

**NUTRITIONAL STATUS AND ITS IMPACT ON ACADEMIC PERFORMANCE
OF NURSING STUDENTS**

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**NUTRITIONAL STATUS AND ITS IMPACT ON ACADEMIC PERFORMANCE
OF NURSING STUDENTS**

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In Partial Fulfillment of the
Requirements for the Degree
Bachelor of Science in Nursing

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DECLARATION PAGE

We hereby declare that this research is our original work and it has been written by us in its entirety. We have acknowledged all the sources of information which have been used in this research.

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ABSTRACT

Human nutrition is essential in maintaining life, and it is a strong determinant not only for healthy lifestyles but for human health that has strong positive and promoting effects that help in the prevention of acquiring several diseases and improve the body functions such as the brain or the cognitive function. Most studies merely focus on the nutrition and academics of primary and secondary students. The goal of this study is to determine the impact of nutritional status (health condition, eating habits, and body mass index) on the academic performance of nursing students. This study was done on school grounds using a modified questionnaire and a convenient sample method with the participation of nursing students from one of the higher education institutions in Misamis Occidental as its respondents. Likert scale was provided to the questionnaire to categorize each response. Frequency, percentage, weighted mean, Likert scale, and Pearson correlation coefficient were the tools used in analyzing the data sample. The results showed that nursing students generally have good health conditions and eating habits, with some malnourished students exceeding normal weight while the majority are within normal range. Nursing students generally achieve passing grades, with a small percentage on probation. The data shows a significant correlation between nutritional status in terms of health condition and academic performance; however, no significant correlation was found between nutritional status in terms of eating habits and body mass index towards academic performance. In addition, teachers should conduct awareness campaigns on health conditions and encourage students to stay healthy. Also, teachers encourage their students to have follow-up checkups to monitor for any health conditions. Future studies must also

be conducted in larger groups to determine if the same findings will be established. With the use of the interpreted data, the nursing students' nutritional status in terms of health condition, body mass index, and eating habits are Good, which indicates that students are Healthy. On the other hand, data showed that only nutritional status in terms of health condition shows a significant contribution or relation to a nursing student's level of academic performance.

Keywords: body mass index, eating habits, general weighted average, health condition, nursing students

APPROVAL SHEET

This research study entitled “**NUTRITIONAL STATUS AND ITS IMPACT ON ACADEMIC PERFORMANCE OF NURSING STUDENTS**” prepared and submitted by Kasey Melandra B. Lacharon, Kyla A. Lagata, Rea Carmellie A. Lorenton, Jann Rory A. Macalisang, Eric John Meriales, Reelgem Seth Nercua. In partial fulfillment of the requirements for the degree of Bachelor of Science in Nursing, has been examined and recommended for acceptance and approval for the oral examination.



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The Researchers

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Chapter 1

INTRODUCTION

Rationale of the Study

Nutrition is a state that defines an individual's condition. Human nutrition is essential to maintaining life, and it is a strong determinant not only for healthy lifestyles but for human health that has strong positive and promoting effects that help in the prevention of acquiring several diseases and improve body functions Hřivnová (2021). It improves and maintains the functions of the main parts of the body, such as the brain or cognitive function. Giroux (2022) stated that to excel in school, a student's basic need for nutrition must be satisfied because when a student lacks nutrition, It has a detrimental effect on the student's academic performance, emotional and physical well-being, and both. In addition, lack of nutrition results in various negative effects, cognitive impairment, diseases, absences, and malnutrition that hinder the potential of a student to do well in school and academics (healthy-food-choices-in-schools, 2019). Malnutrition among students can have a negative impact on cognitive and motor development, which could negatively affect academic achievement by reducing learning capacity and decreasing attendance at school (Zerga et al., 2022).

Many researchers have studied these issues and problems regarding nutrition and academic performance and have found some proven results. According to the study of Guiroux (2022), students who have problems with nutrition and lack of nutrient consumption can be addressed through school nutrition education and the implementation of schoolwide breakfast programs that fulfill student needs for food and a sense of

belongingness. Teachers, professors, and health educators can change a student's perspective on nutrition by providing more knowledge. Asmare et al. (2018) stated that problems in nutrition and academic performance can be solved and emphasized that, to increase academic performance among primary school students, the government had to be extremely cautious when putting nutrition screening programs and interventions into place. In addition, Beredo and Acheron (2019) concluded that parents and guardians are the primary people who can help students with malnutrition in a way of educating them on the importance of good nutrition and providing adequate and nutritious food. Pastor and Tur (2020) stated that an intervention implemented by the experts called "behavioral changes" has shown positive signs in the number of malnutrition cases among children and adolescents. The following studies show interventions and solutions that were significantly effective in the nutrition of children and adolescents.

From the different studies mentioned above, the studies were mostly focused on the nutrition and academics of primary and secondary students. The researchers found it important to conduct a similar study but the focus is on the university students, specifically nursing students. The nursing course is one of the most exhausting courses that needs to focus on academics and more activities. That being said, nursing students are very busy with their academics; somehow, they forget to maintain their healthy lifestyle habits, skip meals, prefer to eat unhealthy foods like ready-to-eat cans, do not get enough rest, and engage in bad lifestyle habits. Another factor that contributes to the nutrition of nursing students is the difference between the quality of foods prepared from home and their apartments. Nursing students also rented apartments due to the distance of the school from home. A nursing student's academic performance is evaluated through the degree of

competence demonstrated in his/her areas of study and the capability of showing skills and behaviors that are essential to increase the chances of improving oneself (Alshammari et al. 2017). According to Ratanasiripong et al. (2021), nursing students around the globe experienced numerous hindrances in their college years, such as problems with the workload of school tasks and activities, money, psychosocial issues, and exposure to a new set of environments that resulted in disrupted academic achievement.

This study aimed to determine what the existing literature about nutrition and academic performance is unable to provide, but with different respondents who are nursing students. In the long run, the results of this study hope to provide humble recommendations to the institution where the study was conducted. Not only the institution may benefit from this study, but also the nursing students since they will have more insights into how their nutritional status impacts their academic performance. Future researchers may also benefit from this study as it may provide a sample framework for researchers who wish to conduct similar studies; also, the discussions and findings of this research help examine new research questions to explore and better understand the impact of nutritional status on academic performance.

