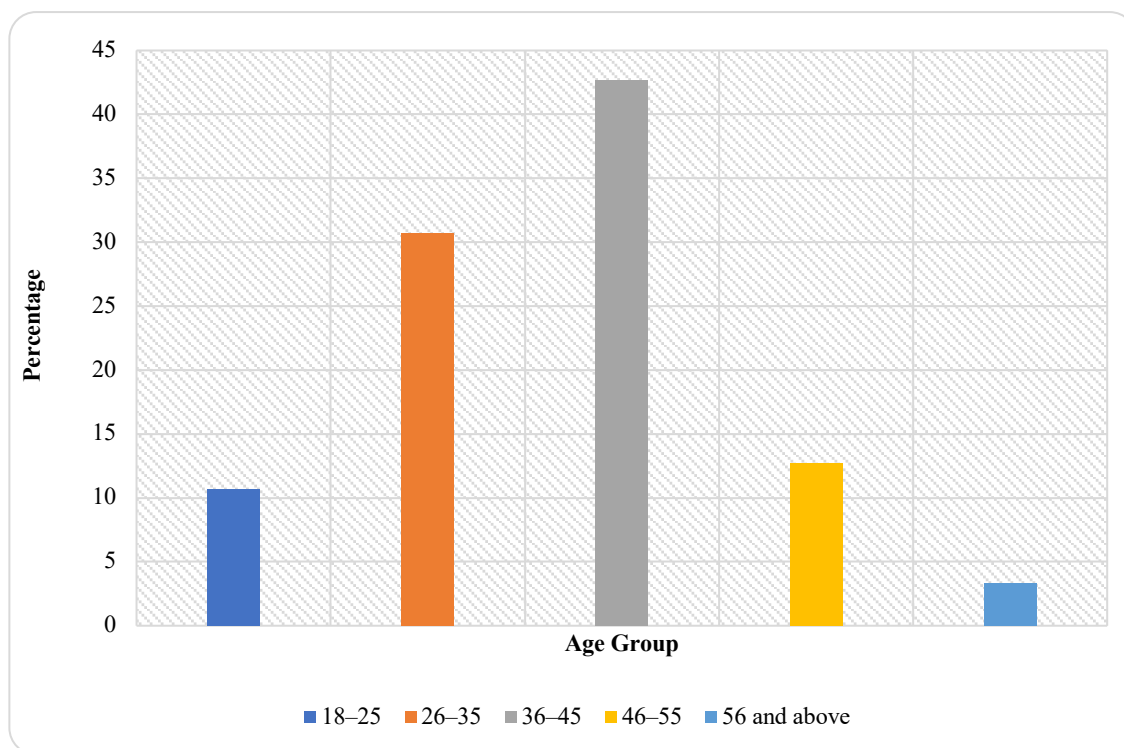


Figure 2. Age Group Distribution of Respondents

3.2 Descriptive Statistics

The summary of central tendencies of the variables of lifestyle measured in the study were summarized using descriptive statistics. The findings showed that the meanest score ($M = 3.585$) is the sleep quality as compared to the other four lifestyle determinants. It was then followed by dietary habits ($M = 3.440$) and stress management ($M = 3.238$). On the contrary, the lowest

mean value ($M = 2.743$) was the physical activity as shown in Table 2. These results lead to the assumption that, overall, the respondents felt more positive about their sleep quality and their eating habits than about their physical activity. The lower mean score regarding the physical activity implied the possibility of relatively weak participation in exercise among the respondents.

Table 2. Descriptive Statistics for Independent and Dependent Variables

| Construct | Mean | Standard Deviation | Minimum | Maximum | Variable Type |
|---------------------|-------|--------------------|---------|---------|---------------|
| Dietary Habits | 3.440 | 0.908 | 1.000 | 5.000 | V1 |
| Physical Activity | 2.743 | 1.065 | 1.000 | 5.000 | V2 |
| Sleep Quality | 3.585 | 1.031 | 1.000 | 5.000 | V3 |
| Stress Management | 3.238 | 0.993 | 1.000 | 5.000 | V4 |
| Health and Wellness | 3.540 | 0.979 | 1.250 | 5.000 | DV |

3.3 Gender Differences in Wellness

Independent-samples t-test was used to test hypothesis that there were significant differences in the overall wellness between the male and female respondents. An F-test was done to test equality of variances before t-test, and the results showed that the assumption of equality of variances was met (Table 3). The result of the t-test showed that the difference between the two tailed values

of p was greater than 0.05 implying that there was no statistically significant difference between the level of wellness in male and female respondents. (Table 4). Though male respondents are recorded to have had slightly higher mean wellness scores as opposed to female respondents, the difference was not noticed as significant.

