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# The wellness equation: understanding health practices and behaviors of university students in Southern Philippines

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**ABSTRACT**

This study aimed to explore the health practices and behaviors of university students in the Southern Philippines, focusing on key domains such as health perception and management, nutritional practices, physical activity, sleep, cognitive function, and stress tolerance. Using a quantitative, descriptive correlation design, data were gathered from 1,086 students through a simple random sampling technique. The primary instrument used was the health practices and behaviors questionnaire, which assessed students' health behaviors across the various domains. Statistical analysis involved computing composite means to describe health practices and Spearman's rho to examine the interrelationships between these behaviors. Results indicated that students exhibited moderate health practices across most domains, with a significant positive correlation found between health behaviors in areas such as physical activity, stress tolerance, and sleep. The study highlights the interconnected nature of health behaviors and the need for integrated health promotion strategies that address multiple aspects of student well-being simultaneously. The findings suggest that universities should focus on holistic programs that foster healthier lifestyles, improving students' overall health outcomes and academic performance. Future research should explore additional factors influencing student health behaviors, including socio-economic, environmental, and cultural influences, to create more targeted interventions.



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## 1. INTRODUCTION

Health practices and behaviors refer to the habits, actions, and attitudes that individuals adopt to maintain or improve their overall health [1]. These include physical activities like exercise, dietary habits, sleep patterns, stress management techniques, and adherence to medical advice [2]. For students, understanding health practices and behaviors is crucial as it directly influences their academic performance, mental well-being, and long-term health outcomes. Research shows that healthy lifestyle choices, such as regular physical activity and proper nutrition, contribute to better cognitive function and emotional regulation, essential for successful learning and personal growth [3]. Conversely, poor health behaviors, such as inadequate sleep or poor stress management, can lead to academic underachievement and increased susceptibility to mental health issues [4].

Students today face a growing challenge in maintaining healthy practices and behaviors, making it a truly problematic situation. Poor nutrition, lack of physical activity, and inadequate sleep are prevalent issues that significantly affect students' physical and mental health. The increasing reliance on technology and digital devices has contributed to a sedentary lifestyle, with many students spending long hours engaged in screen time rather than physical exercise, leading to higher rates of obesity and related conditions. Furthermore, academic pressures and social stressors have exacerbated poor sleep habits, resulting in insufficient rest, which impairs cognitive function, memory retention, and emotional regulation [5]. Studies have also shown that many students struggle with managing stress effectively, often resorting to unhealthy coping mechanisms such as substance use, poor dietary choices, or social isolation [6]. This combination of unhealthy practices can lead to a vicious cycle, where poor health behaviors undermine academic performance and overall well-being, creating long-term consequences for students' future health and success [7].

Several studies have explored the health practices and behaviors of various populations, particularly focusing on adolescents and young adults, with an increasing emphasis on the impact of these behaviors on academic and psychological outcomes. Research by Tagare and Villaluz [8] highlighted the relationship between physical activity and academic performance among high school students, showing that increased physical activity led to better cognitive function and improved school grades. Similarly, studies on sleep patterns among students have revealed that insufficient sleep is a common issue, with negative effects on students' attention, memory, and mental health [9]. Other studies, such as those by Al-Jawaldeh and Abbas [10], examined dietary habits, emphasizing that poor nutrition and unhealthy eating habits were widespread among college students, which contributed to weight gain and poor energy levels, negatively affecting their academic performance. Furthermore, research by Attia *et al.* [11] explored stress management behaviors, finding that many students resort to unhealthy coping mechanisms like smoking, alcohol use, and poor eating habits in response to academic and social pressures. While these studies provide valuable insights into student health behaviors, there is a noticeable gap in the literature concerning the comprehensive exploration of health practices, specifically among college students, particularly in the context of the Southern Philippines.

