Eating Habits and Physical Activity Engagement Among Maritime Students

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ABSTRACT

This study determined the eating habits and physical activity engagement among maritime students in Bacolod City during the Academic Year 2025–2026. Specifically, it assessed the extent of students' eating habits and physical activity engagement when grouped according to year level and program, determined the significant differences in these variables, and identified the relationship between eating habits and physical activity engagement. The study utilized a descriptive-correlational research design with 344 maritime students selected through proportionate stratified random sampling from a population of 3,229 students.

Data were gathered using adapted and modified questionnaires. The eating habits questionnaire was adapted and modified from the Eating Behavior Patterns Questionnaire, while the physical activity engagement questionnaire was adapted and modified from the International Physical Activity Questionnaire (IPAQ). The modifications were made to ensure the relevance and suitability of the items to maritime students, particularly in terms of eating behaviors, meal patterns, and physical activity participation within the academic context. The questionnaires were validated by experts and tested for reliability using Cronbach's Alpha.

Descriptive statistics such as mean and standard deviation, together with inferential statistics including Kruskal–Wallis H Test, Mann–Whitney U Test, and Spearman Rank-Order Correlation, were used in analyzing the data.

Findings revealed that maritime students demonstrated moderately high eating habits and moderate physical activity engagement based on the study's rating scale. No significant differences were found in eating habits and physical activity engagement when grouped according to year level and program. However, a significant positive relationship existed between eating habits and physical activity engagement, indicating that students with better eating habits tended to have higher engagement in physical activities. Based on the findings, a wellness training program was proposed to further enhance the eating habits and physical activity engagement of maritime students.

Keywords: Eating Habits, Physical Activity Engagement, Maritime Students, Health Behaviors, Wellness Program, Descriptive-Correlational Research

INTRODUCTION

The transition to adulthood and entry into higher education represents a critical period of lifestyle change for young adults worldwide. University students, in general, are prone to adopting new eating behaviors and activity patterns that may diverge substantially from those practiced in secondary school or at home (Buková et al., 2024). Studies consistently show that many college students fail to meet healthy dietary guidelines and engage in inadequate levels of physical activity, increasing their risk for long-term health issues such as obesity, metabolic syndrome, and non-communicable diseases (NCDs) later in life (Jurado-Gonzalez et al., 2025).

Evidently, the university environment, its academic pressures, social dynamics, and lifestyle demands can influence eating patterns, such as skipping meals, consuming fast food, and following irregular dietary schedules, while also reducing engagement in recommended physical activity levels (Avram et al., 2024). International research indicates that a substantial number of students do not achieve recommended physical activity levels and

have inadequate intake of fruits and vegetables, contributing to increased vulnerability to health concerns (Bull et al., 2020). Moreover, the relationship between nutrition and physical activity has been consistently emphasized, as students who practice healthier eating behaviors are more likely to engage in regular physical activity and demonstrate better overall lifestyle patterns (Lonati et al., 2024).

Although these findings establish that university students commonly experience challenges related to diet and physical activity, they also suggest that lifestyle behaviors are shaped by the specific demands and environments in which students are situated. Therefore, examining these behaviors within distinct academic groups is necessary because students in specialized programs may experience unique physical, psychological, and occupational demands that influence their health practices. This consideration is particularly relevant among maritime students, whose education requires physical endurance, discipline, and preparation for work in demanding sea-based environments.

Maritime students represent a population with distinct lifestyle requirements because their future profession involves prolonged periods onboard vessels, strict operational responsibilities, and the need for sustained physical and mental readiness. Maritime education requires rigorous coursework, physical conditioning, and preparation for life at sea, where proper nutrition and fitness contribute to safety and occupational performance (Riyanto et al., 2025). In local settings such as the Philippines, studies among maritime students have emphasized the importance of maintaining adequate hydration, balanced food consumption, and consistent exercise routines as part of professional preparation (Garcia et al., 2023).

Despite increasing evidence regarding student health behaviors, existing literature reveals a gap in understanding how eating habits and physical activity engagement interact among maritime students. Previous studies have largely focused on general university populations or health-related disciplines, providing limited insight into students enrolled in maritime programs who experience different academic structures, physical training requirements, and future occupational expectations (Florida, 2025). While available studies indicate concerns related to sugar intake, vegetable consumption, and participation in structured exercise activities among maritime students (Garcia et al., 2023), these findings remain insufficient to explain the broader relationship between dietary practices and physical activity engagement within this specific group.

Furthermore, national studies among Filipino college students have shown that inactivity and poor dietary practices remain prevalent, with physical activity levels declining across year levels and inadequate consumption of fruits and vegetables reported among students (Acampado & Valenzuela, 2018). However, these general findings cannot fully represent maritime students because their lifestyle preparation involves unique physical demands and professional expectations. Thus, the existing body of literature collectively indicates that while the importance of healthy eating and physical activity among college students is well established, there remains a need to examine how these behaviors coexist and influence each other among maritime students.

Recognizing that eating habits and physical activity engagement are essential determinants of immediate and long-term health, this study examined these variables specifically among maritime students within the Philippine educational context. By addressing this research gap, the study aims to provide baseline information on the current lifestyle behaviors of maritime students, support the development of targeted health promotion initiatives, and contribute to interventions that encourage sustainable practices necessary for both personal well-being and future professional effectiveness at sea.

The results of this study are expected to contribute to the development of targeted health promotion programs that address the unique lifestyles of maritime students, equipping them with better foundational habits before entering a physically and mentally demanding profession at sea.

Statement of the Problem

This study aimed to determine the eating habits and physical activity engagement among maritime students enrolled in one of the maritime schools in Bacolod City for Academic Year 2025-2026.

Specifically, it sought to answer the following questions:

1. What is the extent of eating habits of maritime students when taken as a whole and grouped according to:

a. year level

b. program

2. What is the extent of physical activity engagement among maritime students when taken as a whole and grouped according to the aforementioned variables?

3. Is there a significant difference in the extent of eating habits among maritime students when grouped according to aforementioned variables?

4. Is there a significant difference in the extent of physical activity engagement among maritime students when taken as a whole and grouped according to aforementioned variables?

5. Is there a significant relationship between the extent of eating habits and physical activity engagement among maritime students?

6. Based on the result of the study, what training program may be proposed?

Hypothesis

The following hypotheses were formulated to guide the investigation:

1. There is no significant difference in the extent of eating habits among maritime students when grouped according to the aforementioned variables.

2. There is no significant difference in the extent of physical activity engagement among maritime students when grouped according to the aforementioned variables.

3. There is no significant relationship between the extent of eating habits and physical activity engagement among maritime students.

FRAMEWORK

This study is anchored in the Health Belief Model (HBM), Social Cognitive Theory (SCT), and Self-Determination Theory (SDT) to examine the eating habits and physical activity engagement of maritime students.

Healthy eating habits and regular physical activity are essential components of a well-rounded lifestyle, particularly for maritime students who face physically and mentally demanding tasks. Eating habits refer to the patterns, frequency, and quality of food consumption, including nutrient intake, meal regularity, and adherence to a balanced diet (Li et al., 2023).

Maritime students' dietary behaviors are influenced by academic demands, lifestyle, social environment, and personal preferences, and poor eating habits, such as skipping meals, consuming fast foods, or having low fruit and vegetable intake, can negatively affect cognitive function, physical stamina, and long-term health (Hafiz et al., 2023)

The Health Belief Model (HBM) serves as a theoretical anchor for understanding eating habits, as it suggests that students' dietary choices are influenced by their perceived susceptibility to health risks, perceived benefits of proper nutrition, perceived barriers, and cues to action (Rosenstock, 1974).

Physical activity engagement refers to participation in structured and unstructured exercises that improve or maintain physical fitness, muscular strength, and cardiovascular health (World Health Organization, 2024). Regular aerobic and anaerobic exercises enhance endurance and strength, which are critical for maritime students' occupational readiness and overall well-being. The Social Cognitive Theory (SCT) (Bandura, 1986)

provides a framework for understanding physical activity engagement, emphasizing the role of personal factors, environmental influences, and behaviors. Factors such as self-efficacy, observational learning, and reinforcement influence students' motivation and participation in exercise.

Moreover, eating habits and physical activity are closely interconnected, as proper nutrition supplies the energy and nutrients necessary for exercise, while regular physical activity can positively affect appetite, metabolism, and food choices. The Self-Determination Theory (SDT) (Deci & Ryan, 2000) explains how intrinsic motivation and psychological needs, autonomy, competence, and relatedness, drive students to adopt both healthy eating and active lifestyles. Maritime students are more likely to maintain balanced diets and consistent exercise routines when they feel competent in managing their health, have autonomy in lifestyle choices, and receive social support from peers and instructors. Therefore, this study is anchored in the Health Belief Model (HBM), Social Cognitive Theory (SCT), and Self-Determination Theory (SDT) to explain the factors influencing maritime students' eating habits and physical activity engagement. HBM explains that students' health behaviors are influenced by their perceptions of health risks, benefits, and barriers related to proper nutrition and physical activity. SCT complements this by emphasizing the role of environmental influences, social support, and observational learning in shaping students' eating patterns and participation in physical activities. Meanwhile, SDT highlights the importance of personal motivation, autonomy, and self-regulation in sustaining healthy behaviors. Together, these theories suggest that maritime students' eating habits and physical activity engagement are shaped by the interaction of individual beliefs, motivation, and social-environmental factors.