Table 3. F-Test within Male and Female

F-Test Two-Sample for Variances

| Statistic | Male | Female |
|-----------------------|--------|--------|
| Mean | 3.551 | 3.531 |
| Variance | 1.174 | 0.788 |
| Observations | 69.000 | 81.000 |
| df | 68.000 | 80.000 |
| F | 1.489 | |
| P(F ≤ f) one-tail | 0.043 | |
| F Critical one-tailed | 1.578 | |

Table 4. T-Test within Male and Female

t-Test: Two-Sample Assuming Equal Variances

| Statistic | Male | Female |
|--------------|--------|--------|
| Mean | 3.551 | 3.531 |
| Variance | 1.174 | 0.788 |
| Observations | 69.000 | 81.000 |

| | | |
|------------------------------|---------|--|
| Pooled Variance | 0.965 | |
| Hypothesized Mean Difference | 0.000 | |
| df | 148.000 | |
| t Stat | 0.123 | |
| P(T≤t) one-tail | 0.451 | |
| t Critical one-tailed | 1.655 | |
| P(T≤t) two-tail | 0.902 | |
| t Critical two-tailed | 1.976 | |

3.4 Age Differences in Wellness

To determine whether there were variations in the general well-being of various age groups, an Analysis of Variance (ANOVA) was used. The results demonstrated that, at the 0.05 level of significance, there was a statistically significant difference in wellness between different ages ($p = 0.0445$) (Table 5). This finding demonstrated that respondents from different age groups had different perceptions of healthiness. However, it was observed that the sample size was quite small even in the

age group above 56, which may have affected the stability of the comparisons between the groups. Despite this flaw, the results of the ANOVA suggested that the perceived wellbeing of Malaysian adults may have been influenced by age.

Table 5. ANOVA test

| Groups | Count | Sum | Average | Variance |
|--------------|-------|--------|---------|----------|
| 18–25 | 16 | 49 | 3.063 | 0.854 |
| 26–35 | 46 | 163.25 | 3.549 | 0.782 |
| 36–45 | 64 | 238.25 | 3.723 | 0.974 |
| 46–55 | 19 | 60.5 | 3.184 | 1.214 |
| 56 and above | 5 | 20 | 4.000 | 0.594 |

ANOVA

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---------------------|---------|-----|--------|--------|---------|--------|
| Between Groups | 9.250 | 4 | 2.3125 | 2.5092 | 0.0445 | 2.4341 |
| Within Groups | 133.635 | 145 | 0.9216 | | | |
| Total | 142.885 | 149 | | | | |

3.5 Correlation Analysis

To determine the relationships between overall wellness and the lifestyle determinants, Pearson correlation analysis was undertaken. The findings indicated that the four lifestyle variables were all positively related to wellness. Stress management had the highest correlation with the wellness ($r = 0.737$), followed by sleep quality

($r = 0.726$). Table 6 demonstrated moderate positive correlation of dietary habits ($r = 0.627$), and weak but positive correlation of physical activity ($r = 0.451$). These results showed that a better lifestyle pattern was connected with a greater perceived health and wellness among the respondents.