The goal of this study is to determine the impact of nutritional status on the academic performance of nursing students. Nutritional status must be taken seriously; it should be attained by consuming sufficient sources of energy essential nutrients and choosing the right food components. Assessing optimal nutritional status is difficult; it is important to note and try to detect poor nutritional status and how it connects with the academic performance of a student. This research needs to be conducted for the well-being

of the nursing students and to help them know what types of food they need to consume to function holistically.

Theoretical Framework

This study was supported by the Self-Care Deficit theory of Dorothea Orem (1959) and the Theory of Goal Attainment of Imogene Martina King (1960). As an attempt to improve the quality of nursing at her state's general hospitals, Dorothea E. Orem developed the Self-Care Deficit Theory. The model connected ideas in a way that produced a unique perspective on a particular phenomenon. Although the premise was straightforward, it could be utilized to treat a variety of diseases. It can be used and utilized by nurses to guide and improve practice, but only when done in compliance with other accepted theories, rules, and guidelines.

Three interrelated facets of this idea are the nursing system, the self-care deficit, and the philosophy of self-care. The theory of self-care was picked as one of these sub-theories and was proven to be useful. According to this notion, people must be able to start and carry out activities on their behalf for life to go well and to advance wellbeing. Basic human requirements include things like food, clothing, shelter, and access to clean water and air. When these things are met, the body can operate properly, and tasks may be completed with accuracy, among other things. This hypothesis states that nursing students will do better in class and achieve good academic performance if they pay attention to self-care, such as maintaining foods with great nutritional status. The major goal of nursing, in accordance with Orem's nursing philosophy, is to assist patients in regaining their capacity to take care of themselves while highlighting the need for health care. The individual's

physical and mental wellbeing can benefit from self-care in many ways, including stress reduction, a lower chance of sickness, and an increase in energy. It offers a thorough examination of nursing in modern practice settings that can be used in several situations. Simple self-care practices can greatly enhance your quality of life. Consider exercising frequently to start practicing self-care.

The other theory that supports this study is the Theory of Goal Attainment by Imogene King. This model emphasizes on achieving particular life goals, which is clear from the term alone. It outlines how to establish a step-by-step planning to achieve significant goals, it describes how the nurse and the patient collaborate to share information, goals, benefits, and needs. Clear goals help nurses focus on what is important and organize their workload properly. It aids in ensuring that they are successfully employing their resources and time and increases drive. Having goals gives one a sense of direction and drives one to work toward something worthwhile. Imogene King's Theory of Goal Attainment shows the importance of establishing trust and bonds for students in order for them to reflect on the learning environment objectively. This was most effective for the mentorship and learner role, thus decreasing student anxiety: a dynamic and effective intervention that enhanced student contentment, overall academic satisfaction, and achievement. The reaction is a component of the clearly defined series of behaviors that make up the action, which consists of a set of actions which involve both physical and mental effort. According to King, a nurse's principal responsibility is to assist patients in keeping up their health so that they can perform their regular duties. Moreover, this theory consists of three interconnected systems: social, interpersonal, and personal systems. Each system is given unique concepts. The Concepts from the personal system include

perception, self, growth, and development, in addition to location, time, and body image. While the concepts associated with interpersonal relationships include role, stress, communication, interaction, and transaction. Ideas connected to social systems include organization, authority, status, and decision-making.

Conceptual Framework

College life is very hard and exhausting. Students work hard in their academics to achieve their future goals in life and to have a better future. However, students face many challenges throughout their journey towards that goal, such as financial problems, stress, and exposure to a new environment, especially to a new type of lifestyle. Students may get exposed to poor lifestyle habits such as inappropriate sleep schedules, alcohol, smoking, and bad nutrition.

For this study, there were two key variables: independent and dependent variables. The independent variable, otherwise known as the predictor or cause, would be the nutritional status, and the dependent variable, otherwise known as the response or outcome, would be the academic performance. With the use of conceptual definition, this study's keywords are described and defined.

Nutritional status refers to the nursing students' body condition in those aspects influenced by their diet and their levels of nutrients; it mainly talks about their state of health. This independent variable has three sub-variables, and these are the *health condition*, which refers to a student's general well-being and the absence of any obvious anomalies in the body that indicate if he/she is healthy or not (Griban et al., 2020). *Eating habits* refer to the student's manner of attaining adequate nutrition and dietary behaviors

that they usually adapt to their day-to-day lifestyle (Abraham et al., 2018). Lastly, the *body mass index (BMI)*, which is calculated by dividing the student's height in meters by their weight in kilos, may help in identifying if the level of fats in their body corresponds to their body proportions (Kıskacı et al., 2022).

Academic performance, on the other hand, refers to the nursing students' GWA for the first semester in all the subjects of the school year 2022-2023. GWA, or *general weighted average*, is the nursing student's average grade in all subjects, passed or failed in all disciplines. It results from adding performance ratings based on the subject and was also used to gauge how well a student did academically over a certain semester or school year.

The arrows (figure 1) indicate how the variables are linked to another variable, illustrating the relationship between the two to better understand the study. One of the key factors that may impact academic accomplishment was a student's ability to learn, which was limited by their nutritional status. Undernutrition remained a major contributing factor to poor academic performance and health status notwithstanding the economic growth seen in many developing nations. Nutritional status is negatively impacted by both excessive and insufficient physical exercise, along with being overweight and obese. Nutritional status was an important point of reference in enabling diagnosis.

Among other methods, anthropometric testing was also used to evaluate nutrition. Anthropometric measures are used to analyze the body's physiological state based on height and weight, as well as nutritional condition. Maintaining good health and eating habits allows our bodies to function and think properly. That is why it was significant to assess an individual's nutritional status since all of these can eventually affect a student's academic performance. Nursing students have been observed, and a correlation between

healthy eating and study habits has been observed, which has a positive impact on their academic performance (Castillo et al. 2021). Anything less or more is detrimental to human health. For strength, physical development, cognitive growth, and function, a balanced diet is essential (Asmare et al., 2018).

College students frequently count on meals that are easy and ready to consume foods that primarily involves inadequate nutrients, thereby separates them apart from the population in terms of lifestyle and eating habits. Convenience is the most important factor determining food choices, followed by flavor. As a result, college students' meals typically consist of ready-to-eat packaged items and fast food chains. In addition to disregarding the food group requirements, the majority of college students are also exposed to binge-drinking, missing meals, and consuming unhealthy snacks. There are also differences in the foods that the sexes choose to eat. According to Choi (2020), male students has the highest percentage of purchasing alcoholic drinks whereas female students cater to buy high-energy items, eat fruit, and avoid fat.