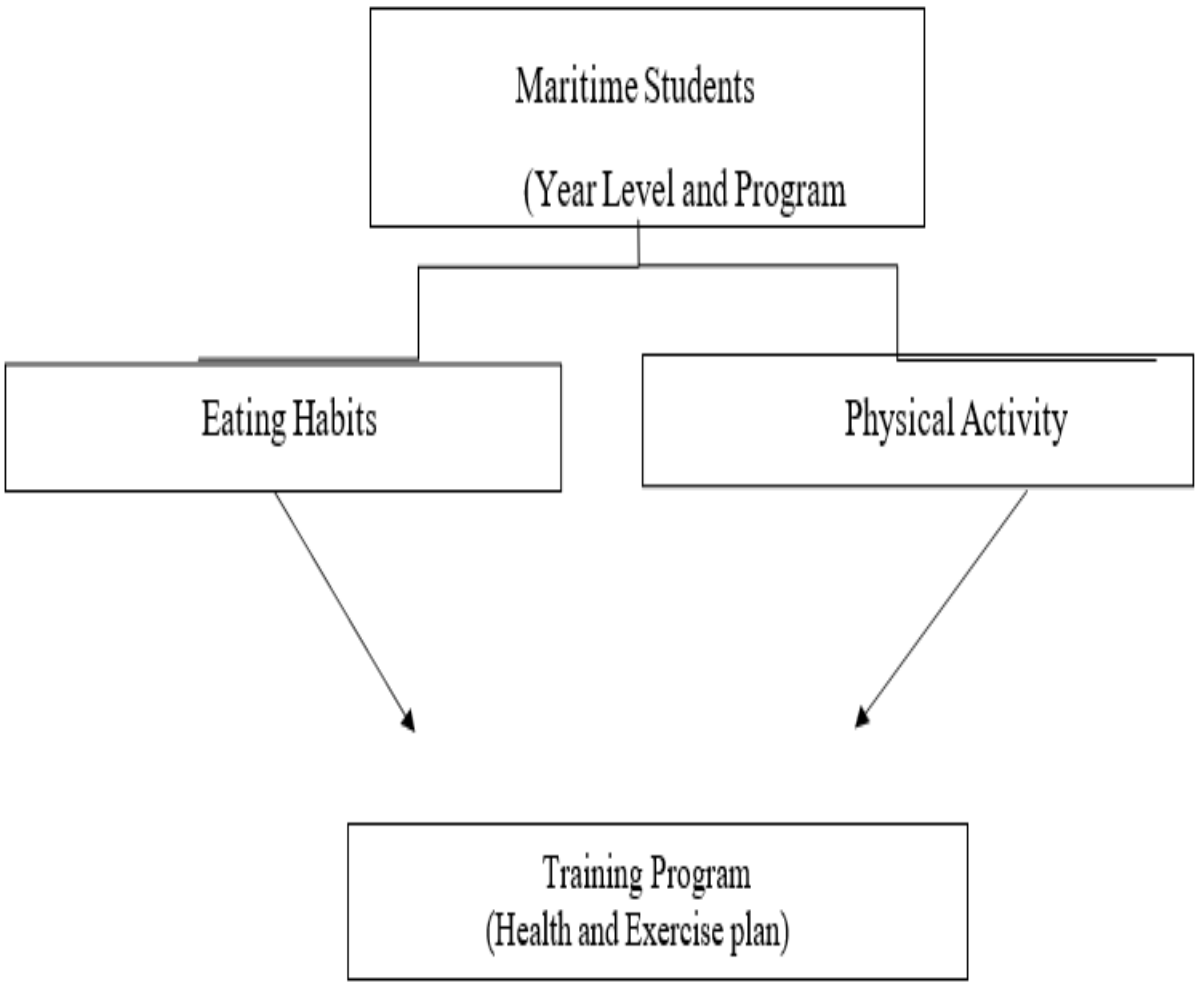

Figure 1. Schematic Diagram on Eating habits and Physical Activity Engagement among Maritime Students.

Scope and Limitation

The scope of this study was limited to determining the eating habits and physical activity engagement of 344 maritime students selected from a total population of 3,229 maritime students enrolled in a maritime school in

Bacolod City during the Academic Year 2025–2026. The study utilized a descriptive-correlational research design. Specifically, it examined the extent of students' eating habits and physical activity engagement both as a whole and when grouped according to year level and program, investigated significant differences in these variables across groups, and explored the relationship between eating habits and physical activity engagement. The study utilized an adapted researcher-made instrument and employed statistical tools such as mean, standard deviation, Mann-Whitney U test, Kruskal–Wallis H test, and Spearman rho correlation at an alpha level of 0.05. Limitations of the study included its reliance on self-reported data, which might have been subject to bias, the focus on a single maritime school which might have affected the generalizability of the findings, and the use of descriptive and correlational analyses that identified relationships but did not establish causality. The study also aimed to propose a training program based on the results to enhance students' dietary practices and physical activity engagement.

Significance of the Study

This study may be beneficial to the following key stakeholders who play important roles in promoting student health and wellness: school administrators, physical education teachers, students, parents, curriculum developers, and future researchers.

Students. The findings will help students become aware of their current eating habits and exercise practices, allowing them to reflect on how these behaviors affect their physical fitness, academic performance, health, and future roles in the maritime profession. This awareness may encourage healthier lifestyle choices and improved participation in fitness activities.

Physical Education Teachers. The study will provide PE teachers with data-based insights on the students' nutritional behaviors and engagement in aerobic and anaerobic exercises. These results may serve as a basis for improving instructional strategies, designing more relevant fitness programs, and addressing the specific needs of learners.

School Administrators. School administrators may use the results to evaluate the effectiveness of existing wellness and fitness programs within the institution. This can guide decisions related to policies, student support services, health initiatives, and resource allocation to strengthen student well-being.

Parents and Guardians. Parents may benefit by gaining a clearer understanding of their children's lifestyle patterns in terms of diet and physical activity. Such insight may encourage stronger parental involvement in supporting healthy routines at home.

Future Researchers. This research may serve as a reference for future studies on student health, physical activity, and lifestyle behaviors in maritime education or other fields. It may also inspire further investigation into interventions, comparative studies, or longitudinal monitoring of student wellness.

Health and Fitness Advocates. Organizations and professionals in the health and sports sector may use the findings to design targeted programs, campaigns, and partnerships that support student wellness and promote a more active and healthier lifestyle among young adults.

Definition of Terms

For better understanding, the following terms were operationally defined:

Eating Habits. This refers to the pattern of food intake and food choices influenced by social, environmental, and personal factors (Aszyanti et al., 2025).

As used in the study, this refers to the students' eating behavior measured in terms of personal preference, peer influence, and campus food availability using an adapted modified questionnaire consisting of 15 items. The responses were measured using a five-point Likert scale ranging from 1 to 5, where 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Always. The obtained mean scores were interpreted to determine the extent of

eating habits among maritime students.

Campus Food Availability. This refers to the accessibility, affordability, and availability of food options within the school environment (Keat et al., 2024).

As applied in the study, this refers to students' perception of food options on campus measured through a rating scale.

Environmental Factors. This refers to the physical surroundings, facilities, and resources that support or hinder physical activity and healthy eating (National Research Council, 2006).

As used in the study, this refers to the school facilities, exercise areas, and support systems influencing students' ability to engage in exercise.

Maritime Student. This refers to a student enrolled in a maritime education and training institution who undergoes academic and practical preparation for maritime-related professions, including the development of knowledge, skills, and competencies required for safe and effective performance in the maritime industry (International Maritime Organization [IMO], 2019).

As used in this study, this refers to the maritime students enrolled in a maritime school in Bacolod City during the Academic Year 2025–2026 who participated as respondents. These students were assessed in terms of their eating habits and physical activity engagement using an adapted modified questionnaire.

Peer Influence. This refers to how peers affect food choices, eating behavior, and health decisions among individuals (Street et al., 2024).

As applied in this study, this refers to the degree to which classmates and friends affect students' eating habits, assessed through questionnaire responses.

Personal Factors. This refers to internal motivators including beliefs, attitudes, and perceived ability that influence a person's behavior (Garrido, 2025).

As used in the study, this refers to individual motivation and willingness to participate in aerobic and anaerobic exercise measured through the survey.

Personal Preference. This refers to an individual's subjective liking or choice of food based on taste, familiarity, and personal beliefs (Fernqvist et al., 2024)

As utilized in this investigation, this refers to the students' personal food choices based on taste and personal liking measured through the survey.

Physical Activity Engagement. This refers to the participation of individuals in bodily movements and exercises that require energy expenditure and contribute to physical fitness and overall health (Bull et al., 2020).

As used in the study, this refers to the students' level of participation in physical activities measured in terms of frequency, intensity, and type of physical activities using an adapted modified questionnaire consisting of 15 items. The responses were measured using a five-point Likert scale to determine the level of physical activity engagement of the respondents, with responses ranging from 1 (Never) to 5 (Always). The obtained mean scores were used to categorize the extent of physical activity engagement from very poor to very high extent.

Program. This refers to a structured set of educational activities designed to achieve specific learning outcomes and develop students' knowledge, skills, and competencies in a particular field of study (Marina, 2018).

As used in this study, this refers to the maritime degree programs where the respondents are enrolled, specifically Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMARE). These programs were used as grouping variables to determine the extent of eating habits and

physical activity engagement among maritime students.

Social Factors. This refers to the influence of family, peers, and social norms on a person's physical activity and food choices (Anderson Steeves et al., 2016)

As used in the study, this refers to the influence of social groups on students' exercise engagement measured through the instrument.