Despite the growing body of research on health practices and behaviors among adolescents and young adults, studies specifically investigating these behaviors in college students, particularly in the Philippines, remain notably scarce. Existing research has focused primarily on high school students or broader age groups, leaving a significant gap in understanding how university students in the Philippines engage with health-related behaviors such as nutrition, physical activity, sleep, and stress management [12]. Moreover, the unique cultural, social, and academic challenges faced by students in the Philippines, coupled with the rapid changes in their lifestyle patterns, underscore the need for a localized study to address these gaps. While some studies have explored student health behaviors in other countries [13], the lack of research specific to Filipino college students hampers the development of effective interventions and support systems tailored to their needs. This highlights the urgency and novelty of conducting research in this area, as understanding the health practices and behaviors of Filipino college students is critical for crafting targeted health promotion programs that can improve academic performance, mental well-being, and long-term health outcomes. The findings of such research would not only contribute to the global body of knowledge but also provide invaluable insights for educational institutions, policymakers, and health professionals aiming to support student well-being in the Philippines.

This research holds significant importance not only for university students but also for educational institutions, health professionals, and policymakers. By focusing on the health practices and behaviors of college students in the Philippines, this study aims to uncover specific challenges and behaviors that directly impact students' well-being and academic success. Understanding these health practices will enable universities to implement more effective health promotion programs and provide targeted interventions that address the unique needs of students. Additionally, the findings will contribute to a broader understanding of student health, particularly in contexts that have not been sufficiently explored, offering valuable insights for future research, policy development, and health strategies aimed at improving the overall quality of life for students in the Philippines and similar settings.

## 2. METHOD

### 2.1. Research design

This study employed a quantitative research design, specifically using a descriptive-correlational approach. Quantitative research is focused on collecting and analyzing numerical data to understand patterns, relationships, or outcomes within a population, allowing for objectivity and statistical analysis [14]. A descriptive-correlational design is used to observe and describe the characteristics of a specific population while also examining relationships between variables without establishing causation [15].

The descriptive-correlational design was the most appropriate approach for this study because it provides a comprehensive view of the health practices and behaviors of college students while also assessing the relationships among them. By using this method, the study was able to capture a detailed snapshot of current behaviors and identify meaningful patterns within the population, which is essential for developing targeted health interventions. Additionally, this design allowed for statistical analysis of correlations, providing insights into how specific practices may influence others, thus helping educational institutions and policymakers create informed strategies for health promotion.

### 2.2. Respondents and sampling

This study included a total of 1,086 college students from a state university in Southern Philippines as respondents. To select participants, the study employed simple random sampling, a technique where each member of the target population has an equal chance of selection. Simple random sampling is effective in quantitative research as it reduces bias, ensuring that the sample is representative of the population. It allows for more generalizable results and minimizes the likelihood of overrepresenting or underrepresenting any subgroup within the sample [16].

The choice of simple random sampling was appropriate for this study as it provided a fair representation of the university's student population. By allowing each student an equal opportunity to participate, the study captured a comprehensive view of health practices and behaviors across various demographic backgrounds. This approach strengthened the validity of the findings and ensured that the results could effectively inform health promotion efforts targeted at diverse student needs within the university.

### 2.3. Research instrument

This research used the health practices and behaviors questionnaire instrument developed to assess various health-related habits, including areas such as physical activity, nutrition, sleep, and stress management. The purpose of this questionnaire is to provide a comprehensive view of students' health practices and their alignment with recommended behaviors. The reliability of this instrument has been supported with a Cronbach's alpha score of 0.87, indicating a high level of internal consistency, making it a reliable tool for measuring health practices in diverse student populations.

### 2.4. Statistical analysis

In this study, mean and composite mean were used to describe the health behaviors and practices of the respondents. The mean provides an average score for individual items, while the composite mean aggregates these to offer an overall measure of health behavior in each category. These descriptive statistics help summarize the general trends in health practices among the respondents, making it easier to identify areas of strength or concern within their health behaviors.

To analyze the interrelationship between different health behaviors and practices, Spearman's rho correlation coefficient was used. Spearman's rho is a non-parametric measure of correlation that assesses the strength and direction of association between two ranked variables. Unlike Pearson's correlation, which assumes linear relationships and normally distributed data, Spearman's rho is ideal for ordinal data or data that do not meet normality assumptions, making it suitable for many health behavior metrics that may not follow a normal distribution [17]. This method is appropriate here as it provides a reliable measure of association for understanding potential linkages between various health practices and behaviors.

