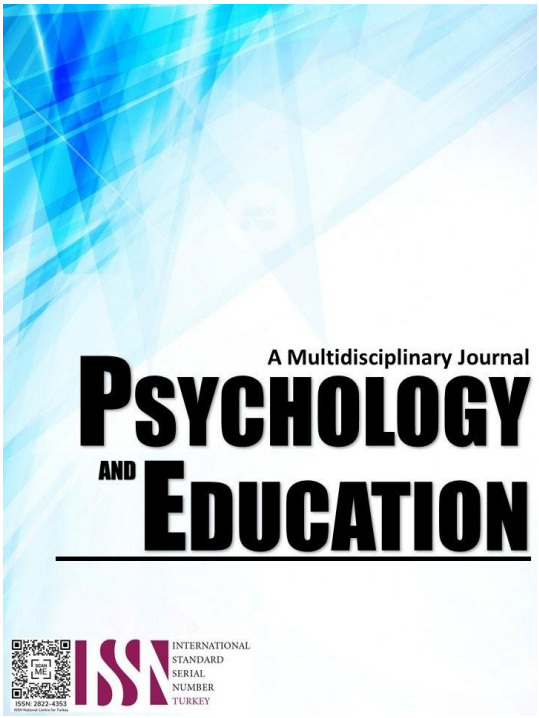
SLEEP QUALITY AND ITS RELATIONSHIP WITH THE ACADEMIC SELF-EFFICACY AMONG STUDENTS OF SAINT MARY'S UNIVERSITY SENIOR HIGH SCHOOL



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Research Article

Sleep Quality and its Relationship with the Academic Self-Efficacy among Students of Saint Mary's University Senior High School

Adrian Reo Dwaine B. Birco,* Jastine Elaida J. Mendoza, Gecellie D. Mahi, Leonely D. Nabban, Kyle Jannryke C. Sonday, Kristel Joy C. Dapiawen, Shiellah Mae T. Barsicula, Lady Valen Charon A. Dela Peña

For affiliations and correspondence, see the last page.

Abstract

Sleep quality is a critical factor in students' overall well-being and academic performance, influencing cognitive function, concentration, and motivation. Academic self-efficacy, on the other hand, plays a key role in students' confidence in their ability to succeed academically. Given the demands of senior high school education, understanding how sleep quality impacts students' academic self-efficacy is essential for educators and policymakers in developing strategies to enhance both academic performance and student well-being.This study employed a mixed-method approach, incorporating both quantitative and qualitative elements. The quantitative aspect utilized a descriptive-comparative-correlational survey design to analyze statistical relationships between sleep quality and academic self-efficacy. However, while qualitative methods were mentioned, the specific steps in gathering and analyzing qualitative data were not extensively detailed, which may require further refinement in future studies. The results showed that students at Saint Mary's University Senior High School generally experience poor sleep quality yet exhibit good academic self-efficacy. There was no significant difference in sleep quality when grouped by sex, track, grade level, or academic performance. Similarly, academic self-efficacy showed no significant difference across sex, track, and academic performance, though there was a significant difference in self-efficacy between different grade levels. Lastly, sleep quality and academic self-efficacy were found to be correlated, suggesting that even with poor sleep, students may still maintain high academic self- efficacy.

Keywords: *Sleep quality and Academic self-efficacy*

Introduction

Sleep quality is a person's self-satisfaction with all aspects of their sleep experience (Nelson et al., 2021). Sleep, which is closely associated with health and quality of life, is an essential requirement for an individual to perform different social and cultural activities. Sleep quality is essential and poor sleep leads to disease and poor health outcomes. Sleep deprivation also has an impact on individual learning capacities and academic performance.

Sleep deprivation has been a problem for everyone, especially to adolescents. Sleep Deprivation is a condition in which one fails to get enough sleep (Negussie et al., 2021). It also refers to sleep that is shorter than the normal sleeping hours. It has been found that up to 60% of all college students suffer from poor sleep quality (Schlarb et al., 2017), this shows that it has been increasing and negatively affecting a person's health.

Poor sleep quality has also been found to be associated with poor academic achievement and health problems. Studies have shown that 70.65% students are sleep-deprived because of the intake of alcohol, drugs, caffeine, and some prescribed or non-prescribed stimulants (Jalan et al., 2022). Several studies have demonstrated a relationship between sleep, learning, and memory. According to the study of Sofyana et al., (2022), strong evidence suggests that sleep deprivation might impair a student's ability to learn, his/her self-efficacy, and academic performance.

The effects of Sleep Deprivation or poor sleep quality are excessive daytime sleepiness, poor memory, poor concentration, and depressed mood (Colten et.al, 2006). There are different factors that can affect sleep quality, for example, young adults commonly use psychoactive substances due to the latter's temporary stimulant effect and it leads to the problem of poor sleep.

Poor sleep quality is significantly associated with poor quality of life (Lee et al. 2021). In addition, studies have shown that sleep quality influences multiple aspects of quality of life, including health, physical and cognitive functioning, and psychological effects (Cohrdes et al. 2018; Matsui et al. 2021). Understanding the relationship between sleep quality and academic self-efficacy is essential for promoting academic success and well-being among senior high school students. The major concepts of this study are sleep quality, psychological well-being, improving sleep quality, academic self-efficacy, and sleep environment.

