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EXPLORING THE CORRELATION BETWEEN SLEEP PATTERNS AND ACADEMIC PERFORMANCE OF LEVEL 2 AND 3 STUDENT NURSES

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ABSTRACT

This study, completed in January 2025 during School Year 2024–2025, explored the relationship between sleep patterns and academic performance among Level 2 and 3 student nurses at Foundation University. Employing a descriptive-correlational research design, the study involved 222 nursing students selected through random sampling. A researcher-made questionnaire, validated and pilot-tested, was used to gather data on demographics, sleep duration, sleep quality, sleep schedule regularity, and grade point average. Data were analyzed using weighted mean, mean, Spearman's rank correlation coefficient, and chi-square test to determine relationships between sleep variables and academic performance. Findings revealed that the respondents generally exhibited moderate sleep patterns in terms of duration, quality, and schedule regularity, while their academic performance was above average. Statistical analysis showed no significant relationship between sleep patterns and academic performance. However, selected demographic factors, specifically age and year level, were significantly associated with sleep duration and sleep quality, respectively. These results suggest that although sleep patterns alone may not directly influence academic performance, certain personal and contextual factors may affect students' sleep experiences. The study underscores the importance of promoting sleep hygiene, time management, and wellness programs to enhance the overall well-being and academic preparedness of nursing students.

Keywords: *sleep patterns, academic performance, student nurses, sleep quality, sleep duration, sleep schedule regularity*

INTRODUCTION

Sleep, a fundamental biological process, is essential for physical and mental well-being and plays a crucial role in academic performance (Al-Mutairi et al., 2022). Globally, students face significant challenges in obtaining adequate sleep. In the United States, less than 10% of students receive sufficient nightly rest (National Sleep Foundation, 2022), while over 80% of university students in Europe experience sleep disturbances (Capdevila-Guixeres et al., 2019). These findings underscore the pervasive nature of sleep-related issues and their potential impact on students' academic performance. Research consistently demonstrates that sleep duration, quality, and regularity are associated with cognitive functioning, memory consolidation, emotional regulation, and overall learning outcomes (El-Masri et al., 2019; Farahat et al., 2020).

For nursing students, maintaining healthy sleep patterns presents unique challenges. Rigorous academic schedules, demanding clinical rotations, early morning duties, and long commutes often disrupt normal sleep cycles. Additionally, family obligations, societal expectations, and the high-pressure nature of the nursing curriculum exacerbate sleep deprivation, which can negatively affect attention, concentration, and academic achievement (Sison et al., 2020; Al-Mutairi et al., 2022). Evidence suggests that irregular sleep schedules may have more detrimental effects on performance than reduced sleep duration alone, highlighting the importance of both sleep consistency and quantity (Sletten et al., 2023). Age, sex, and year level further moderate these patterns, influencing sleep needs and quality among nursing students (Baker, de Zambotti, & Colrain, 2018; Wing et al., 2015).

The Roy Adaptation Model serves as the conceptual framework for this study, emphasizing the interrelation between physiological, self-concept, role function, and interdependence modes in adaptation to environmental stimuli, including sleep deprivation (Phillips, 2006; Meyers, 2010). Physiological adaptation underscores the direct impact of sleep on bodily functions, cognitive performance, and academic achievement, while self-concept, role function, and interdependence modes highlight how sleep deprivation influences stress management, confidence, social interactions, and overall well-being. Applying this framework allows a comprehensive examination of how sleep patterns affect the academic performance of Level 2 and 3 nursing students at Foundation University.

Despite existing research confirming the link between sleep and academic performance in general student populations, studies focusing specifically on Filipino nursing students remain limited. This research addresses this gap by exploring the influence of sleep duration, sleep quality, and sleep schedule regularity on the academic performance of Level 2 and 3 nursing students, aiming to inform institutional interventions, enhance student well-being, and optimize academic outcomes (Al-Mutairi et al., 2022; Capdevila-Guixeres et al., 2019; El-Masri et al., 2019; Farahat et al., 2020; Sison et al., 2020; Sletten et al., 2023) .