Year Level. This refers to the academic classification of students based on their progression or standing within an educational program, indicating the stage of completion of their prescribed course requirements (Commission on Higher Education & Maritime Industry Authority [CHED & MARINA], 2018)

As used in this study, this refers to the classification of maritime students according to their academic level, specifically first-year, second-year, and third-year students, which served as a grouping variable in determining differences in eating habits and physical activity engagement.

METHODOLOGY

This study aims to determine the eating habits and physical activity engagement among maritime students enrolled in one of the maritime schools in Bacolod City for Academic Year 2025-2026.

Design

This study utilized a descriptive-correlational research design to identify the relationships between eating habits and physical activity engagement among maritime students in Bacolod for the Academic Year 2025–2026. The descriptive component aimed to present an accurate profile of the respondents' eating habits and physical activity engagement, while the correlational research design investigated the relationships between variables without the researcher controlling or manipulating any of them (Devi et al., 2022). The correlational aspect sought to determine the degree of association between eating habits and levels of physical activity engagement. This design was deemed appropriate because it allowed for the analysis of existing conditions without manipulating variables, thereby providing a factual basis for understanding patterns and relationships within the population of interest. A total of 344 maritime students were selected as the sample size to ensure representativeness and sufficient statistical reliability. Data were gathered using an adapted modified instrument to ensure relevance to the maritime context while maintaining validity and reliability consistent with previous studies on nutrition and physical fitness.

Respondents

This study included 344 respondents out of 3,229 maritime students from the BSMT and BSMar-E programs. The sample size was computed using the Raosoft sample size calculator. The researcher employed proportionate stratified random sampling by dividing the population into strata based on program (BSMT and BSMar-E) and year level. The number of respondents per stratum will be allocated proportionally according to the size of each group relative to the total population. After proportional allocation, participants will be selected using simple random sampling to ensure equal opportunity of selection within each stratum.

Table 1 Distribution of Respondents

Grouping Variable	N	n	%
Year Level First	1215	129	37.50%
Second	1092	116	33.72%

Third	922	99	28.78%
Program BSMT	2350	250	72.67%
BSMAR-E	879	94	27.33%
Total	3229	344	100%

Instrument

The research used an adapted and modified survey instrument to assess the eating habits and physical activity engagement of maritime students in Bacolod City during AY 2025–2026. The instrument consisted of two main parts.

Part 1 – Demographic Profile gathered information on the respondents' year level and program of study (BSMAR-E or BSMT). These data were used to compare eating habits and physical activity engagement across groups.

Part 2 – Survey Proper consisted of two sections. The Eating Habits section contained 15 items adapted from the Eating Behavior Patterns Questionnaire of Schlundt et al. and related validated dietary instruments. The items were modified to reflect common Filipino eating practices, such as rice-based meals, fast food consumption, meal skipping, and food choices influenced by affordability.

The Physical Activity Engagement section was adapted from the International Physical Activity Questionnaire (IPAQ) by Craig et al. (2003). The items were modified to reflect activities relevant to maritime students, including walking, physical education classes, recreational sports, and informal exercise. Both sections used a five-point Likert scale ranging from Very High Extent to Very Poor Extent

The adapted instrument was designed to ensure relevance, clarity, and suitability for maritime students. It also allowed the quantitative analysis of eating habits, physical activity engagement, group differences, and the relationship between the two variables.

Eating Habits Interpretation

Mean Range	Verbal Interpretation	Short Description
1.00–1.80	Very Poor Extent	Eating habits were highly inadequate.
1.81–2.60	Poor Extent	Eating habits were inconsistent and generally unhealthy.
2.61–3.40	Moderate Extent	Eating habits were fairly acceptable but inconsistent.
3.41–4.20	High Extent	Respondents frequently practiced healthy eating habits.
4.21–5.00	Very High Extent	Respondents consistently practiced healthy and balanced eating habits.

Physical Activity Engagement Interpretation

Mean Range	Verbal Interpretation	Short Description
1.00–1.80	Very Poor Extent	Respondents demonstrated a very inactive lifestyle.
1.81–2.60	Poor Extent	Physical activity was occasional and inconsistent.
2.61–3.40	Moderate Extent	Physical activity was fairly adequate but irregular.
3.41–4.20	High Extent	Respondents frequently engaged in physical activities.
4.21–5.00	Very High Extent	Respondents consistently maintained a highly active lifestyle.

Validity

Validity refers to the accuracy and appropriateness of a research instrument (Porter, 2026). To ensure the scientific merit and content accuracy of the study, the research instrument underwent a rigorous content validation process. A panel of ten (10) subject matter experts from the fields of Physical Education, Sports Science, and Educational Research evaluated the survey items for clarity, relevance, and alignment with the research objectives. The validation process resulted in a Content

Validity Ratio (CVR) of 0.918, which exceeds the minimum threshold for essentiality. This confirms that the instrument effectively captures the necessary data points to address the research problems for the target population.

Reliability

The internal consistency of the research instrument was established through a pilot test, with results officially certified by the institutional statistician. The data were analyzed using Cronbach's Alpha to determine how consistently the items measure their respective constructs. For Part II (Eating Habits), the analysis yielded a coefficient of .89, indicating good internal consistency. For Part III (Physical Activity Engagement), the instrument achieved a coefficient of .87, reflecting excellent reliability. These results confirm that the scales are highly dependable and suitable for the formal data-gathering phase.

Data Gathering

The data-gathering procedure for this study was systematically conducted in four phases to ensure accuracy, reliability, and ethical compliance throughout the research process. These phases included the Pre-Survey Phase, Survey Proper Phase, Post-Survey Phase, and Final Phase, each with specific steps and objectives to guide the flow of data collection.

During the initial phase, the researcher sought approval from the research adviser and the research ethics committee of the institution to ensure that all ethical standards were met. A formal request for data collection was then submitted to the administration of the identified maritime school in Bacolod to obtain permission to conduct the survey among their maritime students. Once approval was granted, the researcher conducted an orientation and coordination meeting with the concerned department heads or instructors to schedule and facilitate the survey administration. In addition, pilot testing of the instrument was conducted on 30 non-actual respondents from another maritime school to evaluate the reliability of the questionnaire using Cronbach's Alpha. Necessary revisions were made based on the results of the pilot test and expert feedback from the validity

process to finalize the instrument before its official distribution.

In the next phase, the finalized and validated questionnaire was administered to the 344 officially selected respondents. The researcher ensured that participation was voluntary, and respondents were informed of the study's purpose, confidentiality of their responses, and their right to withdraw at any point without penalty. Informed consent forms were distributed and signed before answering the survey. The instrument was distributed either through printed copies or a secure online survey platform, depending on accessibility and school policy. The researcher provided clear instructions for answering the questionnaire to avoid misinterpretation and remained available to address any questions or clarifications during the data collection process.

After data collection, all completed questionnaires were gathered, reviewed, and checked for completeness and consistency. Responses were then encoded, tabulated, and organized in preparation for statistical analysis. The researcher ensured that all data were treated with confidentiality and anonymity by assigning respondent codes instead of names. Data were stored securely, and only the researcher and the research adviser had access to the raw information. The gathered data were then subjected to descriptive and correlational statistical analyses to determine the relationship between eating habits and physical activity engagement.

In the final phase, the analyzed data were interpreted, summarized, and presented in tables and narrative form to answer the study's statement of the problem. The findings were compared with previous studies to identify consistencies or variations in results.

Conclusions and recommendations were formulated based on the analysis, emphasizing implications for maritime education, student wellness, and physical education programs. The final report was then submitted to the research adviser and the institutional panel for evaluation, ensuring that the study adhered to academic and ethical standards throughout the entire data-gathering process.

Statistical Treatment

For Problem 1. To determine the extent of eating habits of maritime students when grouped according to profile variables (year level and program), descriptive statistics were employed. Specifically, the mean (M) and standard deviation (SD) were computed for each group. The mean was used to describe the average level of eating habits among students within each category, while the standard deviation was utilized to determine the variability of responses within each group. These statistical measures are appropriate for summarizing Likert-type data and providing a clear description of the distribution of responses.

For Problem 2. To determine the extent of physical activity engagement among maritime students when grouped according to profile variables (year level and program), descriptive statistics were utilized. Specifically, the mean (M) and standard deviation (SD) were computed for each group. The mean was used to describe the average level of physical activity engagement among students within each category, while the standard deviation was employed to determine the variability of responses within each group. These measures are appropriate for summarizing Likert-type data and providing a clear description of the distribution of responses.

For Problem 3. To determine whether there is a significant difference in the extent of eating habits among maritime students when grouped according to profile variables, inferential statistical tests were employed. For comparisons according to year level, the Kruskal–Wallis H test was used. This nonparametric test was deemed appropriate because the respondents were grouped into more than two independent categories and the normality assumption was violated based on the Shapiro–Wilk test. For comparisons according to program, the Mann–Whitney U test was utilized. This test served as the nonparametric alternative to the independent samples t-test because the data likewise did not satisfy the normality assumption. Normality testing using the Shapiro–Wilk test was conducted, which showed that the data were not normally distributed; hence, non-parametric tests were justified as appropriate for ordinal Likert-scale data that do not meet parametric assumptions. Both tests are appropriate for analyzing differences in Likert-type data when parametric assumptions are not met. All tests were performed at the 0.05 level of significance.