The relationship between sleep quality and academic self-efficacy is fundamental in academic success and overall well-being of students. Sleep quality is integral to cognitive functions such as memory, attention, and concentration, which are essential for effective learning and academic performance. Having a poor sleep quality can impair these cognitive abilities which leads to difficulties in concentration, learning, and problem-solving and can negatively affect academic self-efficacy. Students who experience inadequate sleep patterns commonly report lower self-efficacy. This is the inability to perform well academically undermines their confidence in their capabilities.

Students with better sleep quality tend to demonstrate enhanced cognitive functioning, which supports greater academic achievement and stronger self-efficacy beliefs. Interventions can be particularly beneficial for adolescent and young adult populations, who are often at higher risk of sleep disturbances due to academic pressures, social activities, and lifestyle choices. By prioritizing healthy sleep practices, students can improve their cognitive performance and academic outcomes while simultaneously fostering their psychological well- being. As students begin to experience the benefits of better sleep, they may develop a stronger sense of self- efficacy, creating a positive cycle of academic achievement, improved mental health, and increased self-confidence. Thus, promoting healthy sleep habits is not only essential for academic success but also for the holistic development of students as they navigate both their educational and personal lives.

Sleep Quality

Sleep Quality is a term that has been conceptualized as a construct comprised of both one's subjective satisfaction with the sleep experience and quantitative components of sleep such as sleep duration, maintenance of sleep and sleep efficiency S-(Schmickler et al. 2023). Previous research has shown that inadequate sleep duration, poor sleep quality, and sleep disturbances can negatively affect students' cognitive functioning, attention, and memory, ultimately impacting their academic performance (Hysing et al. 2016). The literature review reveals a growing body of evidence supporting the detrimental effects of poor sleep quality on academic performance among senior high school students. Several studies have emphasized the importance of sufficient sleep and good sleep hygiene practices in promoting optimal academic performance in this specific student population (Hysing et al., 2016; Pascoe et al., 2016; Gomes et al., 2019; Li et al., 2020). Another concept is psychological well-being.

According to a study by Zhang et. al (2021), poor sleep quality is one of the factors of anxiety. The study indicates that anxiety predicted sleep quality and effects were mediated by sleep hygiene. This concludes that a person with higher anxiety tends to have lower and poor adherence to sleep hygiene behaviors, resulting in a negative effect on academic engagement. However, this study focuses only on the association between anxiety and sleep quality. The researcher simply concluded that sleep quality affects academic performance, but no procedure or findings were reported in the study, Zhang et. al (2021). In this study, the researchers related the sleep quality of students to its academic self-efficacy to justify in the past studies.

Improving sleep quality and enhancing academic self-efficacy among senior high school students. The literature review highlights various interventions, such as sleep education programs, sleep hygiene practices, and creating a conducive sleep environment specifically tailored for senior high school students (Gradisar et al., 2011; Meltzer et al., 2014). These interventions have shown promising results in improving sleep quality and subsequently enhancing academic self-efficacy among this specific student population. These interventions have shown promising results in improving sleep quality and subsequently enhancing academic self-efficacy among this specific student population. The Research studies provide further insights into the effectiveness of these interventions and offer recommendations for their implementation among senior high school students. One of the concepts of this research is academic self-efficacy.

Academic Self-Efficacy

Self-efficacy is the belief in one's ability to complete things successfully, it is a sense of competence, efficiency, and ability to cope with life (Dumbauld et. al 2014). People with higher self-efficacy exert more effort and insist on completing tasks than those with lower self-efficacy. As a result, their work completion rates are higher (Aqazadeh, 2013). This research focuses on the relation of Sleep Quality to the Academic self-efficacy of students. In order to comprehend sleep issues and identify potential remedies, Aydin et al. (2021) examined the association between sleep habits and sleep quality. They found that some sleep behaviors had a substantial influence on sleep. Researchers were aware that sleep loss or deprivation may lead to major health issues as well as decreased behavioral and cognitive function (Scott et al., 2022).

Academic self-efficacy, refers to an individual's belief in their own capabilities to successfully complete academic tasks, achieve desired academic outcomes, and overcome challenges encountered in the academic context. Studies on the effects of different sleep patterns and schedules on academic performance revealed that students who sleep badly, frequently have a decreased academic performance (Curcio et al 2006). It influences their willingness to engage in academic activities, set challenging goals, and persevere in the face of difficulties. Factors such as prior academic achievements, mastery experiences, social support, feedback, and personal attributes like self-confidence and self-regulation influence academic self-efficacy (Zimmerman, 2000). Understanding and enhancing academic self-efficacy can have significant implications for educational interventions, instructional practices, and student support programs aimed at promoting positive academic outcomes and fostering students' belief in their academic abilities.

Relationship of Sleep Quality and Academic Self-efficacy

The intricate relationship between sleep and self-efficacy has emerged as a critical area of inquiry in recent years, with implications for various aspects of human functioning, particularly academic performance. This introduction delves into the theoretical underpinnings and empirical evidence surrounding this relationship, highlighting the importance of understanding its multifaceted nature.