Research Questions

The study investigated the influence of sleep patterns on the academic performance of second- and third-year nursing students at Foundation University. Specifically, it sought to answer the following:

1. What is the demographic profile of the Level 2 and 3 student nurses in terms of:
   1.1 Age
   1.2 Sex
   1.3 Civil status
   1.4 Year level
2. What is the extent of the sleep patterns of the Level 2 and 3 student nurses in terms of:
   2.1 Sleep duration
   2.2 Sleep quality
   2.3 Sleep schedule regularity
3. What is the academic performance of the Level 2 and 3 student nurses as measured by their overall grade point average (GPA)?
4. Is there a significant relationship between the sleep patterns of the Level 2 and 3 student nurses and their academic performance?
5. Are there significant relationships between the demographic profile of the students and their sleep patterns in terms of:
   5.1 Sleep duration
   5.2 Sleep quality
   5.3 Sleep schedule regularity

METHODOLOGY

Research Design

The study employed a descriptive-correlational research design to examine the relationship between sleep patterns and academic performance among Level 2 and 3 student nurses. This design was deemed appropriate as it allowed the researchers to describe the extent of sleep patterns and identify potential associations with academic achievement without manipulating variables .

Research Locale

The research was conducted within the College of Nursing at Foundation University, Dumaguete City, Negros Oriental, Philippines. The environment included classrooms, clinical practice areas, and dormitory settings where the student respondents spend most of their academic and personal time. This context provided a realistic setting to assess sleep patterns in relation to academic performance.

Respondents

The respondents consisted of 222 Level 2 and 3 nursing students who were purposively selected based on their enrollment status and availability. The respondents'

demographic profile included age, sex, civil status, and year level, which were considered for further correlation analyses.

Research Instruments

Data were collected using a researcher-made questionnaire, which consisted of items on demographic information, sleep duration, sleep quality, sleep schedule regularity, and academic performance measured through self-reported grade point averages (GPA). The instrument underwent pilot testing and validation to ensure clarity, reliability, and consistency.

Research Procedure

The data-gathering procedure involved obtaining ethical clearance and permission from the university authorities. Respondents were approached in their classrooms and clinical sites, and the purpose of the study was explained. Questionnaires were administered and collected immediately after completion. The data were organized, tabulated, and prepared for statistical analysis.

Statistical Treatment of Data

The study employed quantitative statistical methods for data analysis. Descriptive statistics, such as frequency, percentage, mean, and weighted mean, were used to summarize the respondents' demographic profile and sleep patterns. Spearman's rank correlation coefficient and Chi-square tests were utilized to determine relationships between sleep pattern components (sleep duration, sleep quality, sleep schedule regularity) and academic performance. A significance level of 0.05 was set for all inferential analyses .

Scope and Limitations

The study focused solely on Level 2 and 3 nursing students enrolled at Foundation University. The researchers acknowledged that self-reported measures of sleep patterns and GPA may be subject to reporting bias. Furthermore, results were limited to the context of one institution and may not be generalized to all nursing students in other universities or programs.

RESULTS AND DISCUSSION

This section presents the findings of the study on the correlation between sleep patterns and academic performance of Level 2 and 3 nursing students. The data are systematically analyzed to describe the respondents' demographic profile, extent of sleep patterns, academic performance, and the relationships between sleep variables and academic outcomes. Each finding is discussed in relation to existing literature and theoretical frameworks to provide context and insight into the significance of the results.

Table 1
Demographic Profile of the Students by Age (n = 222)

Age	Frequency	Percentage
18-19 yrs. old	31	14.0
20-21 yrs. old	138	62.2
22-23 yrs. old	37	16.7
≥24 yrs. old	16	7.1
Total:	222	100
Average:20-21 yrs. old		

Table 1 shows that the age group with the highest percentage of students is 20-21 years old, comprising 62.2% of the total number. In contrast, the age group with the lowest percentage is 24 years old and above, representing just 7.1% of the sample. This indicates that the majority of students are in their early twenties, which might reflect the typical age range for undergraduate students.

Table 2
Demographic Profile of the Students by Sex (n = 222)

Sex	Frequency	Percentage
Male	58	26.1
Female	164	73.9
Total	222	100

Table 2 outlines the demographic composition of students, characterized by sex, revealing a significant disparity in representation. Female students make up the majority, comprising 73.9% of the total student body. In contrast, male students constitute a minority share, representing only 26.1% of the sample. This highlights a notable imbalance in sex distribution among students, with females significantly outnumbering males in the sample. Throughout history nursing has been a female-oriented profession. Even Florence Nightingale envisioned nursing as a profession most suitable for women (Cho & Jang, 2021). She saw it as an extension of mothering and therefore felt females were more appropriate for caring.