Table 6. Correlation Matrix between Independent and Dependent Variables Correlation Matrix

| Variables | IV1 | IV2 | IV3 | IV4 | DV |
|-----------|-------|-------|-------|-------|-------|
| IV1 | 1.000 | | | | |
| IV2 | 0.435 | 1.000 | | | |
| IV3 | 0.719 | 0.397 | 1.000 | | |
| IV4 | 0.598 | 0.554 | 0.664 | 1.000 | |
| DV | 0.627 | 0.451 | 0.726 | 0.737 | 1.000 |

(IV1 = Dietary Habits, IV2 = Physical Activity, IV3 = Sleep Quality, IV4 = Stress Management, DV = Health and Wellness)

3.6 Multiple Regression Analysis

The degree to which the lifestyle determinants were predictors of the overall wellness was determined by running multiple linear regression analysis to determine the overall wellness. As shown in Table 7, it was determined that the regression had a significant value, $F(4,145) = 67.183$, $p < 0.001$ and explained approximately 65 percent of the variance in wellness ($R^2 = 0.650$). Two

key predictors of wellness included sleep quality and stress management among the independent variables. Whereas, dietary habits and physical activity did not significantly predict them with the fact that both variables demonstrated positive relations with wellness. These results indicated that the mental well-being factors particularly, sleep and stress coping methods were more helpful in determining perceived wellness.

Table 7. Regression

| Statistic | Value |
|-------------------|-------|
| Multiple R | 0.806 |
| R Square | 0.650 |
| Adjusted R Square | 0.640 |
| Standard Error | 0.588 |
| Observations | 150 |

ANOVA (Regression Model)

| Source | df | SS | MS | F | Significance F |
|------------|-----|---------|--------|--------|----------------|
| Regression | 4 | 92.808 | 23.202 | 67.183 | 0.000 |
| Residual | 145 | 50.077 | 0.345 | | |
| Total | 149 | 142.885 | | | |

Regression Coefficients

| Variable | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
|-----------|--------------|----------------|--------|---------|-----------|-----------|-------------|-------------|
| Intercept | 0.509 | 0.202 | 2.518 | 0.013 | 0.110 | 0.909 | 0.110 | 0.909 |
| IV1 | 0.113 | 0.079 | 1.425 | 0.156 | -0.044 | 0.270 | -0.044 | 0.270 |
| IV2 | 0.028 | 0.055 | 0.508 | 0.612 | -0.081 | 0.137 | -0.081 | 0.137 |
| IV3 | 0.343 | 0.074 | 4.624 | 0.000 | 0.196 | 0.489 | 0.196 | 0.489 |

| | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| IV4 | 0.413 | 0.072 | 5.698 | 0.000 | 0.270 | 0.556 | 0.270 | 0.556 |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|

4. Discussion

The present study explained the interference of dietary practice, physical exercise, sleep quality, and stress coping with the holistic wellness among Malaysian adults. The results had shown that the sleep quality and stress management turned out to be the most significant predictors of perceived wellness and eating habits and exercise were significant and nonsignificant respectively in the regression equation. This finding makes it possible to conclude that psychological and behavioral aspects of lifestyle may have more influence on human perceived health and well-being than the simply physical lifestyle practices do. Emotional stability, cognitive and general life satisfaction that can enhance the level of perceived wellness can be promoted by sleep and stress management.

The observation that dietary habit and physical activity have a relatively low level of effect on the regression model does not necessarily imply that the two factors are irrelevant, as far as health is concerned. Instead, the findings can infer that they indirectly have an impact on perceived wellness through other mechanisms, including less sleep quality or reduced psychological stress. The other result of descriptive statistics was that the respondents showed that their physical activity levels were relatively low compared to other lifestyle behaviors. The trend may reflect the modern condition of the lifestyle in the modern world in which sitting positions and job stress reduce the possibility of exercise. Overall, the findings suggest that the notion of wellness has a multidimensional and complex nature, where the psychological well-being, daily behaviors, and daily habits interplay to create the images of the health among individuals.

Past studies have also pointed out the correlation between healthy behaviors and lifestyle. In a study of university students, every cardiovascular risk factor and overall health indicators were closely related to sleep quality and physical activity (Saat et al., 2021). A systematic review also showed that regular physical activity was very beneficial in enhancing sleep quality in the elderly, which indicated the relationship between lifestyle habits and restful sleep (Silva et al., 2022). In order to examine the relationship between physical activity, sedentary behavior, and sleep patterns and the likelihood of developing chronic illnesses and mental health in adulthood, a huge meta-analysis was conducted that found that a combination of all three is strongly linked to the probability of these diseases (Duncan et al., 2023). Longitudinal studies have also demonstrated that psychological stress can negatively affect the quality of sleep, and this means that stress management can play an important role in maintaining healthy sleep habits (Zhang et al., 2024). Studies of health-related quality of life also