Academic Self-Efficacy, a key construct in Bandura's Self-Efficacy Theory (1997), refers to an individual's belief in their ability to

successfully execute tasks and achieve desired outcomes within an academic context. Research consistently demonstrates a strong positive association between ASE and academic success (Dogan, 2015; Alhadabi & Karpinski, 2019; Hershner, 2020; Musshafen et al., 2021). Students with higher ASE exhibit greater motivation, set more challenging goals, and demonstrate increased resilience when facing academic challenges.

Sleep, a fundamental biological process, plays a critical role in cognitive function and memory consolidation (Cross et al., 2018; Fonseca & Genzel, 2020; Frazer et al., 2021). Adequate sleep promotes optimal attention, decision-making, and problem-solving abilities, all of which are essential for academic success. Conversely, sleep deprivation negatively impacts these cognitive functions, leading to decreased academic performance (Okano, 2019; Jalali, 2020; Hershner, 2020).Emerging research suggests a significant link between sleep quality and academic self-efficacy. Studies indicate that individuals who experience better sleep quality tend to report higher levels of self-efficacy (Burke et al., 2021; Ghose et al., 2023). This suggests that adequate sleep may contribute to a stronger sense of self-belief and competence, while poor sleep quality can undermine self-efficac

However, a notable gap exists in understanding the moderating role of academic self-efficacy in the relationship between sleep quality and academic performance. This research aims to address this gap by exploring the combined influence of academic self-efficacy academic self-efficacy and sleep on academic outcomes, proposing a holistic perspective that acknowledges their interconnected effects. By investigating this complex interplay, we aim to provide valuable insights for educators and researchers in developing interventions that promote both healthy sleep habits and a robust sense of self-efficacy to optimize student success.

A significant gap identified in Tresvalles' (2022) study is the lack of correlation between academic self- efficacy and sleep quality among students. This prompted researchers to explore whether there is a relationship between sleep quality and the academic self-efficacy of Senior High School students at Saint Mary's University.

Another gap explored is the track, where Richards et al. (2017) conducted a study comparing sleep quality across various age ranges. Since age is commonly considered a factor affecting sleep quality, this study specifically examines the sleep quality associated with each track.

This research paper sought to enrich the existing body of knowledge by investigating the link between sleep quality and academic self-efficacy among senior high school students at Saint Mary's University. By examining how sleep quality affects academic performance and suggesting interventions to enhance sleep quality and academic self-efficacy, this study aimed to offer valuable insights and recommendations to promote the well- being and academic success of senior high school students.

Research Questions

The study aimed to investigate the relationship between Sleep Quality on Academic Self-Efficacy among students of Saint Mary's University Senior High School. Specifically, it sought to answer the following questions:

1. What is the level of sleep quality of the respondents?
2. What is the level of academic self-efficacy of the respondents?
3. Is there a significant difference in the sleep quality of the Senior High School students when grouped according to:
    3.1. sex;
    3.2. track;
    3.3. grade level; and
    3.4. Academic Performance?
4. Is there a significant difference in the level of academic self-efficacy of the Senior High School students when grouped according to:
    4.1. sex;
    4.2. track;
    4.3. grade level; and
    4.4. Academic Performance?
5. Is there a significant relationship between the sleep quality and the academic self-efficacy of the respondents?
6. What are the various factors that have an impact on the quality of sleep experienced by the respondents?
7. In what ways can the respondents improve their sleep quality?

Methodology

Research Design

This utilized a qualitative and quantitative particularly descriptive-comparative-correlational design. The study used descriptive to determine the level of sleep quality and academic self-efficacy. The study was also considered Comparative because the study identified the significant difference in sleep quality between sex, track, grade level, and academic performance of the students of Saint Mary's University Senior High School. It was also correlational because the study determined the relationship between sleep quality and academic self-efficacy of the students.

Respondents

The research respondents comprise students from various academic tracks including STEM, HUMSS, ABM, AD, HE, and ICT, spanning both grades 11 and 12. By including students from diverse educational backgrounds, the study focuses on capturing a comprehensive understanding of how sleep quality impacts academic self-efficacy across different disciplines and grade levels within the Saint Mary's University Senior High School community. Using Stratified random sampling involves randomly selecting students from different tracks and grades at Saint Mary's University Senior High School. The researchers used Raosoft to determine the number of respondents, and there would be 275 respondents. This method ensures fairness in choosing participants. By employing this approach, the study aimed to generate findings that are applicable to all students at the school, without any bias towards specific groups.

Table 1. *Demographic Variable Table*

Variables	*Groups*	*Frequency*	*Percentage*
Sex	Male	103	37.5%
	Female	172	62.5%
Total		275	100.0%
Track	STEM	186	67.6%
	ABM	24	8.7%
	HUMSS	39	14.2%
	AD	8	2.9%
	TVL	18	6.6%
Total		275	100.0%
Grade Level	Grade 11	155	56.4%
	Grade 12	120	43.6%
Total		275	100.0%
Academic Performance	Non-Academic Excellence	87	31.6%
	With Academic Excellence	188	68.4%
Total		275	100.0%

Instrument

The primary data gathering method used in the study used was a survey questionnaire. It was adapted from a research study entitled "Stress, Sleep, and Coping Self-Efficacy in Adolescents" conducted by Brink et.al in the year 2021. The questionnaire remained as negative statement and then revisions were done to the questions. Another research study is "Contextual influences on sources of academic self- efficacy: A validation with secondary school students of Kerala" conducted by Gafoor in the year 2012, which assesses the students' academic self-efficacy. The questionnaires were mixed of positive and negative statements and it was adapted as positive statements. Revisions were also made to the questions.