Table 3
Demographic Profile of the Students by Civil Status (n = 222)

Civil Status	Frequency	Percentage
Single	218	98.2
Married	4	1.8
Total:	222	100

Table 3 reveals a significant disparity in civil status among students, with a vast majority 98.2% identifying as single, while a distinct minority 1.8% of students reported being married. This contrast in marital status not only emphasizes the predominance of unmarried students but also points to the presence of a smaller, married demographic. This revelation could be due to various factors that are commonly associated with young adults such as focusing on education, career, or personal growth before entering serious relationships (Anderson, 2024). Nursing programs are notoriously rigorous, with heavy course loads and long clinical rotations. This can leave students with limited time and energy for dating and socializing outside of school (Al-Muslimawi et al. 2019).

Table 4
Demographic Profile of the Students by Year Level (n = 222)

Year Level	Frequency	Percentage
II	138	62.2
III	84	37.8
Total:	222	100

Table 4 indicates between the two year levels that when added together are 222 students with the majority being composed of 138 (62.2%) are that of level 2 students and the minority composed of 84 (37.8) are level 3 students. This exposes that as the population gets older, there is a greater demand for nurses, potentially prompting more individuals to consider the profession (Slattery et al. 2016).

Table 5
Extent of sleep pattern of the student in terms of sleep duration (n=222)

Indicators	$w\bar{x}$	VD	EoSP
1. *Sacrificing sleep to meet academic deadlines often negatively impacts my concentration and memory.	3.53	A	H
2. *Due to inconsistent sleep schedules, I sometimes struggle to fully engage in coursework and clinical activities.	3.36	U	M
3. The amount of sleep I typically get allows me to feel sufficiently rested and perform well academically.	3.03	U	M
4. I rarely feel fatigued or drowsy during classes or clinical rotations due to a lack of sleep.	2.89	U	M
Composite	2.76	U	M

*Negative statement: Scores are reversed in getting the composite wx

Legend:	**Scale**	**Verbal Description (VD)**	**Extent of Sleep Pattern (EoSP)**
	4.21 - 5.00	Strongly Agree (SA)	Very High (VH)
	3.41 - 4.20	Agree (A)	High (H)
	2.61 - 3.40	Undecided (U)	Moderately (M)
	1.81 - 2.60	Disagree (D)	Low (L)
	1.00 - 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 5 manifests that students generally have a “moderate” extent of sleep pattern in terms of sleep duration, reflected in the composite weighted mean of (2.76). Specifically the table indicates that sacrificing sleep for academic deadlines significantly affects concentration and memory of the students. This means that it “highly” affects their duration ($w\bar{x}$=3.53). The table also points out that inconsistent sleep schedules have a notable impact on the ability to engage fully in coursework and clinical activities. This sleep inconsistencies moderately affect their sleep duration ($w\bar{x}$=3.36). Research has indicated that inconsistent sleep schedules might negatively affect performance more than not getting enough sleep (Sletten et al. 2023).

According to Dewald et al. (2010), issues with sleep such as not getting enough sleep, low-quality sleep, and feeling excessively sleepy can hinder the growth of the brain's neural networks, control of emotions, speed of information processing, and the ability to store memories. This can impact mental abilities and school achievement.

Furthermore the table also exhibits that the amount of sleep obtained moderately by the students contributes to feeling rested and performing well academically, rated as having a “moderate” extent on their sleep pattern ($w\bar{x}$=3.03). The table also reveals that fatigue or drowsiness due to lack of sleep is moderately experienced by students during classes or clinical rotations, with this effect rated as “moderate” ($w\bar{x}$=2.89). Insufficient or disrupted sleep can adversely impact cognitive function and academic performance.