On the other hand, the study of Alkazemi and Salmean (2021) revealed that while male and female students shows a great differences from their amount of fruits and vegetable consumption, female students consumed more fatty meals. Given that stress can have an impact on eating habits, these variations may rely on the person's perceived stress level. For example, stress might lead to an increase in snacking.

It is well known that a person in poverty may find it difficult to obtain a healthy diet, and that there is an obvious connection between a person's nutritional state and their intellectual achievement. Some studies show that academic performance has a strong connection with eating habits (Castillo et al., 2021). Malnutrition is the imbalance of

nutrients in the body regarding being underweight or overweight (Prangthip et al. 2019). Body mass index (BMI) is the most popular and common method for nutritional status assessment. It is an important sign of someone's health and is used to determine the total amount of body fat (Shi et al., 2020). It was generally agreed upon that individuals who are normal weight are more likely than those who are overweight or obese to accurately classify their nutritional state (Christoph et al. 2018; Freigang et al. 2020; Dey et al. 2019).

Additionally, overweight people are more likely to underestimate the BMI categories (Dey et al. 2019; Freigang et al. 2020). Generally speaking, and to explain, the buildup of extra bodily fat is referred to as obesity (Al-Ghamdi et al., 2018). According to recent research, both can coexist or overlap to produce a multilayered stigma that is linked to more detrimental health-related effects (Weinberger & Luck-Sikorski, 2020).

The general weighted average (GWA) and overall academic performance are receiving increased attention, thus it was necessary to investigate the ways in which lifestyle factors especially eating habits—can affect students' academic success. (Reuter et al., 2020). Many of the academic issues that students confront are caused by a lack of healthy dietary habits. When students perform poorly in school, it is clear that they did not prepare thoroughly for the examination or test. It can also be caused by poor concentration at school, poor memory, poor ability to follow through on issues, and poor coordination in class (Uwannah & Mbegbu, 2018).

This research would provide significant conclusions regarding the connection between students' nutritional status and academic performance.

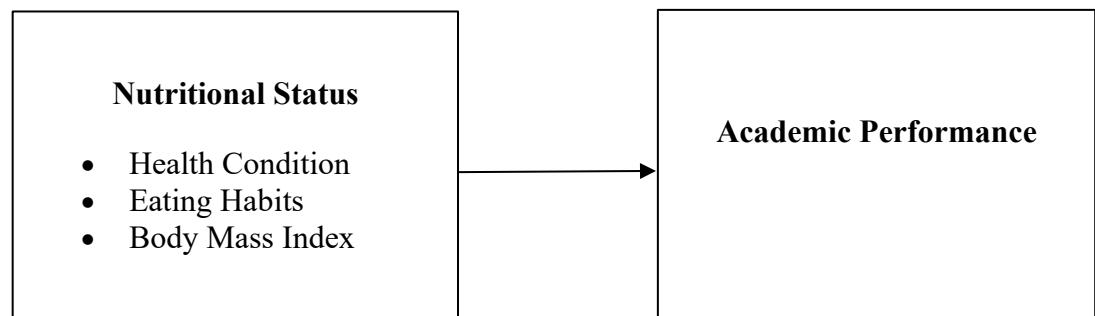


Figure 1. Schematic Diagram of the Study

Statement of the Problem

The primary purpose of this study was to determine the nutritional status and the impact on academic performance of nursing students.

Specifically, this study aimed to address the following:

1. What are the respondents' nutritional status in terms of health conditions, eating habits, and body mass index (BMI)?
2. What are the respondents' academic performance?
3. Is there a significant relationship between the respondents' nutritional status and their academic performance?

Hypothesis

Ho: There is no significant relationship between the respondents' nutritional status in terms of health condition, eating habits and body mass index and their academic performance.

Chapter 2

RESEARCH METHODOLOGY

This chapter presents the research methodology used in this study. This chapter describes the design, setting, respondents, instruments, data collection procedures, ethical considerations, and data analysis techniques.

Design

The study is a quantitative, descriptive-correlational design study. Descriptive correlational design is a method where information is collected without making any changes or revisions to the studied subject; this would identify and described behaviors of the respondents. It tests to investigate the correlation between nutritional status and academic performance.

Setting

The study was conducted in one of the higher education institutions (HEI) in Ozamiz City, Misamis Occidental. A privately owned, non-sectarian, non-profit educational institution founded in 1929. It offers a wide range of academic programs which include BS Nursing, and even built a modern state of the art tertiary hospital to complement the students in the courses offered by the institution.

Respondents

There were 722 nursing students enrolled in the university in the school year 2022-2023. Using Slovin's formula, 257 respondents were identified as the sample size and responded in this study to fulfill the data-gathering procedure more efficiently and

effectively. A 95% confidence level was used in this study which indicates that the gathered data had been transparent and unbiased. A Convenient sampling method was used to identify the respondents. The respondents of this study were all nursing students in any year level and the main goal was to reach the 257-sample size.

Instruments

In this study, the researchers used a modified questionnaire based on the Questionnaire Centered for Disease Control and Prevention ([CDC], 2005). This CDC Employee Health assessment measured the individual's nutritional status. This study's questionnaire will be used to determine the health condition, eating habits, body mass index (BMI), and academic performance in terms of the total weighted average.

To ensure the reliability and validity of the modified tool, the researchers conducted pilot testing. Cronbach alpha was used to ensure internal consistency. Thirty students were included with respect to the inclusion and exclusion criteria. The tool was edited to reach adequate reliability and validity. Upon reaching acceptable statistical results of reliability and validity, the researchers proceeded to the main data gathering.

The tool created for this study was divided into two parts. Each part had its different directions to follow to answer. The first part was the nutritional status, which was divided into three subparts that measured the respondents' (A) health conditions, (B) eating habits, and (C) body mass index (BMI). In these subparts, the researchers used the Likert scaling measurement, which has four choices: always, often, sometimes, and never, which the respondents have chosen. Then, when it went about the respondent's body mass index (BMI), they would have been asked to provide their current weight, expressed in

kilograms, and height expressed in centimeters, if they forgot their current weight, they are asked to put their previous weight and height.

In the second part of the tool for academic performance, the respondents were asked to open their school accounts to check and put their total weighted average from all of their subjects enrolled in the first semester in the school year 2022-2023.

Data Gathering Procedure

The initial step of data gathering was the researchers sought the approval of the dean of the College of Nursing, Midwifery, and Radiologic Technology to conduct the survey inside the university.