The questionnaire is divided into four parts. Part one included important information regarding the profile of the respondents including name, sex and track. Part two included the questions assessing the sleep quality of students. The researchers used the Likert Scale to measure and evaluate the sleep quality of Senior High School students. Part three of the questionnaire consists of questions assessing the academic self-efficacy of students, it is assessed whether students are excelling in academics or not. Part four of the questionnaire is an open-ended question, to determine the factors affecting sleep quality and the ways to improve students' sleep quality.

Table 2. *Result of Reliability Test for Sleep Quality*

Cronbach's Alpha	*N of Items*
.88	20

For the reliability test result for the sleep quality, table 2 shows that with 20 items, Cronbach's Alpha is equal to .88. Its consistency is equivalent to good therefore, the questionnaire for sleep quality is reliable (a ≥.70).

Table 3. *Results of Reliability Test for Academic Self-Efficacy*

Cronbach's Alpha	*N of Items*
.94	20

For the reliability test result for the sleep quality, table 3 shows that with 20 items, Cronbach's Alpha is equal to .94. Therefore, its consistency is excellent (a ≥ .70) indicating that the questionnaire is reliable.

Procedure

The researchers adapted a questionnaire from Brink et al. (2021) to evaluate students' sleep quality, alongside one from Gafoor et al. (2012) that measures general and academic self-efficacy. This modified instrument underwent content validation and was reviewed by the research adviser. Subsequently, a formal request was submitted to various private and public entities in Nueva Vizcaya, seeking

permission from their managers to administer the surveys. Upon approval, the questionnaires were distributed to the respondents. The collected data were then tallied, analyzed, and interpreted. Ultimately, the researchers presented their findings after a comprehensive analysis.

Data Analysis

The data was analyzed using both descriptive and inferential statistics. Frequency and Percentage determined the number of respondents when grouped according to sex and track that were surveyed in this study. The mean and standard deviation also determined the sleep quality of students and their level of academic self-efficacy. Qualitative analysis was also used, thematic analysis was used in this study to analyze the open-ended question. Respondents are categorized, and grouped according to their sex, track and to their profiles.

For the inferential part, independent samples T-Test & One-way Analysis of Variance (ANOVA) were used to determine if there is a significant difference in the sleep quality & level of academic self-efficacy in terms of sex and track, respectively. Moreover, Pearson's correlation was used to determine if there is a significant relationship bet. Sleep quality and academic self-efficacy.

Profile- Frequency count and Percentage distribution

Level- Mean and Standard Deviation

Comparison- Independent Samples T-Test and One-way ANOVA

Relationship- Pearsons Correlation

Qualitative- Thematic Analysis

Table 4. *Likert Scale Interpretation on Sleep Quality of the Respondents*

Mean Score	*Qualitative Description*	*Qualitative Interpretation*
3.50-4.00	Always	Very Poor
2.50-3.49	Often	Poor
1.50-2.49	Sometimes	Good
1.00-1.49	Never	Very Good

Table 5. *Likert Scale Interpretation on Academic Self-Efficacy of the Respondents*

Mean Score	*Qualitative Description*	*Qualitative Interpretation*
3.50-4.00	Always	Very High
2.50-3.49	Often	High
1.50-2.49	Sometimes	Low
1.00-1.49	Never	Very Low

Results and Discussion

This section presents the results, discussion, and implications that the researchers have gathered and made through the process of conducting the study on the relationship between sleep quality with academic self-efficacy of students of Saint Mary's University Senior High School.

Table 6. *Descriptive Statistics on the level of sleep quality of the respondents*

Statements	*M*	*SD*	*QI*
1. I have difficulty falling asleep.	2.53	.91	Poor
2. I have difficulty getting back to sleep once I wake up in the middle of the night.	2.53	.92	Poor
3. I wake up easily because of noise.	2.58	.99	Poor
4. I go back to sleep after awakening during sleep.	2.92	.88	Poor
5. I feel tired after sleep.	2.79	.97	Poor
6. Poor sleep gives me headaches.	2.89	.99	Poor
7. Poor sleep makes me irritated.	3.04	.98	Poor
8. I would like to sleep more after waking up.	3.27	.91	Poor
9. My sleep hours are insufficient.	2.92	.90	Poor
10. Poor sleep makes me lose my appetite.	2.53	1.01	Poor
11. Poor sleep makes it hard for me to think.	2.94	.95	Poor
12. Poor sleep makes me lose interest in work and others.	2.88	1.01	Poor
13. My fatigue is unrelieved after I sleep.	2.62	.86	Poor
14. I am unsatisfied with my sleep.	2.95	.93	Poor
15. Poor sleep makes me forget things easily.	2.87	.94	Poor
16. Poor sleep makes it hard to concentrate at work.	3.01	.94	Poor
17. I have difficulty getting out of bed.	2.89	1.00	Poor
18. Poor sleep makes me tired at work.	3.00	.88	Poor
19. It's hard for me to wake up while sleeping.	2.65	.99	Poor

20. Poor sleep makes me lose desire in all things.		2.58	1.01	Poor
	Total	2.82	.59	Poor

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 = Very Bad N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation

Table 6 presents the descriptive statistics on the respondents' sleep quality levels. All statements received a qualitative interpretation of "Poor." Statement 8 recorded the highest mean score of 3.27, while statements 1, 2, and 10 shared the lowest mean score of 2.53. Overall, the total mean score for students' sleep quality is 2.82, also interpreted as "Poor."