Table 6
Extent of sleep pattern of the student in terms of Sleep Quality (n=222)

	Indicators	$w\bar{x}$	VD	EoSP
1.	When I wake up feeling well-rested, I find it easier to concentrate and actively participate in my studies.	3.71	A	H
2.	I believe that improved sleep quality would result in a noticeable boost in my academic performance and cognitive function.	3.68	A	H
3.	The quality of my sleep significantly impacts my ability to understand and retain new information in class.	3.61	A	H
4.	Compared to other students, I feel my sleep quality is often compromised due to the demanding nature of nursing studies.	3.42	A	H
5.	I rarely experience nighttime awakenings with trouble falling back asleep.	3.21	U	M
6.	My sleep is generally deep and restorative, leaving me feeling refreshed and mentally sharp in the morning.	2.78	U	M
	Composite	3.40	U	M

Legend: (EoSP)	**Scale**	**Verbal Description (VD)**	**Extent of Sleep Pattern**
	4.21 - 5.00	Strongly Agree (SA)	Very High (VH)
	3.41 - 4.20	Agree (A)	High (H)
	2.61 - 3.40	Undecided (U)	Moderately (M)
	1.81 - 2.60	Disagree (D)	Low (L)
	1.00 - 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 6 appears that students generally have a “moderate” extent of sleep pattern in terms of sleep quality, as indicated in the composite weighted mean of (3.40). Explicitly, students “agree” that feeling well-rested improves their ability to concentrate and participate in studies. This situation is considered to have a “high” effect on their sleep quality ($w\bar{x}$=3.71). The table also points that students generally “agree” that better sleep quality would positively impact their academic performance and cognitive function to a “high” extent ($w\bar{x}$=3.68). During sleep, memories are safeguarded against interference, enhanced in performance, and undergo a reorganization that fosters creativity and memory retention (Walker et al., 2016).

Meanwhile, students agree that their sleep quality plays a significant role in their ability to understand and retain new information in class, also rated as having a “high” effect on their sleep pattern ($w\bar{x}$=3.61). (Walker et al. 2016) have shown that sleeping for a while shields memories from being disrupted, enhances abilities, and restructures memory patterns in a manner that fosters creativity and recall.

Moreover, students agree that the demanding nature of nursing studies

compromises their sleep quality compared to other students, with this effect rated as "high" ($w\bar{x}$=3.42). Nursing students often deal with challenging situations that can impact their sleep. Several factors, particularly during their first year of training, can reduce their sleep quality (Mattos et al. 2016; Benavente et al. 2014).

In addition, students are undecided about their experience of nighttime awakenings and difficulty falling back asleep, indicating a "moderate" effect on their sleep pattern ($w\bar{x}$=3.21). Students also are undecided about the depth and restorative nature of their sleep, with a "moderate" extent on their sleep pattern ($w\bar{x}$=2.78). Addressing this table highlights the importance of sleep quality in student well-being and academic performance. Institutions can use this information to advocate for policies and programs that prioritize sleep hygiene, support students in demanding academic programs, and further investigate factors influencing sleep patterns among student populations.

Table 7
Extent of sleep pattern of the student in terms of Sleep Schedule Regularity (n=222)

	Indicators	$w\bar{x}$	VD	EoSP
1.	If I could maintain a more consistent sleep schedule, I believe I would see a positive improvement in my academic results.	3.76	A	H
2.	Inconsistent sleep schedules often leave me feeling exhausted and negatively impact my academic performance.	3.62	A	H
3.	I find it challenging to adjust to the unpredictable sleep patterns associated with clinical rotations.	3.39	U	M
4.	My ideal sleep schedule would be more synchronized with the demands of my nursing studies and clinical rotations.	3.31	U	M
5.	Changes in my sleep schedule due to rotations rarely disrupt my focus and learning capacity.	3.01	U	M
6.	My sleep schedule remains consistent throughout the week, even on weekends and during clinical rotations.	2.92	U	M
	Composite	3.34	U	M

Legend: (EoSP)	**Scale**	**Verbal Description (VD)**	**Extent of Sleep Pattern**
	4.21 - 5.00	Strongly Agree (SA)	Very High (VH)
	3.41 - 4.20	Agree (A)	High (H)
	2.61 - 3.40	Undecided (U)	Moderately (M)
	1.81 - 2.60	Disagree (D)	Low (L)
	1.00 - 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 7 exposes that students have a “moderate” extent of sleep pattern in terms of sleep schedule, as indicated in the composite weighted mean of 3.34. This indicates that on average, students are undecided that maintaining a more consistent sleep schedule improves their academic results. Academic performance is described as the extent of accomplishment or achievement a student achieves in their educational pursuits, often evaluated using different tests, marks, exams, and other signs of learning and gaining knowledge.

Students pursuing nursing degrees encounter intricate scenarios that may directly impact their sleep quality (Mattos et al., 2016). This scenario is considered to have a “high” effect on their sleep pattern ($w\bar{x}$=3.76).