## 3. RESULTS AND DISCUSSION

### 3.1. Health practices and behaviors among student respondents

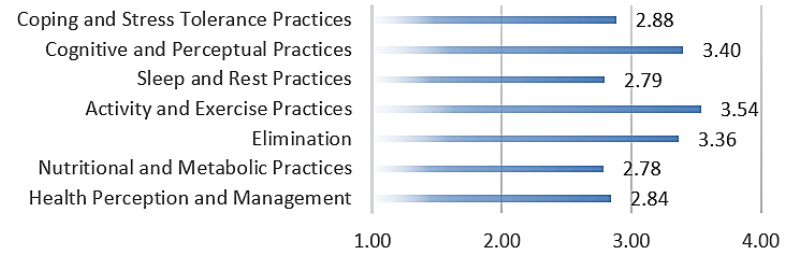
Figure 1 illustrates the health practices and behaviors of student respondents, providing an overview of their engagement with various health-related activities. This figure is essential in understanding the general tendencies of students toward maintaining healthy lifestyles, encompassing areas such as exercise, nutrition, stress management, and sleep. The data presented offer valuable insights into the students' commitment to their health and highlights areas for potential improvement or intervention.

#### 3.1.1. Health perception and management

The composite mean score for health perception and management among respondents was 2.84, indicating a "moderate health practices and behaviors" level. This score suggests that, on average, students are moderately attentive to key health management practices, such as recognizing the importance of managing their condition with therapeutic regimens, identifying signs of health issues, and engaging in preventive health behaviors. While students appear to value aspects of health management, the moderate level implies that there may be variability in how consistently these practices are applied across the

population. For instance, students might occasionally neglect preventive measures or regular medical consultations, impacting their long-term health maintenance.

Research underscores the importance of strong health perception and management behaviors, especially among young adults, as these habits set the foundation for lifelong wellness. Previous studies have shown that individuals who engage in regular health monitoring, including routine check-ups and preventive practices, experience better health outcomes and fewer complications related to chronic conditions [18]. Further, young adults who perceive health management as an integral part of their lifestyle are more likely to develop resilience against common stressors and achieve greater academic and social well-being [19]. The moderate level observed here may reflect broader trends in young adult health behavior, indicating an opportunity to enhance health education and personal responsibility among students [20].




Legend:
1.00 - 1.49 Very poor health practices and behaviors
1.50 - 2.49 Poor health practices and behaviors
2.50 - 3.49 Moderate health practices and behaviors
3.50 - 4.00 Good to excellent health practices and behaviors

Figure 1. Health practices and behaviors among student respondents

### 3.1.2. Nutritional and metabolic practices

The composite mean score for nutritional and metabolic practices was 2.78, indicating a "moderate health practices and behaviors" level among student respondents. This suggests that, on average, students demonstrate a moderate commitment to managing their nutritional intake, consulting with health professionals on dietary needs, and adhering to health-conscious eating habits. While students may put some effort into maintaining their body mass index (BMI) and avoiding contraindicated food items, the moderate score points to potential inconsistencies in consistently following dietary guidelines or seeking professional guidance for optimal nutrition. This level of engagement suggests that while students recognize the importance of balanced nutrition and metabolic health, they may not always prioritize these practices regularly, possibly due to lifestyle factors or academic demands.

Proper nutrition and metabolic health are foundational to physical and cognitive well-being, particularly for young adults in academic settings. Research shows that balanced nutrition can enhance cognitive performance, energy levels, and resilience to stress, which are critical factors for students' success [21]. Furthermore, students who maintain proper dietary practices often exhibit stronger immune responses and are less susceptible to common illnesses, enabling better academic attendance and engagement [22]. The moderate engagement observed here may reflect challenges faced by college students, such as limited access to healthy foods or insufficient time for meal planning, impacting their ability to follow ideal nutritional practices [23].