This suggests that students at Saint Mary's University Senior High School experience poor sleep quality. Possible reasons for this include poor time management, pending school activities, excessive social media use, personal issues, and various other factors. The findings also indicate that respondents generally experience poor sleep quality. The consistently low scores suggest a need for interventions to improve sleep habits and overall well-being. Addressing factors contributing to poor sleep could enhance performance and health outcomes. This calls for targeted strategies, such as stress management programs or sleep education, to help individuals achieve better sleep quality.

The study by Fadipe & Mosaku (2017) revealed that the majority of the students have bad sleep quality with 49.5% which is in line with the results of this study. The implications of poor sleep quality among students are significant. It suggests that various activities or personal issues may be impacting their sleep patterns. This can lead to a cycle where students compensate for lost nighttime sleep by sleeping excessively in the morning, which disrupts their ability to complete tasks effectively. Addressing these sleep disturbances is crucial, as they can affect academic performance, mental health, and overall well-being.

Table 7. *Descriptive Statistics on the level of academic self-efficacy of the respondents*

Statements	*M*	*SD*	*QI*
1. I can read and understand my textbooks well.	3.05	.76	High
2. I can do my projects well.	3.00	.73	High
3. I can manage time efficiently for learning.	2.71	.80	High
4. I find out the necessary sources for my study.	2.87	.80	High
5. I set higher goals in my study.	3.07	.86	High
6. I can usually find out quite a few solutions when I am confronted with problems in my study.	2.87	.77	High
7. I can express ideas well while attending examinations.	2.79	.82	High
8. I comprehend the actual meaning of what I study.	2.87	.78	High
9. I find out time for learning in the midst of chores.	2.68	.83	High
10. I can accomplish my aims in learning.	2.96	.76	High
11. I can answer the essay type questions well.	2.92	.87	High
12. I understanding the classes of my teachers.	2.94	.76	High
13. I am confident that I can perform well in competitive examinations.	2.63	.85	High
14. I can be calm at time of exam as I am conscious of my ability to learn.	2.87	.83	High
15. I can complete the homework myself without any help from guidebooks, previous notes etc.	2.40	.87	Low
16. I can usually handle the disturbing situations in the study.	2.59	.82	High
17. I can answer the questions which teachers ask me.	2.80	.74	High
18. I can score well in the short answer type questions.	2.83	.79	High
19. I can accomplish challenging tasks and problems in my study.	2.84	.76	High
20. However twisted the question is, I can answer them.	2.55	.77	High
Total	2.81	.57	High

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 = Very Bad N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation

Descriptive statistics on the level of academic self-efficacy of the respondents are shown in table 7 According to the results of the table, only statement 15 got a "Low" qualitative interpretation, while the majority of the statements got a "High" qualitative interpretation. Statement 5 has the highest mean with a score of 3.07 while statement 15 has the lowest mean with a score of 2.40. The total mean of the academic self-efficacy of students is 2.81 and its qualitative interpretation is "High".

The results indicate that most respondents possess a strong sense of academic self-efficacy, as reflected in the "High" qualitative interpretations for the majority of statements. This suggests that students generally feel confident in their academic abilities, which can positively impact their motivation, persistence, and overall academic performance. The low score for statement 15 highlights an area for potential intervention or improvement, suggesting that targeted support or resources could be beneficial in addressing any specific challenges students encounter in this area. Overall, the positive average self-efficacy score implies that educational institutions could leverage this confidence to further enhance student engagement and success.

The results of this study are the same as the study by Kolo et.al. (2017), which found that the majority of the students have good academic self-efficacy at 80.82%. The findings suggest that students generally possess strong academic self-efficacy. This could imply that educational institutions might focus on reinforcing this confidence to further enhance academic outcomes. It also suggests that

interventions aimed at improving self- efficacy could be beneficial in maintaining or improving student performance. Additionally, educators might consider strategies to identify and support students with lower self-efficacy to help them achieve their full potential.

Table 8. *Comparison in sleep quality when grouped according to sex*

Variable	*Sex*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Sleep Quality	Female	172	2.88	.58	Poor	2.19	273	.276
	Male	103	2.72	.61	Poor			

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 =Very Bad(p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

Table 8 illustrates the differences in sleep quality based on sex. Female respondents have an average score of 2.88, interpreted qualitatively as "Poor," while male respondents have a mean score of 2.72, also considered "Poor." The T-test results indicate no significant difference in sleep quality between female and male respondents (Sig.=.276)

The analysis of sleep quality suggests that both female and male respondents experience similarly poor sleep, as indicated by their average scores. The lack of statistically significant differences implies that interventions to improve sleep quality should be universally applicable, rather than tailored by sex. This highlights a need for comprehensive strategies addressing factors affecting sleep for everyone, regardless of sex.