In addition, this reveals that students generally agree that inconsistent sleep schedule would impact their academic performance to have “high” effect ($w\bar{x}$=3.62). The regularity of sleep, rather than the total amount of sleep obtained, seems to be a notably strong indicator of academic achievement among college students (Okano et al., 2019; Philips et al., 2017). Students agree that they find it challenging to adjust to the unpredictable sleep patterns associated with clinical rotations. This is rated as having a “moderate” effect on their sleep pattern ($w\bar{x}$=3.39).

Moreover the table exhibits that students' ideal sleep schedule would be more synchronized with demands of their nursing studies and clinical rotations, also rated as “moderate” ($w\bar{x}$=3.31). Research has indicated that inconsistent sleep schedules might negatively affect performance more than not getting enough sleep (Sletten et al 2023).

In addition this displays that students are undecided about the changes in their sleep schedule due to rotations rarely disturbing their focus and learning capacity, Indicating a “moderate” effect on their sleep pattern ($w\bar{x}$=3.01). Students appears undecided about their sleep schedule remaining consistent throughout the week or even on the weekends and during clinical rotations, with a “moderate” extent on their sleep pattern ($w\bar{x}$=2.92).

Table 8 Students’ Overall GPA (n = 222)

Rating	Verbal Description	Frequency	Percent	Mean	SD
99%-100%	Exceptional	8	3.60		
96%-98%	Excellent	6	2.70		
93%-95%	Superior	16	7.21		
90%-92%	Very Good	15	6.76		
87%-89%	Good	22	9.91	84.35 (Above Ave.)	6.12
84%-86%	Above Average	30	13.51		

81%-83%	Average	58	26.13
78%-80%	Below Average	48	21.62
75%-77%	Passing	19	8.56
Total		222	100

Table 8 depicts the distribution of students' overall GPA across various rating categories. It includes a total of 222 students. The GPA ratings are grouped into 9 categories based on percentage ranges.

Examining the frequencies, the most populated categories are "Average" (81%-83%) with 58 students, "Below Average" (78%-80%) with 48 students, and "Above Average" (84%-86%) with 30 students. These categories together account for a substantial portion of the student body. The majority of students in the "average" and "below Average" categories suggests that a significant number of students may be facing challenges in achieving higher academic standings.

The mean GPA across all students is 84.35, positioning it within the "Above Average" category. This indicates a notable level of academic achievement among the student sample. The standard deviation of 6.12 indicates the spread of GPAs around the mean. This suggests that while the mean GPA is relatively high, there is some variability in students' performances, as reflected by the range of GPA ratings across the categories.

Table 9
Relationship between the Sleeping Pattern of the Students and their Academic Performance (n = 222)

Variables	r_s	p-value	Decision	Remark
● Sleep Duration vs. Academic Performance	0.061	0.364	Fail to reject H_{o1}	Not significant
● Sleep Quality vs. Academic Performance	0.013	0.849	Fail to reject H_{o1}	Not significant
● Sleep Schedule Regularity vs. Academic Performance	0.012	0.857	Fail to reject H_{o1}	Not significant

Level of significance = 0.05

Table 9 exhibits the data in identifying the relationship between the academic performance of the students and their sleeping pattern. Using the Spearman's Rank Order Correlation, the results reveal p-values that are greater than the level of significance (0.05) in all 3 areas. This finding results in the rejection of the null hypothesis. This means that there is no significant relationship between the academic performance of the students and the following sleep patterns: sleep duration (p=0.708), sleep quality (p=0.708), and sleep schedule regularity (p=0.968).

This signifies that the students' lack of sleep duration, quality, and regularity has no significant impact on their academic performance. This challenges the conclusions of

Okano et al. (2019), whose research offers quantitative and objective evidence suggesting that superior sleep quality, extended duration, and enhanced consistency are significantly correlated with improved academic performance among college students.

Table 10
Relationship between the Age of the Students and their Sleeping Pattern (n = 222)

Variables	r_s	p-value	Decision	Remark
● Age vs. Sleep Duration	0.187	0.005	Reject H_{o2}	Significant
● Age vs. Sleep Quality	0.048	0.472	Fail to reject H_{o2}	Not Significant
● Age vs. Sleep Schedule Regularity	0.101	0.132	Fail to reject H_{o2}	Not Significant

Level of significance = 0.05

The table 10 discloses the data in identifying the relationship between the age of the students and their sleeping pattern. Using the Spearman's Rank Order Correlation for Statistical Computation, for sleep duration, the p-value is 0.005 which is less than 0.05. As a result, the null hypothesis is rejected, and it can be said that age and sleep duration have a statistically significant relationship. Therefore, the older the students, the better their sleep duration.