For Problem 4. To determine whether there is a significant difference in the extent of physical activity

engagement among maritime students when grouped according to profile variables, inferential statistical tests were employed. For comparisons according to year level, the Kruskal–Wallis H test was used. This nonparametric test was deemed appropriate because the respondents were grouped into more than two independent categories and the normality assumption was violated based on the Shapiro–Wilk test. For comparisons according to program, the Mann–Whitney U test was utilized as the nonparametric alternative to the independent samples t-test due to the violation of the normality assumption. Normality testing using the Shapiro–Wilk test was conducted, which indicated that the data were not normally distributed; therefore, the use of non-parametric tests was justified for analyzing ordinal Likert-scale data that do not meet parametric assumptions. Both tests are appropriate for analyzing differences in Likert-type data when parametric assumptions are not met. All tests were conducted at the 0.05 level of significance.

For Problem 5. To determine the significant relationship between eating habits and physical activity engagement among maritime students, Spearman rank-order correlation (Spearman's rho) was employed. This nonparametric test was selected because the data were derived from

Likert-type scales and did not satisfy the assumption of normality as indicated by the Shapiro–Wilk test. The level of significance was set at 0.05 to determine whether the observed relationship between the variables is statistically significant.

Ethical Considerations

Prior to the commencement of any participant contact or data collection, this study protocol, including the research narrative, consent form, and survey instrument, will be formally submitted to the La Consolacion College Bacolod Institutional Review Board. No research activities will begin until written IRB clearance is obtained. Any amendments to the protocol or consent materials will likewise be submitted for IRB review, and annual continuing-review reports will be filed until study closure.

The conduct of this study will adhere strictly to established ethical standards in research to ensure the protection, dignity, and rights of all participants. Prior to data collection, the researcher will seek approval from the research adviser and the ethics review committee of the institution, as well as formal permission from the administration of the identified maritime school in Bacolod. All respondents will be informed of the purpose, procedures, potential benefits, and risks of the study, and their participation will be entirely voluntary. Informed consent will be obtained from each participant, and they will be assured of the confidentiality and anonymity of their responses by omitting any personally identifiable information and using coded data instead. Participants will also be informed of their right to withdraw from the study at any point without penalty. Collected data will be used solely for academic purposes and will be securely stored to prevent unauthorized access. Through these ethical considerations, the researcher will ensure that the study is conducted responsibly, transparently, and in accordance with ethical research principles.

The study adhered to strict ethical standards regarding confidentiality and data protection. All collected data, whether in printed or digital form, were securely handled throughout the research process. Digital files, including encoded survey responses and datasets, were stored in password-protected and encrypted folders accessible only to the researcher. If online survey platforms (e.g., Google Forms) were used, access was restricted solely to the researcher, and data were downloaded and immediately transferred to secured storage before the online responses were disabled or archived.

Hard copies of questionnaires, consent forms, and other research documents were kept in a locked and secured filing cabinet, accessible only to the researcher. To ensure anonymity, respondents were not required to provide names or any identifying personal information, and all data were reported in aggregated form only. Codes were assigned to responses for data analysis purposes instead of using personal identifiers.

In accordance with institutional policy, all research data were retained for three (3) years after the completion of the study for verification purposes. After the retention period, all physical documents were destroyed through cross-cut shredding, while all digital files were permanently deleted using secure file-deletion methods to ensure complete removal of participant information.

RESULTS AND DISCUSSIONS

This study aims to determine the extent of eating habits and physical activity engagement of maritime students in one of the maritime schools in Bacolod City for Academic Year 2025-2026. The researcher utilized the descriptive correlational research design to achieve the study. This chapter focuses on showing, analyzing, and explaining the data collected for this study. It presents the results using statistical methods to describe and understand the information related to the research problem.

Extent of Eating Habits of Maritime Students

Table 2 shows that third-year students obtained the highest mean score (M = 3.85, SD = 0.60), followed by second-year students (M = 3.78, SD = 0.58), while first-year students had the lowest mean score (M = 3.72, SD = 0.60).

Table 2 Descriptive Statistics of Eating Habits According to Year Level

Year Level	n	M	SD
1st Year	129	3.72	0.60
2nd Year	116	3.78	0.58
3rd Year	99	3.85	0.60

Legend: Very High Extent (4:21-5:00); High extent (3.41-4.20); Moderate Extent (2.61-3.40); Poor Extent (1.81-2.60); Very Poor Extent (1.00-1.80)

The extent of eating habits among maritime students according to year level is presented in Table 2. Results show that third-year students obtained the highest mean score (M = 3.85, MSD = 0.60), followed by second-year students (M = 3.78, SD = 0.58), while first-year students obtained the lowest mean score (M = 3.72, SD = 0.60). Based on the given scale, all year levels fall under the High Extent category (3.41–4.20), indicating that maritime students generally demonstrate good eating habits across all year levels, with only slight variations among groups.

From a practical standpoint, these results suggest that maritime students maintain relatively positive eating habits regardless of year level, though a gradual improvement is observed as students progress academically. This may imply that exposure to maritime training, discipline, and increased awareness of health requirements in higher year levels contribute to more consistent dietary practices. It may also reflect better self-regulation and adaptation to college life among senior students, who are more experienced in managing academic and training demands alongside personal health routines.

These findings can be understood through behavioral and developmental perspectives, where improvements in dietary behaviors among higher-year students may be linked not only to increased health knowledge but also to the gradual development of self-regulation, autonomy, and adaptive routines shaped by prolonged exposure to university life, leading students to make more conscious and planned food choices as they become more responsible for their own daily living, as reflected in Mancone et al. (2024) and Chen Yun et al. (2018). At the same time, dietary behaviors are also influenced by contextual pressures within academic environments, such as heavy workloads, stress, fatigue, and irregular schedules, which can disrupt consistent meal patterns and reduce the time and motivation needed for proper meal planning, often resulting in skipped meals or reliance on convenient but less nutritious options, as similarly noted in the contrasting findings of Choi (2020). Taken together, these processes suggest that students' eating behaviors are not solely determined by knowledge or

awareness, but are shaped by the ongoing interaction between developing personal competencies and the practical constraints of academic and lifestyle demands.

Extent of Eating Habits of Maritime Students

Table 3 shows that students enrolled in the BSMARE program obtained a slightly higher mean score (M = 3.80, SD = 0.59) compared to those in the BSMT program (M = 3.77, SD = 0.59).

Table 3 Descriptive Statistics of Eating Habits According to Program

Program	n	M	SD
BSMT	250	3.77	0.59
BSMARE	94	3.80	0.59

Legend: Very High Extent (4:21-5:00); High extent (3.41-4.20); Moderate Extent (2.61-3.40); Poor Extent (1.81-2.60); Very Poor Extent (1.00-1.80)

The extent of eating habits of maritime students was described according to program. As shown in Table 3, students enrolled in the BSMARE program obtained a slightly higher mean score (M = 3.80, SD = 0.59) compared to those in the BSMT program (M = 3.77, SD = 0.59). Both program means fall under the High Extent category based on the provided scale, indicating that students from both programs generally demonstrate positive eating habits with only minimal differences between them.

The results imply that eating habits among maritime students are relatively consistent regardless of program, although BSMARE students show a slightly better tendency toward healthier or more consistent eating practices. This small difference may suggest variations in academic demands, training schedules, or lifestyle patterns between the two programs.

However, since both groups fall under the same descriptive level, it can be inferred that program affiliation is not a strong determining factor of eating habits. Instead, shared maritime student experiences such as structured training and similar institutional environments may contribute more significantly to their eating behaviors.

The findings align with studies suggesting that college students across different academic programs often show similar dietary patterns when exposed to comparable school environments and lifestyle conditions. For example, Anmol Khajuria et al. (2025) reported that dietary behaviors among university students tend to be more influenced by lifestyle factors than by academic discipline. Similarly, Mancone et al. (2024) found minimal differences in eating habits across degree programs, emphasizing the role of common stressors and time constraints in shaping student diets.

However, contrasting results were noted by Lonati et al. (2024), who found that students in more physically demanding programs may exhibit slightly healthier eating habits due to greater health awareness and energy requirements. These mixed findings suggest that while program differences may exist, their impact on eating habits is often limited compared to broader lifestyle and environmental influences.

Physical Activity Engagement among Maritime Students

Table 4 shows that third-year students obtained the highest mean score (M = 3.69, SD = 0.70), followed by second-year students (M = 3.67, SD = 0.67), while first-year students had the lowest mean score (M = 3.58, SD = 0.59).

Table 4 Descriptive Statistics of Physical Activity Engagement According to Year Level

Year Level	n	Mean	SD
1st Year	129	3.58	0.59
2nd Year	116	3.67	0.67
3rd Year	99	3.69	0.70

Legend: Very High Extent (4:21-5:00); High extent (3.41-4.20); Moderate Extent (2.61-3.40); Poor Extent (1.81-2.60); Very Poor Extent (1.00-1.80)

The extent of physical activity engagement among maritime students was described according to year level. As shown in Table 4, third-year students obtained the highest mean score (M = 3.69, SD = 0.70), followed by second-year students (M = 3.67, SD = 0.67), while first-year students had the lowest mean score (M = 3.58, SD = 0.59). Based on the provided interpretation scale, all mean scores fall under the High Extent category (3.41–4.20), indicating that students across all year levels generally demonstrate a high extent of physical activity engagement. The results also show only slight differences among the year levels, with a gradual increase as students progress academically.

The findings imply that maritime students consistently maintain a high extent of physical activity regardless of year level, which may be attributed to the physically demanding nature of maritime education and training. The slight increase among higher-year students may suggest improved discipline, adaptation to physical training requirements, and stronger awareness of fitness as they advance in the program.