A study by An La et.al., (2024) shows that there is no significant difference between the sleep quality of both males and females with P value (Sig.= .902) which supports the results of this endeavor. This suggests that influences other than gender may have a more significant effect on sleep quality. A possible explanation is that factors such as stress and environmental conditions affect both genders equally, leading to similar sleep patterns.

Table 9. *Comparison in sleep quality when grouped according to track*

Variable	*Track*	*N*	*M*	*SD*	*QI*	*F*	*df*	*Sig.*
Sleep Quality	STEM	186	2.89	.58	Poor	2.01	4	0.093
	ABM	24	2.69	.65	Poor			
	HUMSS	39	2.72	.63	Poor			
	AD	8	2.61	.57	Poor			
	TVL	18	2.61	.53	Poor			

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 =Very Bad(p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

The data in Table 9 shows the difference in the sleep quality when grouped according to track. In the Science Technology, Engineering, and Mathematics (STEM) strand, it has a mean of 2.89 with a qualitative interpretation of "Poor". As for the Accountancy and Business Management (ABM) strand, it has a 2.69 mean with a qualitative interpretation of "Poor". In the Humanities and Social Sciences (HUMSS) strand, they also achieved a "Poor" qualitative interpretation with a mean score of 2.72. While Arts and Design (AD) and Technical Vocational Livelihood (TVL) both have a mean of 2.61 with a "Poor" qualitative interpretation. The One-Way ANOVA results show that there is no significant difference in sleep quality per strand and track, P value (Sig.= 0.093).

This suggests that all strands and tracks experience similar sleep quality issues. It also indicates that variations in courses do not impact students' sleep quality. A possible reason could be that respondents across tracks face similar workloads and extracurricular commitments, leading to late bedtimes and, consequently, poor sleep quality. The results further indicate that regardless of the academic track—whether STEM, ABM, HUMSS, AD, or TVL—students experience similarly poor sleep quality. This suggests that factors affecting sleep quality may be common across different educational disciplines, pointing to the need for broader interventions to improve students' sleep. Educational institutions might consider implementing wellness programs or stress management initiatives applicable to all tracks to address these issues.

A study from Bernas et.al (2022) states that no significant difference was also found when ANOVA was used to examine the sleep quality of different academic strands and this is identical and similar to the results of this study. This implies that considering other factors is highly suggested to have a stronger impact on sleep. The findings suggest that simply examining academic strands is insufficient to understand differences in sleep quality. Thus, it is highly recommended to consider additional factors for a more comprehensive insight into what influences sleep. This could lead to more targeted interventions and strategies to improve sleep quality across different groups.

Table 10. *Comparison in sleep quality when grouped according to grade level*

Variable	*Grade Level*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Sleep Quality	Grade 11	155	2.81	.61	Poor	-.41	273	.126
	Grade 12	120	2.84	.57	Poor			

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 =Very Bad(p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

Table 10 presents the differences in sleep quality according to grade level. The mean sleep quality score for Grade 11 students is 2.81, while Grade 12 students have a mean score of 2.84. Both groups received a "Poor" qualitative interpretation. The table's results indicate

no significant difference in sleep quality between Grade 11 and Grade 12 students (Sig.=.126)

The findings suggest that interventions to improve sleep quality should target both Grade 11 and Grade 12 students equally, as there is no significant difference between their sleep quality scores. Efforts to enhance sleep habits may need to be implemented across multiple grade levels for effective results. Additionally, understanding factors contributing to "Poor" sleep quality in both grades could inform strategies to promote better sleep hygiene and overall student well-being.

The results of this study are in line with the 2023 study by Encabo et.al., which reveals that there is no significant difference between the two grade levels of senior high school in terms of their sleep quality. The alignment of this study's results with the 2023 study by Encabo et al. suggests that interventions aimed at improving sleep quality may not need to be differentiated by grade level among senior high school students. This indicates that strategies to enhance sleep quality could be universally applied across both grade levels, potentially simplifying the implementation of such programs. Furthermore, the lack of significant differences underscores the need to explore other factors that might affect sleep quality in this demographic.

Table 11. *Comparison in sleep quality when grouped according to academic performance*

Variable	*Academic Performance*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Sleep Quality	Non- Academic Excellence	87	2.74	.66	Poor	-1.43	273	.053
	With Academic Excellence	188	2.85	.56	Poor			

Legend: Sleep Quality: 1.00-1.49 = Very Good; 1.50-2.49 = Good; 2.50-3.49 = Bad; 3.50-4.00 =Very Bad($p<0.05$)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

Table 11 shows the results in sleep quality when grouped according to academic performance. Students who are non-academic excellence have a mean of 2.74, and students with academic excellence have a mean of 2.85 and both of their qualitative interpretations is “Poor”. The T-Test results show that there is no significant difference in sleep quality between students with and without academic excellence (Sig.= 0.053)

The findings suggest that sleep quality, as measured, does not significantly differ between students with and without academic excellence. This implies that factors other than sleep quality may play a more critical role in academic performance. Educational institutions may need to consider additional factors, such as study habits, stress management, and time management skills, when addressing academic success. Efforts to improve academic performance should not solely focus on enhancing sleep quality but should take a more holistic approach to student well-being.