Both the sleep regularity (0.132) and sleep quality (0.472) p-values are higher than 0.05. Therefore, the data does not provide enough evidence to conclude that there is a statistically significant relationship between age and either sleep regularity or quality because we are unable to reject the null hypothesis for these two metrics.

The duration of sleep significantly influences mood and the regulation of emotions. Insufficient sleep can precipitate irritability, fluctuations in mood, and heightened stress levels. Conversely, sufficient sleep fosters emotional resilience and augments overall well-being (Walker, 2017). According to the latest research and guidelines, the recommended duration of sleep for most adults aged between 18 and 64 years is typically 7-9 hours per night (Hirshkowitz et al. 2015).

Table 11
Relationship between the Sex of the Students and their Sleeping Pattern (n = 222)

Variables	r_s	p-value	Decision	Remark
● Sex vs. Sleep Duration	0.019	0.780	Fail to reject H_{o2}	Not Significant

• Sex vs. Sleep Quality	0.009	0.897	Fail to reject H_{o2}	Not Significant
• Sex vs. Sleep Schedule Regularity	0.025	0.712	Fail to reject H_{o2}	Not Significant

Level of significance = 0.05

Table 11 displays the data in identifying the relationship between the sex of the Students and their Sleeping Pattern. Using Point-Biserial Correlation, it shows no relationship between sex for any of these variables. In other words, males and females in this sample slept for similar lengths of time, reported similar sleep quality, and had similarly regular sleep schedules. This contradicts the study of Baker et al. (2018) who found that women generally report longer sleep durations compared to men. Also hormonal influences during menstrual cycles and pregnancy significantly impact sleep quality and duration, with disrupted sleep during the luteal phase often resulting from increased body temperature and discomfort.

Gender differences in sleep schedule regularity have garnered less attention but are nonetheless important. Baker et al. (2018) suggest that women tend to maintain more consistent sleep schedules compared to men, possibly due to differences in circadian rhythm regulation and adherence to daily routines.

Table 12
Relationship between the Year Level of the Students and their Sleeping Pattern (n = 222)

Variables	r_s	p-value	Decision	Remark
• Year level vs. Sleep Duration	-0.051	0.454	Fail to Reject H_{o2}	Not Significant
• Year level vs. Sleep Quality	-0.145	0.031	Reject H_{o2}	Significant
• Year level vs. Sleep Schedule Regularity	-0.057	0.396	Fail to reject H_{o2}	Not Significant

Level of significance = 0.05

Value or r	Strength of Relationship
Between ± 0.50 to ± 1.00	± strong relationship
Between ± 0.30 to ± 0.49	± moderate relationship
Between ± 0.10 to ± 0.29	± weak relationship
Between ± 0.01 to ± 0.09	± very weak relationship

Table 12 points out the relationship between the year level of the students and their sleeping patterns. Using Spearman's Rank Order Correlation, the results indicate that no significant relationship exists between the year level of students and their sleep duration ($r_s = -0.051$, $p = 0.454 > \alpha = 0.05$). This finding suggests that the amount of sleep students get does not show a meaningful variation across different year levels.

Meanwhile, the data indicate a statistically significant negative correlation between the year level of students and their perceived sleep quality ($rs = -0.145$, $p = 0.031 < \alpha = 0.05$). This means that as students progress in their academic years, their perceived sleep quality slightly diminishes, though the degree of relationship is weak. The results demonstrate a significant negative correlation between year level and sleep quality, which is likewise evident in the studies of Bertolazi (2008) and Hasson et al. (2010), as cited in Silva et al. (2016). This implies that as students advance in their academic years, particularly towards the final year, their sleep quality significantly declines.

On the other hand, the analysis shows that there is no significant relationship between the year level of students and the regularity of their sleep schedules ($r_s = -0.057$, $p = 0.396 > \alpha = 0.05$). This indicates that students in different year levels do not exhibit meaningful differences in how regularly they maintain their sleep schedules, aligning with studies that have found sleep schedule regularity to be relatively stable across different academic stages.