Meanwhile, the slightly lower mean among first-year students may reflect adjustment challenges to academic and physical training demands. Overall, the results suggest that physical activity engagement is generally strong among maritime students and may be influenced more by program requirements than by year level alone.

The findings are supported by studies indicating that university students, particularly those in physically oriented programs, tend to maintain moderate to high physical activity levels due to curriculum requirements and structured training. For instance, Kljajević et al. (2021)

found that students in health- and physically demanding disciplines showed higher activity levels compared to other groups. Similarly, Donnelly et al. (2024)

reported that physical activity tends to improve with increased academic exposure and adaptation to training demands. However, contrasting findings were reported by Kljajević et al. (2021), who found that physical activity levels may decline in higher year levels due to academic stress, increased workload, and reduced free time. Likewise, Akil (2025) noted that despite awareness of fitness benefits, some university students still experience inconsistent activity patterns due to lifestyle constraints. These mixed findings suggest that physical activity engagement among students may vary depending on academic demands, motivation, and environmental support.

Physical Activity Engagement among Maritime Students

Table 5 shows that students enrolled in the BSMARE program obtained a slightly higher mean score (M = 3.66, SD = 0.59) compared to those in the BSMT program (M = 3.63, SD = 0.68).

Table 5 Descriptive Statistics of Physical Activity Engagement According to Program

Program	n	Mean	SD
BSMT	250	3.63	0.68
BSMARE	94	3.66	0.59

Legend: Very High Extent (4:21-5:00); High extent (3.41-4.20); Moderate Extent (2.61-3.40); Poor Extent (1.81-2.60); Very Poor Extent (1.00-1.80)

The extent of physical activity engagement among maritime students was described according to program. As shown in Table 5, students enrolled in the BSMARE program obtained a slightly higher mean score (M = 3.66, SD = 0.59) compared to those in the BSMT program (M = 3.63, SD = 0.68). Based on the provided scale, both groups fall under the High Extent (3.41–4.20) category, indicating that maritime students generally demonstrate a high level of physical activity engagement regardless of program. The minimal difference in mean scores suggests that both groups have very similar levels of participation in physical activities.

The results imply that physical activity engagement among maritime students is consistently high across both programs, possibly due to the physically demanding nature of maritime education and training. The slightly higher mean of BSMARE students may indicate marginal differences in lifestyle routines or training emphasis; however, the difference is very small, suggesting that program type has limited influence on students' physical activity behaviors. This implies that shared academic environment, physical training requirements, and institutional expectations may play a stronger role in shaping students' engagement in physical activities than program specialization.

The findings are supported by recent studies showing that maritime and other physically oriented students generally maintain high extent of physical activity due to academic and training requirements. For example, Abdullah Alkhawaldeh et al. (2024)reported that university students in physically demanding disciplines tend to maintain higher physical activity levels compared to those in less physically intensive programs. Similarly, Escosio Suguis & Suraya Belleza (2022) found that institutional training demands significantly contribute to sustained physical activity engagement among students. However, contrasting findings were reported by Akil (2025), who noted that academic workload and fatigue may reduce physical activity levels among college students regardless of program. Likewise, Abdullah Alkhawaldeh et al. (2024) emphasized that lifestyle factors such as screen time and academic stress can negatively affect physical activity participation even among physically trained student populations. These mixed results suggest that while program demands may encourage physical activity, other behavioral and environmental factors can still influence engagement levels.

Significant Difference on Eating Habits of Maritime Students

Table 6 shows a Kruskal–Wallis H test was conducted to determine whether there is a significant difference in the extent of eating habits among maritime students when grouped according to year level. As shown in Table 6, the test revealed that there was no statistically significant difference, H (2) = 0.25, p = .884.

Table 6 Kruskal–Wallis Test on Eating Habits According to Year Level

Variable	H	df	p
Year Level	0.25	2	.884

Note. H = Kruskal–Wallis H statistic. The Kruskal–Wallis H test was used as a nonparametric alternative to one-way ANOVA due to the violation of the normality assumption as indicated by the Shapiro–Wilk test.

A Kruskal–Wallis H test was conducted to determine whether there is a significant difference in the extent of eating habits among maritime students when grouped according to year level. This nonparametric test was deemed appropriate because the respondents were grouped into more than two independent categories and the normality assumption was violated based on the Shapiro–Wilk test. As shown in Table 6, the test revealed that there was no statistically significant difference, $H(2) = 0.25$, $p =$

.884. This indicates that the extent of eating habits does not significantly vary across first-year, second-year, and third-year maritime students. Since the obtained p-value is greater than the 0.05 level of significance, the null hypothesis was accepted.

The findings imply that year level may not be a strong factor influencing the eating habits of maritime students. Regardless of whether students are in the first, second, or third year, they may share similar lifestyles, food environments, schedules, and dietary practices within the institution. This suggests that students' eating habits may be shaped more by common environmental and personal factors rather than academic standing.

Furthermore, the results may indicate that awareness and practices related to nutrition remain relatively consistent among maritime students across year levels.

The findings are supported by recent studies which reported no significant differences in eating habits among college students when grouped according to academic year level. For instance, Avram et al. (2024) found that dietary behaviors among university students remained generally similar across year levels due to shared campus lifestyles and food accessibility. Likewise, Guiné et al. (2023) reported that unhealthy and healthy eating practices were commonly observed among students regardless ofacademic classification. However, some studies contradict these findings. Rivera Medina et al. (2020) revealed that higher-year students tended to develop healthier eating habits because of greater nutritional awareness and maturity. Similarly, Kanosvamhira, (2025) found that academic level may influence dietary practices, with senior students becoming more conscious of healthy food choices over time. These contrasting findings suggest that eating habits among college students may vary depending on institutional environment, lifestyle, and individual health awareness.

Significant Difference on Eating Habits of Maritime Students

Table 7 shows a Mann–Whitney U test was conducted to determine whether there is a significant difference in the extent of eating habits among maritime students when grouped according to program. As presented in Table 7, the results revealed that there was no statistically significant difference between students enrolled in the BSMT and BSMARE programs,

$U = 11610$, $p = .865$.

Table 7 Mann–Whitney U Test on Eating Habits According to Program

Variable	U	p
Eating Habits	11610	.865

Note. U = Mann–Whitney U statistic. The Mann–Whitney U test was used as a nonparametric alternative to the independent samples t-test due to the violation of the normality assumption as indicated by the Shapiro–Wilk test.

A Mann–Whitney U test was conducted to determine whether there is a significant difference in the extent of eating habits among maritime students when grouped according to program. As presented in Table 7, the results revealed that there was no statistically significant difference between students enrolled in the BSMT and BSMARE programs, $U = 11610$, $p = .865$. Since the obtained p-value is greater than the

0.05 level of significance, the null hypothesis was accepted. This indicates that the extent of eating habits is

comparable between the two programs.

The findings imply that academic program may not significantly influence the eating habits of maritime students. Students enrolled in both BSMT and BSMARE programs may experience similar academic routines, food accessibility, campus environment, and lifestyle patterns, which contribute to comparable dietary behaviors. This further suggests that eating habits may be shaped more by individual preferences, daily routines, and environmental factors rather than by program specialization. The results also indicate that both groups may have similar levels of awareness regarding healthy eating practices.

The findings are supported by recent studies which reported that students from different academic programs often exhibit similar eating behaviors due to shared institutional and environmental influences. For example, Almoraie et al. (2024) found that university students' dietary habits were generally consistent across academic disciplines because of common lifestyle patterns and food availability on campus.

Similarly, Almoraie et al. (2024) reported no significant differences in eating habits among students from various college programs. However, some studies disagree with these findings. (Caso et al., 2020) suggested that students enrolled in academically demanding programs may develop poorer eating habits due to stress and limited time for meal preparation. Likewise, Chacón-Cuberos et al. (2019) found that differences in academic workload and program demands could influence students' dietary behaviors and meal patterns. These contrasting findings indicate that eating habits may vary depending on academic pressure, lifestyle, and institutional context.

Significant Difference on Physical Activity Engagement of Maritime Students

Table 8 shows that a A Kruskal–Wallis H test was conducted to determine whether there is a significant difference in the extent of physical activity engagement among maritime students when grouped according to year level. As shown in Table 8, the results revealed that there was no statistically significant difference, $H(2) = 0.77$, $p = .681$.

Table 8 Kruskal–Wallis Test on Physical Activity Engagement According to Year Level

Variable	H	df	p
Year Level	0.77	2	.681

Note. H = Kruskal–Wallis H statistic. The Kruskal–Wallis H test was used as a nonparametric alternative to one-way ANOVA due to the violation of the normality assumption as indicated by the Shapiro–Wilk test.

A Kruskal–Wallis H test was conducted to determine whether there is a significant difference in the extent of physical activity engagement among maritime students when grouped according to year level. This nonparametric test was deemed appropriate because the respondents were grouped into more than two independent categories and the normality assumption was violated based on the Shapiro–Wilk test. As shown in Table 8, the results revealed that there was no statistically significant difference, $H(2) = 0.77$, $p = .681$. Since the obtained p-value is greater than the 0.05 level of significance, the null hypothesis was accepted. This indicates that the level of physical activity engagement does not significantly differ among first-year, second-year, and third-year maritime students.