As previously mentioned, the reliability and validity of the modified tool was secured. The survey was done face-to-face. The researchers went to the respective classrooms of the nursing students and ask for their consent. The researchers explained the consent, including anonymity, benefits, and necessary things to be clarified before distributing and answering the questionnaire. Then, questionnaires were distributed to the respondents. The questionnaire used the Likert rating to measure the opinions, attitudes, and behaviors of the respondents that would serve as the data, and it consists of four choices: always, often, sometimes, and never. While the respondents answered the questionnaires, the researchers stayed in the room in case the respondent asked any questions about the survey. After the respondents answered the surveys, the researchers collected and kept the questionnaires.

This study utilized a two-part survey questionnaire to gather the necessary data to determine the relationship between nutritional status and its impact on academic performance of nursing students. A four-point Likert Scale type of questionnaire.

Respondents' Level of Health Condition and Eating Habits

This is a modified questionnaire based on the Center for Disease Control and Prevention (CDC) Employee health assessment that assessed the respondents' health condition. Presented below is the continuum and interpretation that was used to interpret the data collected.

Table 1

Continuum and Interpretation for the Level of Health Condition and Eating Habits.

Continuum	Responses	Interpretation
3.25-4.19	Always	Very Good
2.50-3.24	Often	Good
1.75-2.49	Sometimes	Fair
1.0-1.74	Never	Poor

Respondents' Body Mass Index

The respondents were asked to provide their current weight in kilogram (kg) and height in centimeter (cm). Presented below is the continuum and interpretation that was used to interpret and analyze the data gathered.

Table 2*Continuum and Interpretation of BMI.*

Continuum	Interpretation
Below 18.5	Underweight
18.5-24.9	Normal
25-29.9	Overweight
30-34.9	Obese I
35-39.9	Obese II

Respondents' Academic Performance

The respondents were asked to open their school account to check their general weighted average (GWA) for the school year 2022-2023 from all of their enrolled subjects in the first semester.

Table 3*Continuum and Interpretation of the Academic Performance.*

Continuum	Interpretation
1.0-1.50	Outstanding
1.51-2.0	Very Satisfactory
2.01-2.50	Satisfactory
2.51-3.0	Fair
3.01-5.0	Poor

Ethical Considerations

It is crucial to protect the respondents' confidentiality, privacy, and anonymity. This required ensuring a sufficient degree of secrecy for the data being studied as well as the anonymity of the people and organizations taking part in the study. Respondents were not asked to include their names on the questionnaire to ensure anonymity. It was made clear to the respondents that their participation in the study would be entirely voluntary and that they would be able to withdraw from it at any time. The researchers processed the tabulation of data, and no third party was involved that would breach the respondents' data privacy. The results of the questionnaires have been kept entirely confidential and were only being used for research. Surveyed questionnaires and any hard copies of the data utilized in the study were secured after data had been collected and processed. Information copies were destroyed, and soft copies were removed. Lastly, any communication to this action research was done with honesty.

The researchers took responsibility for protecting the privacy of research respondents. All correspondence on the study was carried out in a way that was honest and open. False information and biased interpretation of the results of primary data were avoided. To ensure the respondents' autonomy and voluntary participation, full consent was obtained from them before the study. Research respondents were not subjected to harm in any way whatsoever, and respect was prioritized. Regarding beneficence, the researchers did not provide any monetary or in-kind benefit. The voluntary participation of respondents in the research was essential. Respondents have the right to withdraw from the study at any stage if they wish to have done so. If the respondents wanted to withdraw from the study, they had the right to do so without feeling obligated.

Data Analysis

This research investigated the relationship between nutritional status and academic performance using different statistical methods such as frequency, percentage, weighted mean, standard deviation, and Pearson correlation coefficient.

Frequency is one of the common methods for organizing data, involving the construction of frequency distributions. The frequency distribution, known as a table or graph that shows the number of individuals in each category on the measuring scale was used that allowed the examiner to easily analyze the entire set of data. It revealed the frequency and dispersion of the observations across the whole scale, as well as their centralization in one location. Thus, the frequency distribution illustrated how the different observations were distributed along the measuring scale.

Calculations that displayed proportions were called percentages. The mean, median, and mode served as indicators of central tendency. The weighted mean equation was a statistical approach that computed the average by multiplying the weights by their individual means and taking their sum. These tools explained the center (median), the most prevalent (mode), or the average (mean) for a certain variable. In this specific type of averaging, weights were employed to evaluate the relative importance of each observation. The degree of data dispersion from the mean was described by the standard deviation. When the standard deviation was low, the data were centered around the mean; once it was high, the data were more widely distributed.

In addition, the square root of variance for each data point's difference from the mean was used to compute the standard deviation. The more the data points varied from the mean within the data collection, the larger the deviation; consequently, the more

distributed the data were, the higher the standard deviation. Using the normal distribution as a reference, 68% of observations were within one standard deviation of the mean, 95% were within two standard deviations, and 99.9% were within three standard deviations. The linear link between the two variables, nutritional status, and academic achievement, was assessed using the Pearson correlation coefficient. The Pearson correlation coefficient ranged from -1 to +1, and a value of zero indicated no correlation between the variables. A positive correlation coefficient indicated a positive relationship between the variables, while a negative correlation coefficient indicated a negative relationship. Regression analysis would have been used if the correlation coefficient was either +1 or -1 to estimate the relationship between the dependent variable and one or more independent variables.

Chapter 3

RESULTS AND DISCUSSION

This chapter provides the presentation of the findings from the collected data and the discussion of the data.

Respondents Nutritional Status in Terms of Health Condition, Eating Habits, and BMI

Table 4 displays the respondents' nutritional status. In terms of "health condition," that obtained a mean of 2.9377 and a standard deviation of 0.5278 indicates that students' health conditions are good. Regarding "eating habits," it has a statistical mean of 2.9451 and a standard deviation of 0.5180, suggesting that the eating habits of nursing students are good. Overall health condition and eating habits are assessed together, revealing a mean value of 2.9414 and a standard deviation of 0.5229. These findings suggest that when considering both factors, students' overall well-being and adherence to healthy eating habits are good. This implies that the students generally meet the requirements for a healthy diet and maintain healthy eating habits.

The study of Sogari et al. (2018) discovered that when young adults moved away from their homes, their bad eating habits grew, which resulted in a decrease in the intake of healthful foods and sporadic meals. Time restrictions, high cost of food items, and limited availability of healthy foods are the most common factors that influence a healthy diet followed by a lack of motivation in food preparation, which is strongly linked to intention (Sogari, et al., 2018). When it comes to forecasting college students' consumption

of nutritious foods like fruits and vegetables, intention is the primary determinant of behavior.