### 3.1.3. Elimination

The composite mean score for elimination practices was 3.36, indicating "moderate health practices and behaviors." This suggests that students generally experience regular bowel and bladder functions and do not face significant difficulties related to elimination. However, the moderate score implies that while most students may not report severe issues, some inconsistencies or challenges in these areas may exist. For example, while students may not experience chronic elimination problems, they might face occasional discomfort or irregularities in their bowel or bladder habits, which could impact their overall health. These moderate practices reflect a stable but not fully optimized engagement in maintaining digestive and urinary health.

Maintaining healthy elimination practices is essential for overall well-being, as irregularities in bowel and bladder functions can lead to more serious health conditions if not addressed. Studies show that

regular and normal elimination is closely linked to overall physical health, with poor elimination practices contributing to gastrointestinal issues, kidney problems, and even mental health stress [24]. Furthermore, consistent bowel and bladder habits are often a reflection of good self-care practices, which can influence an individual's sense of comfort and body awareness [25]. In a university setting, students who face difficulties with elimination may also experience disrupted academic performance due to discomfort or stress, underlining the importance of fostering healthy bodily practices in educational environments [26].

#### 3.1.4. Activity and exercise practices

The composite mean score for activity and exercise practices was 3.54, indicating "moderate health practices and behaviors." This suggests that while students generally engage in physical activity and exercise, their involvement appears to be moderate rather than consistently rigorous. Most students seem to incorporate some form of physical activity into their routines, but it may not be sufficient in terms of frequency, intensity, or variety. The score also implies that while students are generally able to carry out daily activities independently and participate in household chores, the overall commitment to structured exercise or more demanding physical activity may be limited. This level of engagement suggests that students may prioritize academic or social activities over consistent exercise, possibly due to time constraints or other competing factors.

Physical activity is a crucial component of overall health, affecting not only physical fitness but also cognitive function and emotional well-being. Research has consistently shown that regular physical activity enhances academic performance, boosts mental clarity, and improves mood regulation, all of which are particularly important for students navigating the challenges of university life [27]. Additionally, engaging in regular exercise has been linked to improved cardiovascular health, muscle strength, and a reduced risk of chronic diseases, such as obesity and diabetes [28]. Despite the moderate engagement observed, the long-term benefits of regular physical activity underscore the importance of fostering healthier exercise habits among students to promote better health outcomes [29].

#### 3.1.5. Sleep and rest practices

The composite mean score for sleep and rest practices was 2.79, indicating "moderate health practices and behaviors." This means that students generally experience some level of sleep disruption, possibly facing difficulty falling asleep, staying asleep, or maintaining consistent sleep patterns. While most students may not report severe sleep issues, the moderate score suggests that factors such as academic pressures, social activities, or irregular schedules might interfere with adequate rest. This moderate engagement indicates that while students are likely aware of the importance of sleep, many may struggle to prioritize it consistently due to the demands of university life.

Sleep is vital for physical and mental health, and poor sleep habits can significantly affect cognitive functioning, emotional regulation, and overall well-being. Research has shown that insufficient or disrupted sleep can lead to impaired memory, decreased attention span, and increased susceptibility to stress, all of which can undermine academic performance and mental health [28]. Moreover, chronic sleep deprivation has been linked to a higher risk of developing conditions like depression, anxiety, and cardiovascular diseases [30].

#### 3.1.6. Cognitive and perceptual practices

The composite mean score for cognitive and perceptual practices was 3.40, indicating "moderate health practices and behaviors." This means that students report relatively stable cognitive functioning and awareness of their surroundings, with normal sensory and reflex responses. However, the moderate score suggests that while students generally maintain good mental clarity and memory, there might be occasional lapses or challenges in cognitive functioning. These challenges may manifest as temporary lapses in concentration, memory recall, or other cognitive functions, which could be influenced by factors such as stress, fatigue, or distractions from academic responsibilities.

Cognitive and perceptual practices are central to students' ability to engage effectively with their academic and social environments. Studies indicate that cognitive functioning plays a key role in academic success, as students must be able to process information, recall facts, and make decisions under pressure [31]. When cognitive or perceptual processes are disrupted, even moderately, students may experience difficulty in focusing during lectures, performing tasks efficiently, or maintaining their emotional well-being [32]. A moderate level of cognitive and perceptual functioning among students thus suggests that while most students can maintain baseline cognitive abilities, certain lifestyle factors may interfere with optimal mental performance, affecting their academic output and general well-being [33].