The findings imply that year level may not be a determining factor in the physical activity engagement of maritime students. Regardless of academic standing, students may experience similar academic routines, training requirements, and opportunities for physical activities within the institution. This suggests that maritime students across year levels may maintain relatively similar lifestyles and exercise habits. Moreover, the results may indicate that physical activity engagement is influenced more by personal motivation, health awareness, and environmental opportunities rather than by year level alone.

The findings are supported by recent studies which reported no significant differences in physical activity

engagement among students across year levels. For example, Abigail et al. (2022) found that university students demonstrated similar levels of physical activity regardless of academic classification, particularly during changing academic and social conditions. Likewise, Johannes et al. (2024) reported that college students' participation in physical activities was not significantly associated with year level but was more related to lifestyle and personal health behaviors. However, some studies contradict these findings. Donnelly et al.

(2024) suggested that higher-year students may engage more in physical activities due to improved health awareness and self-management skills. Similarly, Akil (2025) found that physical activity participation may increase with age and academic experience. These contrasting findings indicate that physical activity engagement among students may vary depending on academic demands, lifestyle, and institutional support for wellness activities.

Significant Difference on Physical Activity Engagement of Maritime Students

Table 9 shows that a Mann–Whitney U test was conducted to determine whether there is a significant difference in the extent of physical activity engagement among maritime students when grouped according to program. As presented in Table 9, the results revealed that there was no statistically significant difference between students enrolled in the BSMT and BSMARE programs, U = 11620, p = .872.

Table 9 Mann–Whitney U Test on Physical Activity Engagement According to Program

Variable	U	p
Physical Activity Engagement	11620	.872

Note. U = Mann–Whitney U statistic. The Mann–Whitney U test was used as a nonparametric alternative to the independent samples t-test due to the violation of the normality assumption as indicated by the Shapiro–Wilk test.

A Mann–Whitney U test was conducted to determine whether there is a significant difference in the extent of physical activity engagement among maritime students when grouped according to program. As presented in Table 9, the results revealed that there was no statistically significant difference between students enrolled in the BSMT and BSMARE programs, U = 11620, p = .872. Since the obtained p-value is greater than the 0.05 level of significance, the null hypothesis was accepted. This indicates that the level of physical activity engagement is comparable between the two programs.

The findings imply that academic program may not significantly influence the physical activity engagement of maritime students. Students from both BSMT and BSMARE programs may have similar academic schedules, training activities, and institutional environments that encourage comparable levels of physical activity. This suggests that participation in physical activities may be more dependent on personal interests, lifestyle, and health awareness rather than program specialization. Furthermore, the results indicate that maritime students, regardless of program, may recognize the importance of maintaining physical fitness as part of their professional preparation.

The findings are supported by recent studies which reported that students from different academic programs often exhibit similar levels of physical activity engagement due to shared campus culture and lifestyle factors. For example, Li et al. (2025) found that university students' physical activity patterns were influenced more by environmental and behavioral factors than by academic specialization. Similarly, Yin et al. (2022) reported no significant differences in physical activity participation among students from various academic disciplines. However, some studies contradict these findings. Villegas Delgadillo & Manzur-Valdespino (2022) suggested that students enrolled in physically demanding or health-related programs may engage more frequently in exercise and fitness activities. Likewise, Akil (2025) found that academic workload and program demands could influence students' participation in physical activities. These contrasting findings indicate that physical activity

engagement may vary depending on institutional support, academic responsibilities, and individual motivation.

Correlation between Eating Habits and Physical Activity Engagement

Table 10 shows that a Spearman rank-order correlation was conducted to determine the relationship between eating habits and physical activity engagement among maritime students. As shown in Table 10, the results revealed a statistically significant positive correlation, $\rho = .68$, $p < .001$. This indicates a strong positive association, suggesting that students with better eating habits tend to also report higher levels of physical activity engagement. However, it should be noted that correlation does not establish causation; therefore, it cannot be concluded that eating habits directly influence physical activity engagement or vice versa.

Table 10 Spearman Rank-Order Correlation between Eating Habits and Physical Activity Engagement

Table: Spearman's Rank Correlation

Variable	**ρ**	**p**
Eating Habits and Physical Activity Engagement	.68	< .001

Note. ρ = Spearman's rho. Spearman rank-order correlation was used due to the violation of the normality assumption and the use of Likert-type data.

A Spearman rank-order correlation was conducted to determine the relationship between eating habits and physical activity engagement among maritime students. As shown in Table 10, the results revealed a statistically significant positive correlation, ρ =

.68, $p < .001$. Since the obtained p-value is lower than the 0.05 level of significance, the null hypothesis was rejected. This indicates that higher levels of healthy eating habits are associated with higher levels of physical activity engagement among maritime students. The strength of the relationship can be interpreted as moderately strong to strong, suggesting a meaningful association between the two variables.

The findings suggest a positive relationship between eating habits and physical activity engagement among maritime students, indicating that those who maintain healthier eating habits are also more likely to participate in regular physical activity.

Practically, this reflects an interconnected pattern of health behaviors, where maritime students who are more conscious of their eating habits may also demonstrate greater commitment to physical activity engagement as part of an overall health-oriented lifestyle. This relationship is particularly important for maritime students, as both healthy eating habits and consistent physical activity engagement are essential in developing the physical endurance, alertness, and stamina required in maritime training and future shipboard duties. For student wellness programs, the implication is that interventions should consider eating habits and physical activity engagement as complementary behaviors rather than separate targets, since improvements in one may encourage positive changes in the other. Therefore, integrated wellness initiatives that simultaneously promote proper eating habits and regular physical activity engagement may be more effective in strengthening overall health outcomes and supporting the long-term wellbeing of maritime students.

The findings are supported by recent studies showing a positive relationship between healthy eating habits and physical activity engagement among college students. For instance, Hermassi et al. (2021) found that students who maintained healthier dietary practices were more likely to participate in regular physical activity. Similarly, Sandri et al. (2025) reported that balanced nutrition and active lifestyles were significantly associated among university students. In the same way, Savage et al. (2024) revealed that students who engaged in exercise were also more likely to adopt healthier food choicesand wellness behaviors. However, some studies present contrasting findings. Sogari et al. (2018) suggested that healthy eating habits do not always correspond with higher physical activity levels because some students may focus on one health behavior while neglecting

another. Likewise, Chacón-Cuberos et al. (2019) reported that stress, academic workload, and lifestyle factors may weaken the relationship between diet and physical activity among college students. These differing findings indicate that the relationship between eating habits and physical activity engagement may be influenced by personal, social, and environmental factors.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions and recommendations that were formulated based on the gathered data.

Summary of Findings

The findings of the study revealed that maritime students generally exhibited moderately high eating habits across all year levels. Third-year students obtained slightly higher mean scores compared to second-year and first-year students; however, the differences were minimal, indicating relatively similar eating habits across year levels.

When grouped according to program, both BSMT and BSMARE students demonstrated comparable eating habits, with BSMARE students showing a slightly higher mean score.

In terms of physical activity engagement, maritime students also showed moderate levels across all year levels, with third-year students having slightly higher engagement, though differences remained minimal.

When classified according to program, BSMT and BSMARE students exhibited almost identical levels of physical activity engagement, suggesting no meaningful variation between programs.

The test of difference revealed no significant differences in eating habits and physical activity engagement when grouped according to year level and program.

However, a significant positive relationship was found between eating habits and physical activity engagement among maritime students.

Conclusions

Based on the findings, it is concluded that maritime students demonstrate moderately high eating habits and moderate physical activity engagement, which remain consistent across year levels and academic programs.

Year level does not significantly influence eating habits or physical activity engagement, indicating that students maintain similar lifestyle behaviors regardless of academic progression. Likewise, program type does not significantly affect these variables, suggesting that students from both maritime programs share similar environmental and academic conditions that shape their lifestyle practices.

Furthermore, there is a significant positive relationship between eating habits and physical activity engagement. This indicates that students with healthier eating habits are also more likely to engage in physical activity.

Overall, the study concludes that lifestyle behaviors among maritime students are generally stable and are more influenced by personal and environmental factors than by academic classification.

Recommendations

Students should maintain consistent healthy eating habits and regular physical activity by following balanced meal planning and engaging in routine exercises such as walking, jogging, or structured fitness activities. They are also encouraged to set personal wellness goals to improve discipline in lifestyle practices.

Physical Education teachers should design more structured and engaging fitness activities that encourage regular participation. Integration of basic nutrition awarenessinto physical education lessons is also recommended to

strengthen the connection between diet and physical activity.

Curriculum developers should enhance the Physical Education curriculum by incorporating structured wellness modules and competency-based fitness activities that promote sustained healthy behaviors among maritime students.

School administrators should strengthen campus wellness programs by organizing regular fitness activities, improving access to sports facilities, and promoting institutional health campaigns that encourage active student participation.

Parents and guardians should support healthy lifestyle practices at home by providing nutritious meals and encouraging regular physical activity to reinforce school-based health behaviors.

Future researchers are encouraged to replicate this study in other maritime institutions to improve generalizability. They may also examine additional variables such as dietary quality, sedentary behavior, stress levels, or other psychosocial factors that may influence eating habits and physical activity engagement. Longitudinal or intervention-based studies are also recommended to assess changes over time and evaluate the effectiveness of health promotion programs.

Output

"MARITIME WELLNESS INITIATIVE: Enhancing Eating Habits and Physical Activity Engagement among Maritime Students."