reported that physical exercise positively influences perceived well-being, particularly in the case of turnover factoring age into consideration (Hao et al., 2024). An analysis comparing the lifestyle behaviors among young adults also found that sleep, diet, and exercise as a combination among them are deeply involved in the overall satisfaction with life and well being (Cooper et al., 2025). Those findings are a more broad resultant support of the results of the current research, which is that lifestyle behaviors are interrelated in terms of their capacity to have a role in determining individual wellness outcomes.

This research has several implications in practice on the health promotion initiatives and wellness plans. First, the large role of the quality of sleep and the stress control level is the indication that the wellness programs and interventions should be aimed to address the mental health concerns and behavioral management alongside the traditional approach to health promotion. Sleep hygiene education, stress management training, and mental health programs for corporations and health practices are examples of health promotion initiatives. Second, the findings emphasize the importance of a holistic approach to wellbeing that takes into account behavioral, psychological, and physical aspects. Individual promotional campaigns concerning such a facet of health promotion as physical activity or diet may not be effective enough to consider other important factors of well-being, such as emotional resilience and rest. The programs that are supposed to be directed towards the overall wellness should be directed to the healthy lifestyles that involve healthy sleep habits, effective coping mechanisms and physical exercise. Finally, age-related wellness interventions can also be effective as it was also observed that wellness between age groups dissimilarities suggest that age-specific demographic groups may need the adjustments of the interventions of the lifestyle type.

When interpreting the findings of this study, it is important to consider a few limitations. First, there is no way to establish cause-and-effect linkages between lifestyle variables and wellness outcomes because the study was based on a cross-sectional study survey. Second, recollection bias and social desirability bias may have an impact on the self-report data. Third, even though the sample included respondents from a variety of demographic backgrounds, some age groups—particularly the younger and older age groups—were overrepresented because they were not sufficiently represented in the data. Also, it is possible that the study sample was biased to those who inhabit urban setting and this may not have extended the study results to rural population or other cultural settings.

5. Conclusion

This study examined the key lifestyle factors—dietary habits, physical activity, sleep quality, and stress management—that impact the general health and wellness of Malaysian adults. The results showed that perceived wellness was positively related to all the four lifestyle factors. Nevertheless, the results of the regression analysis revealed that overall wellness had the strongest predictors in sleep quality and stress management in the respondents. The findings demonstrate the significant role of psychological and behavioral dimensions of lifestyle, indicating that proper sleep and proper stress management can be of special value to the improvement of the health perception and well-being of individuals. Even though dietary habits and physical activity showed positive connections with wellness, the effects were not significant in the regression model, which implies that their effects can be indirectly mediated by other health-related processes. The study also revealed that the wellness varied by age, which indicated that lifestyle habits and perception of health might not be similar on different adult stages. Whereas there were no significantly different wellness rates between male and female respondents. Overall, the results highlight the idea that wellness is determined by a combination of interrelated lifestyle behaviors and not just one factor in health. The possible future studies might be enhanced by the use of larger and more diverse samples to enhance the generalizability of the results to other populations and regions. The longitudinal research designs can also be used to explain the causal relationship between the lifestyle behaviors and wellness outcomes. To get a more complete picture of the elements influencing health and wellbeing in contemporary societies, the research can be expanded to take into account additional lifestyle determinants, such as work-life balance, social support, and digital health habits.