#### 3.1.7. Coping and stress tolerance practices

The composite mean score for coping and stress tolerance practices was 2.88, indicating "moderate health practices and behaviors." This means that students are moderately effective in handling stress and

managing emotional challenges. While they report some ability to cope with stress, they may still experience heightened levels of stress, irritability, and difficulty managing stress in a healthy way. The score suggests that although students may engage in stress-relieving activities from time to time, they may lack consistent coping strategies or face difficulties in dealing with stress effectively during high-pressure academic situations.

Stress management and coping skills are crucial for maintaining both mental and physical health. According to Schwarzer and Reuter [34], effective coping mechanisms are essential for managing the stress that arises from academic, personal, and social challenges. Poor coping strategies or an inability to tolerate stress can result in detrimental outcomes, including mental health disorders like anxiety and depression [35]. Moderate levels of coping and stress tolerance, as indicated by this score, suggest that while students may have some strategies for managing stress, these strategies may not always be optimal or consistent. This highlights the importance of promoting better stress management techniques to enhance students' well-being, academic performance, and overall mental health [36].

#### 3.1.8. Overall health behavior and practices

The composite mean score for overall health behavior and Practices was 3.08, indicating "Moderate Health Practices and Behaviors." This means that, overall, students exhibit a moderate level of engagement in health-related practices across various domains, such as physical activity, nutrition, stress management, and cognitive well-being. While they generally follow basic health routines, there are significant variations in their behaviors, with some areas showing stronger practices than others. This suggests that while many students are mindful of their health, they may lack consistency or depth in certain areas of health maintenance, such as regular exercise, sleep hygiene, or stress management.

Maintaining a balanced and consistent approach to health practices is vital for students' well-being, as it impacts both their academic performance and long-term health outcomes. According to recent research, moderate health behaviors can still have a positive influence on physical and mental health, but they often require continuous reinforcement to become effective [37]. While the moderate score suggests that students engage in health behaviors, it is crucial to recognize that health is multi-dimensional, encompassing physical, emotional, and mental factors [38]. When health behaviors are only moderately practiced, students may face challenges related to academic stress, mental health, and lifestyle diseases in the long run [39].

### 3.2. Interrelationship of the health practices and behaviors among student respondents

Table 1 presents the interrelationship of health practices and behaviors among student respondents, revealing how various health-related factors are connected to each other. This table highlights the associations between different dimensions of health, such as physical activity, nutrition, stress management, and sleep, providing a comprehensive view of student health behaviors. Understanding these interrelationships is crucial for identifying patterns and areas that require attention or intervention to improve overall student well-being.

Table 1. Interrelationship of the health practices and behaviors among student respondents

| Health practices and behaviors | Health perception & management | Nutritional & metabolic practices | Elimination | Activity & exercise practices | Sleep & rest practices | Cognitive & perceptual practices |
|---|---|---|---|---|---|---|
| Nutritional & metabolic practices | .590** | | | | | |
| Elimination | .475** | .312** | | | | |
| Activity & exercise practices | .389** | .418** | .418** | | | |
| Sleep & rest practices | .247** | .108** | .270** | .270** | | |
| Cognitive & perceptual practices | .463** | .361** | .645** | .527** | .177** | |
| Coping & stress tolerance practices | .407** | .367** | .359** | .362** | .294** | .458** |

The results of the interrelationship analysis show positive relationships between all the variables, indicating that students' health practices and behaviors are interconnected across different domains. Specifically, health perception and management were found to be positively correlated with nutritional and metabolic practices (r = 0.590), suggesting that students who view their health more positively are likely to engage in healthier nutritional behaviors. Similarly, the strong positive correlations between elimination and activity and exercise practices (r = 0.418), as well as between cognitive and perceptual practices and coping

and stress tolerance practices (r = 0.458), indicate that improvements in one health behavior may be linked to improvements in others. This implies a holistic approach to student health, where better management of one aspect of health may lead to better practices in other areas.