Rationale

The findings of the study revealed that eating habits and physical activity engagement among maritime students are moderately developed and significantly related. Although no significant differences were found when grouped according to year level and program, the positive relationship between the two variables highlights the need for a structured intervention program. Maritime students require strong physical fitness and proper nutrition due to the demanding nature of their future profession at sea. Thus, this training program aims to promote healthy eating behaviors and regular physical activity to improve students' overall well-being, academic performance, and readiness for maritime duties. The intervention program will be implemented for a duration of twelve

(12) weeks to allow sufficient exposure to nutrition education, consistent physical activity participation, and gradual behavioral change among maritime students.

Program Implementation Plan

Components	Timeline	Details	Rationale / Objective	Persons Involved	Budget (PHP)	Monitoring & Success Indicators	Evaluation
Nutrition Awareness Seminar	Week 1	Lecture on balanced diet, meal planning, hydration, healthy food choices, Q&A, and food plate demonstration	To increase students' knowledge and awareness of proper nutrition and improve eating habits	Nutritionist, PE Teachers, School Admin, Students	10,000	Monitored by School Health Office / PE Department; ≥20% increase in nutrition knowledge (pre-test vs. post-test)	Pre-test and post-test on nutrition knowledge; seminar feedback form

Weekly Physical Fitness Sessions	Weeks 1–12	Aerobic exercises (Zumba, jogging) and anaerobic exercises (strength training, circuit workout) held 2–3 times/week	To improve physical fitness, endurance, and promote regular physical activity engagement	PE Teachers, Fitness Instructor, Students	15,000	Monitored by PE Department; ≥15% improvement in fitness performance checklist scores; ≥80% attendance rate	Attendance records; fitness performance checklist; observation of participation
Healthy Plate Challenge	Weeks 2–11	Students create weekly meal plans and record daily food intake using journals or mobile tracking	To encourage consistent healthy eating habits and self-monitoring of diet	PE Teachers, Students, Parents (support)	5,000	Monitored by Nutrition Coordinator / PE Teachers; improvement in eating habits mean score from baseline to post-assessment	Review of food journals; comparison of pre/post eating habit scores
Fitness Monitoring & Step Challenge	Weeks 3–12	Use of pedometers or mobile apps to track daily steps with monthly challenges	To motivate students to increase daily physical activity levels	PE Teachers, Student Leaders, Students	5,000	Monitored by PE Department / Student Affairs Office; ≥10,000 average steps/day target or 20% increase from baseline	Step count records; monthly ranking; participation rate
Wellness Reflection & Goal Setting	Weeks 6 & 12	Reflection sessions on lifestyle habits and setting personal health goals	To develop self-awareness, discipline, and long-term health behavior change	PE Teachers, Guidance Counselor, Students	Included in program cost	Monitored by Guidance Office; ≥80% completion of reflection outputs; evidence of goal attainment	Reflection papers; goal attainment checklist; qualitative feedback
Program Administratio	Weeks 1–12	Printing of modules, certificates,	To support smooth implementatio	School Administration, Program	10,000	Monitored by Program Coordinator	Program documentation; feedback

n & Materials		seminar materials, and refreshments	n of the program activities	Coordinators		/ Admin Office; 100% completion of materials distribution before each activity	from participants and facilitators

Persons Involved

- Physical Education Teachers (Program facilitators)
- Nutritionist or Health Expert (Guest speaker/resource person)
- School Administrators (Program approval and support)
- Maritime Students (Primary participants)
- Student Leaders / Peer Facilitators (Assistance in monitoring activities)
- Health and Fitness Advocates (Optional partners for seminars and campaigns)

Evaluation Plan

The effectiveness of the program will be evaluated using both qualitative and quantitative methods. Pre-test and post-test surveys will be administered to measure changes in eating habits and physical activity engagement. Attendance records and participation rates during activities will also be monitored. In addition, students will submit reflection journals to assess behavioral changes and awareness. Feedback forms will be collected after each activity to evaluate satisfaction and program effectiveness. Finally, statistical comparison of pre- and post-intervention results will be used to determine the overall impact of the training program on students' lifestyle behaviors.

REFERENCES

1. Abdullah, A., Abdalrahim, A., Albashtawy, M., Ayed, A., Al Omari, O., Albashtawy, S., Suliman, M., Oweidat, I. A., Khatatbeh, H., Alkhawaldeh, H., Al Dameery, K., Alsaraireh, M., & Alhroub, N. (2024). University students' physical activity: Perceived barriers and benefits to physical activity and its contributing factors.
2. SAGE Open Nursing, 10, 1–10. https://doi.org/10.1177/23779608241240490
3. Abigail, M., Dela Peña, M., Rocolcol, R., Requina, N., Laurence, A., & Alas, C. (2022).
4. Physical Activity Level among University of Bohol College Students during Flexible Learning. In American Journal of Multidisciplinary Research & Development. AJMRD. https://www.ajmrd.com/wp-content/uploads/2022/06/E464152.pdf
5. Acampado, E., & Valenzuela, M. (2018). Physical activity and dietary habits of Filipino college students. Kinesiology, 50(1), 57–67. https://doi.org/10.26582/k.50.1.11
6. Akil, M. (2025). Barriers to physical activity among university students in the light of psychosocial and body composition determinants. BMC Psychology, 10.1186/s40359-02503789-4. https://doi.org/10.1186/s40359-025-03789-4
7. Almoraie, N. M., Alothmani, N. M., Alomari, W. D., & Al-amoudi, A. H. (2024).
8. Addressing nutritional issues and eating behaviours among university students: A narrative review. Nutrition Research Reviews, 38(1), 1–16. https://doi.org/10.1017/S0954422424000088
9. Anderson Steeves, E. T., Johnson, K. A., Pollard, S. L., Jones-Smith, J., Pollack, K., Lindstrom Johnson, S., Hopkins, L., & Gittelsohn, J. (2016). Social influences oneating and physical activity behaviours of

urban, minority youths. Public Health Nutrition, 19(18), 3406–3416. https://doi.org/10.1017/s1368980016001701

10. Aszyanti, D., Ali, N. M., Azhar, A., & Mohamad Azri Hasshafariyusri. (2025). The Impact of Meal Patterns, Food Choices, and Nutritional Knowledge on Academic Performance among Students at UiTM Permatang Pauh, Pulau Pinang. Gading Journal for the Social Sciences (E-ISSN 2600-7568), 28(2), 293–306. https://doi.org/10.24191/gading.v28i2.667
11. Avram, C., Nyulas, V., Onisor, D., Georgescu, I. M., Szakacs, J., & Ruta, F. (2024). Food Behavior and Lifestyle Among Students: The Influence of the University Environment. Nutrients, 17(1), 12. https://doi.org/10.3390/nu17010012
12. Bandura, A. (1986). Social Foundations of Thought and Action. Social Foundations of Thought and Action. https://www.semanticscholar.org/paper/Social-Foundations-of-Thought-and-Action-Bandura/78c6775fccdbbed66f823dae2cfa01570ecb3c05
13. Buková, A., Tomková, P., Uher, I., Kimáková, T., Vojtaško, Ľ., & Salonna, F. (2024).
14. Selected lifestyle factors as students transition from secondary school to university in Slovakia. Frontiers in Public Health, 12. https://doi.org/10.3389/fpubh.2024.1461989
15. Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty,C., Chaput, J.-P., Chastin, S., Chou, R., Dempsey, P. C., DiPietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., & Lambert, E. (2020).
16. World health organization 2020 guidelines on physical activity and sedentary behaviour. British Journal of Sports Medicine, 54(24), 1451–1462. https://doi.org/10.1136/bjsports-2020-102955
17. Caso, D., Miriam, C., Rosa, F., & Mark, C. (2020). Unhealthy eating and academic stress: The moderating effect of eating style and BMI. Health Psychology Open, 7(2), 205510292097527. https://doi.org/10.1177/2055102920975274
18. Chacón-Cuberos, R., Zurita-Ortega, F., Olmedo-Moreno, E. M., & Castro-Sánchez, M. (2019). Relationship between Academic Stress, Physical Activity and Diet in University Students of Education. Behavioral Sciences, 9(6), 59. https://doi.org/10.3390/bs9060059
19. Chen Yun, T., Ahmad, S. R., & Soo Quee, D. K. (2018). Dietary Habits and Lifestyle Practices among University Students in Universiti Brunei Darussalam. Malaysian Journal of Medical Sciences, 25(3), 56–66. https://doi.org/10.21315/mjms2018.25.3.6
20. Choi, J. (2020). Impact of Stress Levels on Eating Behaviors among College Students.
21. Nutrients, 12(5), 1241. https://doi.org/10.3390/nu12051241
22. National Research Council. (2006). Physical and social environmental factors. In S. H. Woolf & L. Aron (Eds.), U.S. health in international perspective: Shorter lives, poorer health (pp. 321–344). National Academies Press. https://www.ncbi.nlm.nih.gov/books/NBK154491/
23. Craig, C. L., Marshall, A. L., Sjostrom, M., BAUMAN, A. E., BOOTH, M. L.,
24. AINSWORTH, B. E., PRATT, M., EKELUND, U., YNGVE, A., SALLIS, J. F.,
25. & OJA, P. (2003). International physical activity questionnaire: 12-Country reliability and validity. Medicine & Science in Sports & Exercise, 35(8), 1381–1395. https://doi.org/10.1249/01.MSS.0000078924.61453.FB
26. Deci, E., & Ryan, R. (2000). Self-Determination Theory - an overview | ScienceDirect Topics. Sciencedirect.com. https://www.sciencedirect.com/topics/social-sciences/self-determination-theory
27. Devi, B., Lepcha, N., & Basnet, S. (2022). Application of correlational research design in nursing and medical research. Journal of Xi'an Shiyou University, Natural Sciences Edition, 65(11). https://doi.org/10.17605/OSF.IO/YRZ68
28. Donnelly, S., Penny, K., & Kynn, M. (2024). The effectiveness of physical activity interventions in improving higher education students' mental health: A systematic review. Health Promotion International (Print), 39(2). https://doi.org/10.1093/heapro/daae027
29. Escosio Suguis, J., & Suraya Belleza, S. (2022). Student Engagement as Influenced by Physical Activity and Student Motivation Among College Students. International Journal of Sports Science and Physical Education, 7(1), 28. https://doi.org/10.11648/j.ijsspe.20220701.15
30. Fernqvist, F., Spendrup, S., & Tellström, R. (2024). Understanding food choice: a systematic review of reviews. Heliyon, 10(12), e32492–e32492. https://doi.org/10.1016/j.heliyon.2024.e32492
31. Florida, A. H. (2025). Attitude of Maritime Students toward School-related Factors and their Academic Performance: Basis for Policy Intervention. Sprin Journal of Arts, Humanities and Social Sciences, 4(8),