REFERENCE

- Chan, C. M. H., Siau, C. S., Wong, J. E., Wee, L. H., Jamil, N. A., & Hoe, V. C. W. (2021). Prevalence of insufficient sleep and its associated factors among working adults in Malaysia. *Nature and Science of Sleep*, 13, 1109–1116. <https://doi.org/10.2147/NSS.S295537>
- Clement-Carbonell, V., Portilla-Tamarit, I., Rubio-Aparicio, M., & Madrid-Valero, J. J. (2021). Sleep quality, mental and physical health: a differential relationship. *International journal of environmental research and public health*, 18(2), 460.
- Cooper, J. R., Turner, R. S., & Conner, T. S. (2025). From surviving to thriving: How sleep, physical activity, and diet shape well-being in young adults. *PLoS one*, 20(8), e0329689.
- Duncan, M. J., Murphy, L., Oftedal, S., Fenwick, M. J., Vincent, G. E., & Fenton, S. (2023). The associations between physical activity, sedentary behaviour, and sleep with mortality and incident cardiovascular disease, cancer, diabetes and mental health in adults: a systematic review and meta-analysis of prospective cohort studies. *Journal of Activity, Sedentary and Sleep Behaviors*, 2(1), 19.
- Gazi, M. A. I., Al Masud, A., Emon, M., Ibrahim, M., & bin S Senathirajah, A. R. (2025). The triadic relationship between green HRM, innovation, and pro-environmental behaviour: a study of their interactions and impacts on employee productivity and organizational sustainability. *Environmental Research Communications*, 7(1), 015016. DOI 10.1088/2515-7620/ada676
- Gimino, G., & Vethasalamini, R. (2024, May 25). Survey shows most Malaysians not interested in physical activities. *The Star*.
<https://www.thestar.com.my/news/nation/2024/05/25/survey-shows-most-malaysians-not-interested-in-physical-activities>
- Godos, J., Grosso, G., Castellano, S., Galvano, F., Caraci, F., & Ferri, R. (2021). Association between diet and sleep quality: A systematic review. *Sleep medicine reviews*, 57, 101430.
- Hao, H., Yuan, Y., Li, J., Zhao, D., Li, P., Sun, J., & Zhou, C. (2024). Association between physical activity and health-related quality of life among adults in China: the moderating role of age. *Frontiers in public health*, 12, 1334081.
- Ministry of Health Malaysia, Institute for Public Health. (2023). Non-communicable diseases and healthcare demand: National Health and Morbidity Survey (NHMS 2023).
<https://iku.nih.gov.my/images/nhms2023/report-nhms-2023.pdf>
- Ministry of Health Malaysia. (2023). Annual report 2023: Towards a resilient and healthy nation.
https://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama/ANNUAL%20REPORT/MOH_Annual_Report_2023.pdf
- Naluri. (2024). Growing insights: Southeast Asia's largest dataset 2023.
<https://www.naluri.life/news-and-reports/naluri-reports-southeast-asia-largest-mental-health-dataset>
- Saat, N. Z. M., Hanawi, S. A., Farah, N. M., Mohd Amin, H., Hanafiah, H., & Selvaraj, T. (2021). Associations of physical activity, sleep quality and cardiovascular risk factors in university students. *Sustainability*, 13(21), 11806.
- Silva, V. P., Silva, M. P., Silva, V. L. D. S., Mantovani, D. B., Mittelman, J. V., Oliveira, J. V., ... &

- Melo, H. M. D. A. (2022). Effect of physical exercise on sleep quality in elderly adults: a systematic review with a meta-analysis of controlled and randomized studies. *Journal of Ageing and Longevity*, 2(2), 85-97.
18. Statista. (2025). Health & wellness coaching – Malaysia.
19. <https://www.statista.com/outlook/hmo/digital-health/digital-fitness-well-being/health-wellness-coaching/malaysia>
20. Trabelsi, K., Ammar, A., Masmoudi, L., Boukhris, O., Chtourou, H., Bouaziz, B., ... & ECLB-COVID19 Consortium. (2021). Sleep quality and physical activity as predictors of mental wellbeing variance in older adults during COVID-19 lockdown: ECLB COVID-19 international online survey. *International journal of environmental research and public health*, 18(8), 4329.
21. Zhang, J., Xiang, S., Li, X., Tang, Y., & Hu, Q. (2024). The impact of stress on sleep quality: a mediation analysis based on longitudinal data. *Frontiers in Psychology*, 15, 1431234.
22. Zhao, Y., Song, J., Brytek-Matera, A., Zhang, H., & He, J. (2021). The relationships between sleep and mental and physical health of Chinese elderly: exploring the mediating roles of diet and physical activity. *Nutrients*, 13(4), 1316..