These findings underscore the interconnectedness of health behaviors, supporting the notion that health should be viewed as a multi-dimensional concept. According to previous studies, such as those by Richardson [40] and Boselie and van der Heijden [41], these positive correlations highlight the importance of a balanced approach to health that addresses multiple domains simultaneously. For instance, a positive correlation between coping and stress tolerance practices and cognitive health suggests that mental health management can have a cascading effect on other areas of health, such as physical and emotional well-being. This is consistent with research by Sahoo and Goswami [42], who emphasize the need for integrative approaches to health, where improvements in one domain are likely to promote better overall outcomes. Understanding these relationships can help in creating interventions that target multiple health behaviors, leading to better overall health and well-being among students.

The positive interrelationships observed across the various domains of health practices and behaviors in university students suggest that university policies and practices should adopt a holistic approach to health promotion. Given that improved health perception and management are linked with healthier nutrition, physical activity, and stress coping mechanisms, universities could implement integrated health promotion programs that address multiple facets of students' well-being. This could include initiatives such as providing access to mental health support, encouraging physical activity, and offering nutrition counseling services. When these areas are addressed together, universities can foster a more comprehensive approach to student health that leads to improved academic and personal outcomes.

## 4. CONCLUSION

The health behaviors and practices of the student respondents reveal a moderate level of engagement across various health domains, including health perception and management, nutrition, physical activity, sleep, cognitive function, and stress tolerance. While students exhibit some positive behaviors, the overall health practices are far from optimal, highlighting the need for continued attention to improving health awareness, lifestyle choices, and self-care routines. This moderate health behavior profile suggests that there are significant opportunities to enhance students' engagement with healthier practices, particularly in areas such as stress management, sleep hygiene, and nutrition, where improvements could yield substantial benefits.

The interrelationship of health behaviors and practices further emphasizes the importance of adopting a comprehensive approach to health promotion within university settings. The positive correlations between the different health domains indicate that improvements in one area, such as health perception or physical activity, can positively influence other areas, such as coping with stress or sleep quality. This interconnectedness underscores the necessity of holistic health programs that address multiple aspects of students' well-being simultaneously, rather than treating each health domain in isolation. By fostering an integrated approach, universities can help students develop healthier, more sustainable habits that support their academic, personal, and professional success.

Future research in this field should focus on exploring the factors that influence students' health practices in greater depth, particularly those that contribute to the adoption and maintenance of healthier behaviors. Longitudinal studies could offer valuable insights into how health behaviors evolve over time and the impact of targeted interventions. Additionally, research should examine the role of external factors such as socioeconomic status, cultural influences, and environmental factors, which may further explain variations in health practices across diverse student populations. This continued investigation is crucial for developing evidence-based policies and interventions that can effectively promote healthier lifestyles among university students.

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## ETHICAL APPROVAL

The research related to human use has been compiled with all the relevant national regulations and institutional policies in accordance with the tenets of the Helsinki Declaration and has been approved by the authors' institutional review board or equivalent committee. This research adhered to strict ethical standards to ensure the integrity of the study and the protection of its participants. Prior to data collection, ethical

clearance was obtained from the Institutional Ethics Review Board, affirming that the study complied with established ethical guidelines for research involving human subjects. Participants were fully informed of the purpose, scope, and methodology of the study, and their participation was entirely voluntary. Written informed consent was secured, emphasizing confidentiality and the anonymity of their responses. The study also provided participants with the right to withdraw at any stage without penalty. Furthermore, sensitive information gathered during the research was stored securely and used solely for academic purposes, ensuring privacy and ethical responsibility throughout the research process.

## DATA AVAILABILITY

The authors confirm that the data supporting the findings of this study are available within the article.

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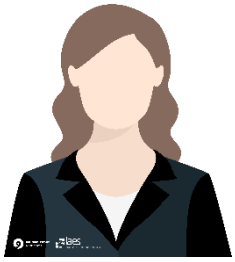

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