Conversely, the correlations between year level and sleep duration and year level and sleep schedule regularity were not statistically significant. This suggests that while the overall quality of sleep diminishes with academic progression, the total sleep duration and the regularity of the sleep schedule may not be as strongly impacted by the year level.

Due to the fact that only 4 out of the 222 students are married, the researchers decided to exclude civil status in the analysis. The limited number of married students makes it statistically impractical to determine a valid relationship between civil status and sleep patterns.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. The respondents were predominantly 20 to 21 years old, female, single, and enrolled in Level II. This profile indicates that the study mainly represented young adult nursing students in the early stages of their professional preparation.

2. The sleep patterns of the respondents, in terms of sleep duration, sleep quality, and sleep schedule regularity, were generally moderate. This suggests that while the students experienced some favorable sleep practices, their sleep patterns were not consistently optimal, particularly within the context of academic demands and clinical-related responsibilities.

3. The academic performance of the respondents was generally above average. This indicates that the students were able to maintain satisfactory academic standing despite variations in their reported sleep patterns.

4. No significant relationship was found between sleep patterns and academic performance. Specifically, sleep duration, sleep quality, and sleep schedule regularity were not significantly associated with the respondents' overall grade

point average. Therefore, the null hypothesis on the relationship between sleep patterns and academic performance was not rejected. This suggests that academic performance among the respondents may be influenced by other academic, personal, environmental, or psychosocial factors beyond sleep patterns alone.

5. Selected demographic variables were associated with specific aspects of sleep patterns. Age was significantly related to sleep duration, indicating that sleep duration varied according to the respondents' age. Year level was significantly related to sleep quality, suggesting that students' perceived sleep quality differed as they progressed in the nursing program. However, sex was not significantly related to sleep duration, sleep quality, or sleep schedule regularity. Civil status was not interpreted as a relational variable due to the very small number of married respondents, which limited meaningful comparison.

Overall, the study concludes that although sleep remains important to students' well-being, the sleep patterns measured in this study were not significantly related to academic performance among Level 2 and 3 student nurses. The findings highlight the need to view academic performance as a multifactorial outcome and to continue promoting student support programs that address sleep hygiene, academic workload, time management, and overall wellness.

Recommendations

In light of the findings and conclusions of this study, the researchers hereby recommend the following actions:

For the College of Nursing:

1. Offer flexible options for students to manage sleep, such as make-up work, alternative assignments, or extended deadlines. Consider implementing a structured *sleep catch-up policy* to encourage adequate rest.
2. Ensure that support services such as counseling, time management workshops, and wellness programs are readily accessible and specifically tailored to address students' sleep hygiene and overall well-being.

For Nursing Students:

3. Develop and enhance time management skills to balance academic responsibilities with personal well-being, ensuring sufficient sleep. Planning study schedules and assignments in advance can minimize last-minute stress and preserve sleep quality.
4. Prioritize studying during morning or early afternoon hours when cognitive alertness and energy are highest. This approach can reduce stress, improve concentration, and foster more effective learning, ultimately promoting better academic outcomes.

For Future Nursing Research:

5. Conduct further investigations on qualitative factors influencing sleep quality that were not captured in this study, including stress levels, mental health indicators, and environmental or lifestyle variables. Such research can provide deeper insights into factors affecting nursing students' sleep and academic performance.
6. Explore the potential impact of intervention programs focused on sleep hygiene, stress management, or wellness initiatives on the academic performance and holistic well-being of nursing students.

Compliance with Ethical Standards

The researchers strictly adhered to ethical principles throughout the conduct of this study. Informed consent was obtained from all participants prior to data collection, and respondents were made fully aware of their right to withdraw from the study at any time without any consequences. The anonymity and confidentiality of all participants were maintained by coding responses and securely storing all collected data. The study received formal approval from the Ethical Committee of the Foundation University Research Office, ensuring that all procedures complied with institutional research guidelines. The well-being of participants was safeguarded at all stages of the study, and no harm or coercion was involved. The researchers declare that there were no conflicts of interest in the design, implementation, or reporting of this study. Plagiarism was strictly avoided, and all sources cited in the paper are accurately reflected in the References. Interpretation of findings was conducted impartially, and the results were used solely for research purposes. The researchers also disclose that AI tools were not used in the analysis or interpretation of the data, ensuring full transparency in the research process .

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