In addition, Sogari, et al. (2018) also stated that college students' eating behaviors are influenced by a variety of factors. Poor eating habits are a result of deficient knowledge of nutrition and accompanied by the belief that exercise is a suitable replacement for a healthy diet. Unhealthy eating leads to more health problems, and similar findings to this study were found through investigation.

Table 4

Students' Level of Health Condition and Eating Habits.

Variable	M	SD	Interpretation
Health Condition	2.9377	0.5278	Good
Eating Habits	2.9451	0.5180	Good
Overall Health Condition and Eating Habits	2.9414	0.5229	Good

Status Scale: 3.25-4.19 (Very Good); 2.50-3.24 (Good); 1.75-2.49(Fair); 1.0-1.74 (Poor)

Table 4.1 presents the results of the analysis of the corresponding body mass index (BMI) of 257 students. The data reveals that there were 40 students (15.56%) who were underweight, 161 students (62.65%) who fell within the normal range, 41 students (15.95%) who were overweight, 12 students (4.67%) who were categorized as obese type 1, and 3 students (1.17%) who were classified as obese type 2. Additionally, the overall BMI of the students was statistically assessed, yielding a result of 22.256, which suggests that the students' overall body mass is within normal levels.

BMI measures an individual's weight and height relative to the standard. In this study, the results indicate that most students fall within the normal category, followed by those who are overweight and underweight. College years can be stressful for students due to social and educational changes, resulting in various lifestyles, including eating habits and physical activity, as noted by Alhazmi et al. (2021). Students with a normal body mass index tend to be more aware of their weight, exercise, nutrient intake, and adopt healthier lifestyles, focusing on weight management and exercise, according to Kang and Kong (2021). The study highlights the positive aspect of healthy weight among college students, who serve as future role models in society. Maintaining a healthy BMI and weight is crucial for reducing the likelihood of acquiring diseases. Individuals with a BMI below normal experience depleted body fat or lean tissue storage, which can lead to impaired cognitive function, weakened immunity, and stunted growth.

Additionally, the table indicates that out of 257 students, 56 have a body mass index that falls outside the normal range. Winpenny et al. (2020) stated that students often gain a significant amount of weight when transitioning from high school to college due to environmental changes and other factors, which frequently lead to binge eating. College students prioritize academics, often spending extended periods sitting, resulting in physical inactivity and prolonged sedentary behavior (Karabulut et al., 2018). Furthermore, students' food intake and preferences contribute to weight gain as they consume fast foods, chips, and carbonated drinks (Cheng and Liu, 2019).

Table 4.1*Students' Body Mass Index*

BMI	Count	Percentage
Underweight	40	15.56
Normal	161	62.65
Overweight	41	15.95
Obese I	12	4.67
Obese II	3	1.17
Overall BMI		22.256- Normal

BMI Scale (in kg/m²) : 18.5 and below (Underweight); 18.5-24.9 (Normal); 25-29.9 (Overweight); 30-34.9 (Obese I); 35-39.9 (Obese)

Students' Academic Performance

Table 5 presents the statistical results of students' academic performance, measured by their General Weighted Average during the first semester of the school year 2022-2023. The data reveals that 27 students (10.51%) achieved outstanding grades, 165 students (64.20%) attained very satisfactory grades, 62 students (24.12%) received satisfactory grades, and 3 students (1.17%) obtained fair grades. Additionally, the variable representing academic performance has a mean of 1.90 and a standard deviation of 1.17, indicating that the overall academic performance of the students was very satisfactory. This suggests that students met or exceeded the expectations set for their performance, demonstrating competence and proficiency in their respective areas of study.

These findings are supported by Rand et al. (2020) who noted that nursing students recognize the vital role of college education in shaping their future. Students who invest effort in their studies gain knowledge, skills, and competence, ultimately enhancing their

overall academic performance. Agarwal (2021) emphasizes the significance of student accomplishment and how academic performance predicts future outcomes. Better academic performance contributes to the development of a skilled workforce, which helps reshape the nation.

The nutritional composition of breakfast may partially contribute to variations in academic performance between studies. However, Reuter et al. (2020) discovered that students' grades have been positively affected by the number of days they eat breakfast each week. Students who consumed breakfast five days per week achieved higher grades compared to those who consumed breakfast three days or fewer. Nonetheless, other factors, such as sleep patterns and work hours, may have a greater positive or negative impact on students' grades (Li et al., 2021). Moreover, physical activity has been shown to improve brain structure and cognitive function, potentially influencing academic achievement (Mandolesi et al., 2018).

Table 5

Students' Academic Performance

Performance	Frequency	Percentage
Outstanding	27	10.51
Very Satisfactory	165	64.20
Satisfactory	62	24.12
Fair	3	1.17
Overall Performance		
Mean= 1.90 – Very Satisfactory		Standard Deviation=1.17

Note Performance Scale: 1.0-1.50 (Outstanding); 1.51-2.0 (Very Satisfactory). 2.01-2.50 (Satisfactory); 2.51-3.0 (Fair); 3.01-5.0 (Poor)

Significant Relationship Between Nutritional Status and Academic Performance

Table 6 presents the statistical results examining the correlation between nutritional status measured in terms of health condition, eating habits, body mass index (BMI)—and academic performance. The correlation between health condition and academic performance yields an r -value of 0.979** and a p -value of 0.002, indicating a strong and highly significant correlation between the two variables. Consequently, the null hypothesis is rejected.

In contrast, the correlation between eating habits and academic performance reveals an r -value of 0.013 and a p -value of 0.840, suggesting no significant correlation between these variables. Thus, the null hypothesis is accepted. Similarly, the correlation between BMI and academic performance shows an r -value of 0.054 and a p -value of 0.389, indicating no significant correlation between these variables, leading to the acceptance of the null hypothesis.

Barnett et al. (2023) asserted that changes in a student's health or the presence of chronic or acute health problems can hinder their ability to engage in activities, potentially resulting in disengagement from school. The severity of a student's health condition may increase the likelihood of academic struggles. However, it is noteworthy that despite the lack of correlation found in this study between eating habits and academic performance, Reuter et al. (2020) stated that based on the kind and quantities of nutrients consumed by the student, it exhibited the beneficial effects of healthy eating practices towards academic achievement. Additionally, Alhusaini et al. (2020) suggest that an individual's BMI does not affect their participation in extracurricular activities or exam performance to achieve high grades, yet it often exhibits a negative correlation.