A study by Jalali et al. (2020) found no significant difference between the sleep quality of students with high and low grades, aligning with the findings of this research.

The findings suggest that sleep quality might not be a determining factor in academic performance, indicating that other variables could play a more critical role. This highlights the need for further investigation into what contributes to student success beyond sleep habits. This implies that both academically excellent students and those who are not experience poor sleep quality. Typically, inadequate time management and lifestyle choices, like late-night studying or excessive screen time, can impact students irrespective of their academic performance.

Table 12. *Comparison in academic self-efficacy when grouped according to sex*

Variable	*Sex*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Academic Self- Efficacy	Female	172	2.75	.55	High	-2.17	273	.386
	Male	103	2.91	.58	High			

Legend: Academic Self-Efficacy: 1.00-1.49 = Very Bad; 1.50-2.49 = Bad; 2.50-3.49 = Good; 3.50-4.00 = Very Good ($p<0.05$)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

Table 12 presents the results comparing academic self-efficacy levels based on sex. Female participants achieved a mean score of 2.75, interpreted qualitatively as "High," while male participants scored slightly higher with a mean of 2.91, also rated as "High." According to the T-Test results, there is no significant difference in academic self-efficacy between males and females (Sig.=.386).

The findings suggest that academic self-efficacy levels are similar between male and female participants, indicating that gender does not significantly influence self-perceived academic abilities. This could imply that interventions aimed at improving academic self-efficacy might not need to be gender-specific, as both groups appear to share comparable confidence in their academic skills. Additionally, it highlights the importance of focusing on other factors that might influence academic self-efficacy across genders.

The study of Fakhrou & Habib (2021) contradicts the results of this study. According to their results, it shows that there is a significant difference in academic self-efficacy between male and female students. It states that both males and females are not performing equally well in school.

The results of the studies suggest that educational institutions may need to address gender disparities in academic self-efficacy. Targeted interventions could be developed to enhance confidence and performance among both male and female students, ensuring equitable educational outcomes. Further research might explore underlying factors contributing to these differences and consider tailored support strategies to bridge the gap in academic achievement.

Table 13. *Comparison in academic self-efficacy when grouped according to track*

Variable	*Track*	*N*	*M*	*SD*	*QI*	*F*	*df*	*Sig.*
Academic Self-Efficacy	STEM	186	2.82	.55	High	.66	4	0.619
	ABM	24	2.85	.60	High			
	HUMSS	39	2.85	.58	High			
	AD	8	2.57	.66	High			
	TVL	18	2.69	.57	High			

Legend: Academic Self-Efficacy: 1.00-1.49 = Very Bad; 1.50-2.49 = Bad; 2.50-3.49 = Good; 3.50-4.00 = Very Good (p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

The difference in the level of academic self-efficacy when grouped according to track was shown in Table 13. In the Science Technology, Engineering, and Mathematics (STEM) strand, it has a mean of 2.82 with a qualitative interpretation of "High". As for the Accountancy and Business Management (ABM) strand, it has a 2.85 mean with a qualitative interpretation of "High". In the Humanities and Social Sciences (HUMSS) strand, they also achieved a "High" qualitative interpretation with a mean score of 2.85. While Arts and Design (AD) has a mean score of 2.57 with a qualitative interpretation of "High". Lastly, Technical Vocational Livelihood (TVL) has a mean of 2.69 with a "High" qualitative interpretation. The One-Way ANOVA results show that there is no significant difference in academic self-efficacy per strand and track (Sig.= 0.619).

The findings suggest that academic self-efficacy is consistently rated as "Good" across different academic tracks, indicating that students generally feel capable in their respective fields. The lack of significant differences in self-efficacy between tracks, as indicated by the One-Way ANOVA results, suggests that track-specific factors may not heavily influence students' confidence in their academic abilities. This could imply that initiatives to enhance academic self-efficacy can be applied broadly across various tracks rather than tailored specifically to each. Moreover, educators and policymakers might focus on general strategies to bolster self-efficacy, knowing that these efforts could have a positive impact regardless of academic specialization.

The result from the study by Villas (2019) states that there is a significant difference between track and strand in the academic self-efficacy of students. This implies that students from different tracks don't perform equally in their respective tracks. The study of Villas (2019) contradicts this study as the results of this study indicate that there is no significant difference among tracks.

The findings suggest that educational strategies might need to be tailored to address differences in students' academic self-efficacy across various tracks. If Villas (2019) found significant differences, it could mean that some tracks require additional support to enhance student performance. However, the contradiction with this study, which found no significant differences, implies that further research is needed to understand the factors influencing academic self-efficacy and performance. This might lead to a re-evaluation of how educational resources are allocated and which specific needs are addressed within different tracks.