27–39. https://doi.org/10.55559/sjahss.v4i8.551
32. Garrido, G. L. (2025, May 1). Bandura's Self-Efficacy Theory of Motivation in Psychology. Simply Psychology. https://www.simplypsychology.org/self-efficacy.html
33. Guiné, R., Florença, S. G., Aparício, G., Cardoso, A. P., & Ferreira, M. (2023). Food Knowledge for Better Nutrition and Health: A Study among University Students in Portugal. Healthcare, 11(11), 1597–1597. https://doi.org/10.3390/healthcare11111597
34. Hermassi, S., Hayes, L. D., Salman, A., Sanal-Hayes, N. E. M., Abassi, E., Al-Kuwari, L., Aldous, N., Musa, N., Alyafei, A., Bouhafs, E. G., & Schwesig, R. (2021). Physical Activity, Sedentary Behavior, and Satisfaction With Life of University Students in Qatar: Changes During Confinement Due to the COVID-19 Pandemic. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.704562
35. Hafiz, A. A., Gallagher, A. M., Devine, L., & Hill, A. J. (2023). University student practices and perceptions on eating behaviours whilst living away from home. International Journal of Educational Research, 117(102133). https://doi.org/10.1016/j.ijer.2022.102133
36. IMO. (2019). International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978. Www.imo.org. https://www.imo.org/en/OurWork/HumanElement/Pages/STCW-Convention.aspx
37. Commission on Higher Education & Maritime Industry Authority. (2018). Joint CHED–MARINA Memorandum Circular No. 01, s. 2018: Guidelines on joint CHED–MARINA monitoring of maritime education programs. Supreme Court E-Library. https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/10/91570
38. Johannes, C., Roman, N., Onagbiye, S., Titus, S., & Leach, L. (2024). Physical Activity is Personal: A Mixed-Methods Study of Undergraduate Students at a South African University. Physical Activity and Health, 8(1), 116–136. https://doi.org/10.5334/paah.367
39. Jurado-Gonzalez, P., López-Toledo, S., Bach-Faig, A., & Medina, F.-X. (2025). Barriers and Enablers of Healthy Eating Among University Students in Oaxaca de Juarez: A Mixed-Methods Study. Nutrients, 17(7), 1263–1263. https://doi.org/10.3390/nu17071263
40. Kanosvamhira, T. P. (2025). Nourishing Minds: Understanding student dining preferences and perceptions of healthy eating in campus cafés. Journal of Hunger & Environmental Nutrition, 1–18. https://doi.org/10.1080/19320248.2025.2506486
41. Keat, J., Novi, P., & Mihrshahi, S. (2024). Benchmarking the university campus food environment and exploring student perspectives about food insecurity and healthy eating: a case study from Australia. BMC Public Health, 24(1). https://doi.org/10.1186/s12889-024-18664-x
42. Khajuria, A., Yadav, S. S., Somanadhapai, S., Thapa, R., Singh, M. J., Bansal, P., Vats, N., Rishi, N. N., Kumar, L., Sharma, N., Chandrabanshi, A., Arren, A., Bharti, S., Singh, S., Gupta, S. K., Sharma, S., Gupta, N., & Singh, S. S. (2025).
43. Influence of dietary habits and lifestyle practices on the health and well-being of universitystudents: A survey investigation. Journal of Lifestyle Medicine, 15(2), 66–79. https://doi.org/10.15280/jlm.2025.15.2.66
44. Li, B., Tang, X., & Le, G. (2023). Dietary Habits and Metabolic Health. Nutrients, 15(18), 3975. https://doi.org/10.3390/nu15183975
45. Li, Z., Xie, S., & Chen, W. (2025). The influence of environment on adolescents' physical exercise behavior based on family community and school micro-systems. Scientific Reports, 15(1). https://doi.org/10.1038/s41598-025-91387-0
46. Lonati, E., Emanuela Cazzaniga, Adorni, R., Zanatta, F., Belingheri, M., Matteo Colleoni, Michele Augusto Riva, Patrizia Steca, & Palestini, P. (2024). Health-Related Lifestyles among University Students: Focusing on Eating Habits and Physical Activity. International Journal of Environmental Research and Public Health/International Journal of Environmental Research and Public Health, 21(5), 626–626. https://doi.org/10.3390/ijerph21050626
47. Kljajević, V., Stanković, M., Đorđević, D., Trkulja-Petković, D., Jovanović, R., Plazibat, K., Oršolić, M., Čurić, M., & Sporiš, G. (2021). Physical Activity and Physical Fitness among University Students—A Systematic Review. International Journal of Environmental Research and Public Health, 19(1), 158. https://doi.org/10.3390/ijerph19010158
48. Mancone, S., Corrado, S., Tosti, B., Spica, G., Di Siena, F., Misiti, F., & Diotaiuti, P. (2024). Enhancing nutritional knowledge and self-regulation among adolescents: efficacy of a multifaceted food literacy

intervention. Frontiers in Psychology, 15. https://doi.org/10.3389/fpsyg.2024.1405414
49. Garcia, P. V., Muñoz, Y. C., & Porley, J. V. (2023). Health habits of maritime students in preparation onboard. Manuel S. Enverga University Foundation. https://mseuf.edu.ph/research/read/1849
50. Porter, K. D. (2026). Difficulty in Physical Education and Resiliency Among Junior High School Students. X(2454). https://doi.org/10.47772/IJRISS
51. Rivera Medina, C., Briones Urbano, M., de Jesús Espinosa, A., & Toledo López, Á. (2020). Eating Habits Associated with Nutrition-Related Knowledge among University Students Enrolled in Academic Programs Related to Nutrition and Culinary Arts in Puerto Rico. Nutrients, 12(5), 1408. https://doi.org/10.3390/nu12051408
52. Riyanto, R., Cahyadi, T., Winarno, W., Faozun, I., Barasa, L., Zakiah, D., Suranta, N., & Simanjuntak, M. B. (2025). The integration of structured physical training and nutrition to enhance seafarer endurance and career preparedness in maritime education. Physical Therapy Journal of Indonesia, 6(1), 19–25. https://doi.org/10.51559/ptji.v6i1.242
53. Rosenstock, I. M. (1974). Historical Origins of the Health Belief Model. Health Education Monographs, 2(4), 328–335. https://doi.org/10.1177/109019817400200403
54. Sandri, E., Capoferri, M., Luciani, G., & Piredda, M. (2025). The Link Between Physical Activity, Nutrition, and Health: A Cross-Sectional Study with Multivariate Analysis in a Young and Predominantly Female Spanish Sample. Nutrients, 17(9), 1486. https://doi.org/10.3390/nu17091486
55. Savage, M. J., Procter, E. L., Magistro, D., Hennis, P. J., Donaldson, J., Leslie-Walker, A., Jones, B. A., & James, R. M. (2024).
56. Characterising the activity, lifestyle behaviours and health outcomes of UK University students: an observationalcohort study with a focus on gender and ethnicity. BMC Public Health, 24(1). https://doi.org/10.1186/s12889-024-20911-0
57. Schlundt, D. G., Hargreaves, M. K., & Buchowski, M. S. (2003). The Eating Behavior Patterns Questionnaire predicts dietary fat intake in African American women. Journal of the American Dietetic Association, 103(3), 338–345. https://doi.org/10.1053/jada.2003.50049
58. Sogari, G., Velez-Argumedo, C., Gómez, M., & Mora, C. (2018). College Students and Eating Habits: A Study Using An Ecological Model for Healthy Behavior.
59. Nutrients, 10(12), 1–16. https://doi.org/10.3390/nu10121823
60. Street, S., Simoncini, K., & Byrne, R. (2024). Peer Influence on Eating Behaviour in Early Childhood: A Scoping Review. Appetite, 107708–107708. https://doi.org/10.1016/j.appet.2024.107708
61. Villegas Delgadillo, R. N., & Manzur-Valdespino, S. (2022). Lifestyles and school performance of health sciences students. Mexican Journal of Medical Research ICSA, 10(19), 16–23. https://doi.org/10.29057/mjmr.v10i19.5731
62. World Health Organization. (2024). Physical activity. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/physical-activity
63. Yin, X., Huang, Y., Zhang, X., Chen, Y., Wang, M., & Qian, H. (2022). Influencing Factors and Improvement Path of Academic Engagement among College Students in the Context of Epidemic Prevention and Control. International Journal of Environmental Research and Public Health, 19(19), 12939–12939.