On the other hand, He et al. (2019) found no significant relationship between BMI and the academic performance of nursing students. They emphasize that while similar studies with Asian participants show no relationship, findings are often contradictory in Western countries.

Table 6

Significant correlation between nutritional status and academic performance among nursing students

Variables	r- value	p-value	Decision	Remarks
Health Condition and Academic Performance	0.979**	0.002	Reject Ho	Highly Significant
Eating Habits and Academic Performance	0.013	0.840	Accept Ho	Not Significant
Body Mass Index and Academic Performance	0.054	0.389	Accept Ho	Not Significant

Note: ** $p < 0.01$ (*Highly Significant*); * $p < 0.05$ (*Significant*); $p > 0.05$ (*Not Significant*)

Chapter 4

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter presents a summary of the findings and conclusions derived from the study, it also includes recommendations that may be pursued by future researchers and nursing students.

Summary

This quantitative, descriptive-correlational study was conducted with nursing college students as respondents at one of Misamis Occidental's higher education schools. This study used a modified version of the Centers for Disease Control and Prevention Employee Health Assessment questionnaire, which was requested and consented to. A pilot testing was undertaken to ensure that the questionnaire was valid and reliable.

The purpose of this study was to investigate the nutritional state of nursing college students and how it affected their academic performance. Specifically, it sought to determine the respondents' nutritional status in terms of health conditions, eating habits, and body mass index (BMI), determine the respondents' academic performance and to determine if there is significant relationship between the respondents' nutritional status and their academic performance.

Findings

The following are the findings of the study:

1. Among the 257 respondents, 161 had a normal BMI, 40 were underweight, 41 were overweight, 12 were categorized as obese type I, and 3 were classified as obese type II. The overall BMI of the respondents totaled 22.256, interpreted to indicate that most students fall within normal levels.

2. All nursing students demonstrated good health conditions and eating habits. However, concerning BMI, some nursing students were malnourished, with weights far beyond the normal range, while the majority fell within the normal range.

3. The result of study shows that the students generally met the requirements for a healthy diet and maintained healthy eating habits.

4. The results show that the students have met or exceeded the overall academic performance, which is Very Satisfactory. This implies that students met or exceeded the expectations set for their performance, demonstrating competence and proficiency in their respective areas of study.

5. The results show that there is a significant correlation between nutritional status in terms of health condition and academic performance of the nursing students. This implies that students cannot do well with their academics if they are experiencing any health problems.

6. The results show that there is no significant correlation between nutritional status of in terms of eating habits and BMI towards academic performance of the nursing students.

Conclusion

Based on the mentioned findings, the following conclusions were developed:

1. The data suggest that the nursing students mostly have the normal range of BMI with few numbers of students being within the underweight and obese category, been revealed that they are not malnourished.
2. The nursing students has good health condition, eating habits and also with their BMI, which greatly showed a positive attitude that they are aware of their health

conditions, practicing a good eating patterns and habits and maintaining the appropriate or desired BMI appropriate for their age. This suggest that they are good at maintaining and adapting healthy lifestyles to prevent acquiring diseases.

3. The Nursing students are performing very well in their academics. The data suggests that the students' academic performance was very satisfactory, which means that they met or exceeded the expectations set for their performance, demonstrating competence and proficiency in their respective areas of study. Showing that students who provide efforts and excellence towards their academics will have a good future ahead of them.

4. The correlation between the nutritional status, in terms of health condition, and academic performance of the students showed a highly significant level. This indicates that if a nursing student has a poor health condition, there is a mutual relation towards their performance and participation in academics.

5. The correlation between nutritional status in terms of eating habits and BMI and academic performance showed no significance to each other. Which means that no matter what eating habits and patterns and BMI a nursing student have, it does not possess any correlation or relation on how well they perform in their academics.

Recommendations

Based on the findings and conclusions, the following are the recommendations:

1. Given the significant correlation observed between nutritional status, particularly in terms of health condition, and the academic performance of students, teachers, professors, and health educators may consider conducting awareness campaigns. These campaigns could focus on illustrating how health conditions impact the physical and psychological well-being of nursing students.

2. A future similar study should aim to include a larger group of respondents. Additionally, efforts should be made to refine statements used in assessing eating habits and health conditions. This refinement will help determine if the same findings can be replicated on a broader scale.

3. In an effort to continuously improve and maintain health, administrators, instructors, professors, and health educators should support the implementation of daily health teaching education during classes as an inquiry technique.

4. Since just a few percent of students are underweight, obese, or malnourished, clinical instructors and health educators must encourage students to adopt new healthier habits in order to improve their general nutrition.

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Appendix A: Request letter from the Dean of the College of Nursing



MISAMIS UNIVERSITY
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College of Nursing, Midwifery and Radiologic Technology
Tel No. +63 88 521-0367 / Telefax No. +63 88 521-2917
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CERTIFIED: ISO 9001:2015 Quality Management System – DNV
ACCREDITED: Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA)
GRANTED: AUTONOMOUS STATUS by the Commission on Higher Education (CHED)

June 2, 2023

DR. SAMMY B. TAGHOY

Dean, College of Nursing, Midwifery and Radiologic Technology
Misamis University

Dear Dr. Taghoy:

Good day!

The undersigned are 3rd year students of Misamis University, Ozamiz City taking up Bachelor of Science in Nursing and are currently working on research study entitled "NUTRITIONAL STATUS AND ITS IMPACT ON ACADEMIC PERFORMANCE OF SELECTED NURSING STUDENTS". This study aims to identify the impact of nutritional status to the academic performance of nursing students. With this, we would like to ask approval from your good office to allow them to conduct the study. It will be conducted in Misamis University, Ozamiz City from January to June 2023.

Rest assured that all information derived herein will be treated with utmost confidentiality.

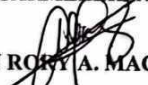
Thank you very much and God bless!

Sincerely yours,


KASEY MELANDRA B. LACHARON


KYLA A. LAGATA


REA CARMELLIE A. LORENTON


JANN ROMY A. MACALISANG

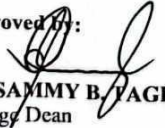

ERIC JOHN MERIALES


REEL GEM SETH B. NERCUA
Researchers

Noted by:

DR. ATHINA KARLA CHIA
Research Adviser

Approved by:


DR. SAMMY B. TAGHOY
College Dean

Appendix B: Research Consent Form

MISAMIS UNIVERSITY

Ozamiz City

College of Nursing, Midwifery and Radiologic Technology

RESEARCH INFORMED CONSENT FORM

Title

This study is entitled **Nutritional Status and its Impact on Academic Performance of Nursing Students** in partial fulfillment of the requirements for the degree of Bachelor of Science in Nursing.

Researchers:

This study is to be conducted by **Kasey Melandra Lacharon, Kyla Lagata, Rea Carmellie Lorenton, Jann Rory Macalisang, Eric Meriales, and Reelgem Seth Nercua**, who are pursuing the degree in Bachelor of Science in Nursing at Misamis University College of Nursing, with Athina Karla Chia as the adviser. The researchers can be contacted through this mobile number 09121750724 or email address klacharon21@gmail.com, kyla.lagata@lsu.edu.ph, lorentonreacarmellie@gmail.com, ericjohnmeriales101@gmail.com, macalisangjann3@gmail.com, reelgemsethnercua@gmail.com.

Purpose of the Research

The purpose of this research is to determine the Nutritional Status and its Impact on Academic Performance of Nursing Students.

Description of the Research

This research, titled Nutritional Status and its Impact on Academic Performance of Nursing Students will help the researchers to determine the respondents' health condition, eating habits, and body mass index (BMI). This will also determine the impact it creates on academic performance of the nursing students.

Potential Benefits

Respondents will become aware about how nutritional intake and academic performance correlate with each other and appreciate the connection between nutritional status and academic success.

Confidentiality

The data provided by the respondents will be considered strictly confidential and will not be given to others without written permission from the respondents. This will ensure that respondents' privacy and confidentiality are maintained. Any data collected should be kept secure and not shared with anyone outside the research team.

Publication

The study will be presented at conferences and published in a journal. Five years after the study's release, the data related to it will be destroyed.

Participation

This study makes sure that everyone who participates is willing to volunteer and do so without being forced. Respondents' voluntary involvement in the study will be respected, and they have the option to discontinue participation at any time.

Informed Consent

Given the information above, I confirm that the potential harms, benefits, and alternatives have been explained to me. I have read and understood this consent form, and I understand that I am free to withdraw from my involvement in the study any time I deem it to be necessary or to seek clarifications for any unclear steps in the research process. My signature indicates my willingness to participate in the study.

Printed Name and Signature of the Research Respondent

Date

Appendix C: Questionnaire

Good day!

We humbly ask for your permission to participate in our research study entitled Nutritional Status and its Impact on Academic Performance of Nursing Students by answering the survey questionnaire below. Rest assured that the information will be kept with confidentiality and due respect. We are looking forward to your cooperation. Thank you and God bless.

Part 1: Nutritional Status

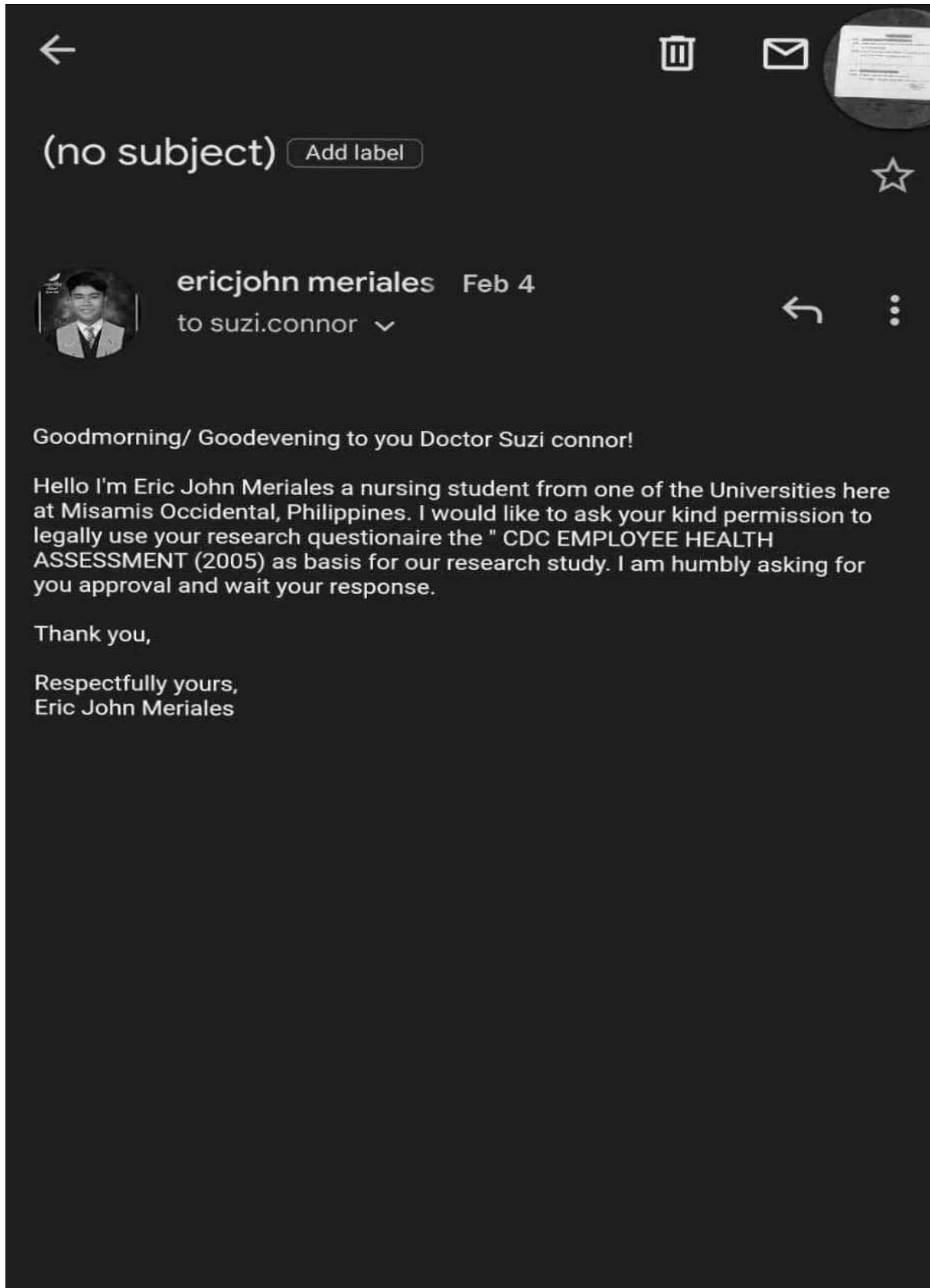
A. Health Conditions				
STATEMENT	Always	Often	Sometimes	Never
1. My general health is good				
2. I do not take medicine for any health reason				
3. I take vitamins for better immunity				
4. I visit a doctor for an exam for a specific injury, illness or condition				
5. I have no muscle, skeletal or joint pain, achiness, stiffness in any part of my body				
6. I engage myself in physical activities				
7. I make sure to sleep for 8 hours a day				
8. I do not submit myself for blood sugar test				
9. I do not smoke cigarette				
10. I do regular exercise				
B. Eating Habits	Always	Often	Sometimes	Never
1. I eat breakfast before going to school				
2. I usually have snacks in the morning / afternoon				

3. I eat more than usual amount of food				
4. I eat in fast food restaurants				
5. I eat midnight snacks				
6. I eat whatever I want				
7. I eat fruits and vegetables				
8. I skip meals				
9. I eat three times a day				
10. I eat sweets / candies				
C. Body Mass Index				
Directions: Fill out the information needed on the spaces provided. Weight: _____ kg Height: _____ ft				

Part 2: Academic Performance

General Weighted Average (1st Semester, SY 2022-2023): _____
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Appendix D: Request Consent for CDC Questionnaire



Curriculum Vitae

Kasey Melandra Lacharon

Poblacion, Aurora Zamboanga del Sur
lacharonkasey@gmail.com
09121750724



Personal Data

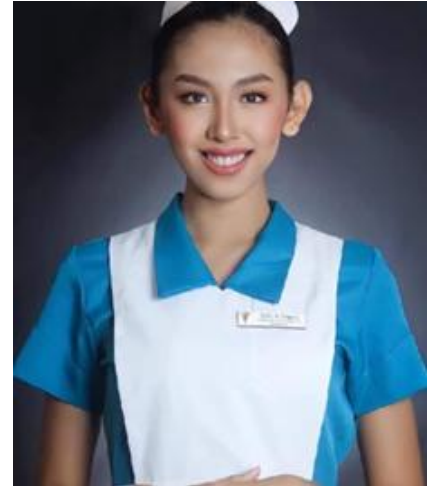
Birthdate:	October 19,2001
Birthplace:	Aurora Zamboanga del Sur
Civil Status:	Single
4Citizenship:	Filipino
Religion:	Roman Catholic
Mother's Name:	Florelyn B. Lacharon
Father's Name:	N/A

Educational Background

Primary:	Aurora Regional Pilot School-Regular Poblacion, Aurora Zamboanga del Sur 2013-2014
Secondary:	Aurora Pioneers Memorial College Poblacion, Aurora Zamboanga del Sur 2017- 2018
Tertiary:	Misamis University, H.T Feliciano St. Aguada Ozamiz City

Kyla Lagata

Purok 5 Pan-ay Clarin Misamis Occidental
Kyla.lagata@lsu.edu.com
09104559464



Personal Data

Birthdate: July 31, 2002
Birthplace: Ozamiz City
Civil Status: Single
Citizenship: Filipino
Religion: Roman Catholic
Mother's Name: Sharon Concepcion A. Lagata
Father's Name: Roy B. Lagata

Educational Background

Primary: Pan-ay Clarin Elementary School
Purok 3 Pan-ay Clarin, Misamis Occidental
2013-2014

Secondary: Clarin National High School
Poblacion, 3 Clarin Misamis Occidental
2017- 2018

Tertiary: La Salle University Integrated School
4RXV+WXV, St. Columban Dr, Ozamiz City
2019 - 2020

Rea Carmellie A. Lorenton

Upper Sta. Cruz, Tangub City
lorentonreacarmellie@gmail.com
09518503313



Personal Data

Birthdate:	March 12, 2002
Birthplace:	Ozamis City
Age:	20 years old
Civil Status:	Single
Citizenship:	Filipino
Religion:	Roman Catholic
Mother's Name:	Elisea A. Lorenton
Father's Name:	Ruel P. Lorenton

Educational Background

Primary:	Sta Cruz Elementary School Sta Cruz, Tangub City 2013-2014
Secondary:	Tangub City National High School Mantic, Tangub City 2017- 2018
Tertiary:	Tangub City National High School Mantic, Tangub City 2019 - 2020

Jann Rory A. Macalisang

Poblacion, Sinacaban Misamis Occidental
macalisangjann3@gmail.com
09304436932



Personal Data

Birthdate:	January 3, 2002
Birthplace:	Ozamiz City
Civil Status:	Single
Citizenship:	Filipino
Religion:	IFI
Mother's Name:	Jennifer A. Macalisang
Father's Name	Rory E. Macalisang

Educational Background

Primary:	Sinacaban Central School Poblacion, Sinacaban Misamis Occidental 2013-2014
Secondary:	Sinonoc National High School Sinonoc, Sinacaban Misamis Occidental 2017- 2018
Tertiary:	Misamis University H.T. Feliciano St., Ozamiz City 2019 – 2020

Eric John Meriales

Purok 4 Libertad Lanao del Norte
ericjohnmeriales101@gmail.com
09452215906



Personal Data

Birthdate:	September 7 2001
Birthplace:	PGH Manila
Civil Status:	Single
Citizenship:	Filipino
Religion:	Roman Catholic
Mother's Name:	Mary Grace P. Meriales
Father's Name:	Eric B, Omandam

Educational Background

Primary:	Guillermo A. Gimeno Elementary School Brgy. Titunod Kolambugan L.D.N 2013-2014
Secondary:	Holy Cross High School Upper Austin Heights L.D.N 2017- 2018
Tertiary:	Misamis University H.T Feliciano St. Aguada, Ozamiz City 2019 - 2020

Reelgem Seth Nercua

Purok 3 Poblacion Panaon Misamis Occidental
09308112587
reelgemsethnercua@gmail.com



Personal Data

Birthdate:	June 11, 1999
Birthplace:	Ozamiz, Misamis Occidental
Civil Status:	Single
Citizenship:	Filipino
Religion:	Christian
Mother's Name:	Elsa B. Nercua
Father's Name:	Rey O. Nercua

Educational Background

Primary:	Panaon Central School Poblacion Panaon Batch 2011 - 2012
Secondary:	Panaon Community High School Inc. Poblacion Panaon Batch 2016- 2017
Tertiary:	Panaon Community High School Inc. Poblacion Panaon Batch 2017- 2018