Table 14. *Comparison in academic self-efficacy when grouped according to grade level*

Variable	*Grade Level*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Academic Self-Efficacy	Grade 11	155	2.73	.61	High	-2.68	273	.006
	Grade 12	120	2.91	.49	High			

Legend: Academic Self-Efficacy: 1.00-1.49 = Very Bad; 1.50-2.49 = Bad; 2.50-3.49 = Good; 3.50-4.00 = Very Good (p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

Table 14 illustrates the variation in academic self-efficacy levels when categorized by grade level. Grade 11 students have a mean score of 2.73, interpreted as "High," whereas Grade 12 students achieved a mean score of 2.91, also rated as "High." The T-Test results indicate a significant difference in academic self-efficacy between Grade 11 and Grade 12 students (Sig.=.006)

The findings suggest that as students' progress from Grade 11 to Grade 12, there is an observable increase in academic self-efficacy. The significant difference in scores implies that educational interventions or experiences during this transition period may positively influence students' confidence in their academic abilities. Educators and curriculum developers could consider enhancing support systems and resources for Grade 11 students to bridge this gap earlier, potentially boosting their self-efficacy sooner. Additionally, understanding the elements contributing to increased self-efficacy in Grade 12 could help replicate these factors in earlier grades.

A study by Nasir & Iqbal (2019) supports the result of this research which states that there is a significant difference in the academic self-efficacy of students when grouped according to grade level.

The findings suggest that educational interventions should be tailored to specific grade levels to effectively boost students' academic self-efficacy. By understanding the variations in self-efficacy among different grades, educators can develop targeted strategies to enhance students' confidence and performance in their academic pursuits. This approach could lead to improved educational outcomes and a more supportive learning environment.

Table 15 presents the differences in academic self-efficacy levels when categorized by academic performance. Students without academic excellence averaged a score of 2.75, which is interpreted as "High." In contrast, students with academic excellence had a slightly higher average score of 2.84, also interpreted as "High." The T-Test indicates no significant difference between these groups (Sig.=.705)

Table 15. *Comparison in academic self-efficacy when grouped according to academic performance*

Variable	*Academic Performance*	*N*	*M*	*SD*	*QI*	*t*	*df*	*Sig.*
Academic Self- Efficacy	Non- Academic Excellence	87	2.75	.57	High	-1.28	273	.705
	With Academic Excellence	188	2.84	.56	High			

Legend: Academic Self-Efficacy: 1.00-1.49 = Very Bad; 1.50-2.49 = Bad; 2.50-3.49 = Good; 3.50-4.00 = Very Good (p<0.05)
N – Population size; M – Mean score; SD – Standard Deviation; QI – Qualitative Interpretation; t – t-value; df – degree of freedom; Sig – Significant Difference

The findings suggest that academic self-efficacy levels are relatively consistent between students with and without academic excellence, both being rated as "Good." This implies that self-efficacy may not be a distinguishing factor in academic performance. Educators might consider focusing on other aspects, such as learning strategies or motivation, to enhance academic performance. Additionally, since the T-Test shows no significant difference, interventions aimed at improving self-efficacy alone may not lead to substantial improvements in academic excellence.

The results of the study by Musa (2020) contradict the results of this study as it states that there is a significant difference in the academic performance of students in academic self-efficacy. The contradiction between Musa's (2020) study and this study suggests that factors influencing academic performance and self- efficacy may vary across different contexts or populations. This calls for further research to explore these variables and understand the conditions under which self-efficacy significantly impacts academic outcomes. It also highlights the need for educators to consider diverse strategies when addressing student performance and self-efficacy in educational settings.

Table 16. *Relationship between the sleep quality and the academic self-efficacy of the respondents*

	Pearson's r	*p-value*	*QD*
Sleep Quality And Academic Self-Efficacy	0.235	0.000	Weak positive correlation

Legend: 0.01 – 0.29 = Weak; 0.30 – 0.49 = Moderate; 0.50 – 1.00 = Strong
***Correlation is significant at the 0.05 level (2-tailed).*

Table 16 demonstrates a significant relationship between the respondents' sleep quality and their academic self-efficacy. The data reveals a weak positive correlation (r = .235) between these two variables. The Pearson correlation results indicate that a meaningful connection exists between sleep quality and academic self-efficacy.

The findings from Table 3.11 suggest several implications. First, the weak positive correlation between sleep quality and academic self-efficacy indicates that improving sleep quality may help enhance students' confidence in their academic abilities. Educational institutions can consider incorporating sleep education programs to promote better sleep habits among students. Additionally, students may benefit from learning strategies to manage their sleep schedules, potentially leading to improved academic outcomes. Overall, these insights emphasize the importance of addressing sleep quality as a factor in academic success.

The results of this study are contrary to the findings of Andalao et al. (2023) which found out that there is no significant relationship between sleep quality and academic self-efficacy. The findings suggest that previous assumptions about the relationship between sleep quality and academic self-efficacy may need to be reevaluated. This could lead to further investigations into other factors influencing academic performance or a reconsideration of the methodologies used in earlier studies. Additionally, educational policies and support systems might need to be adjusted to account for these new insights, potentially focusing more on other aspects of student well-being and performance.

Table 17. *Thematic Analysis of the Respondents' statements on the affecting factors of Sleep Quality among the students of Saint Mary's University Senior High School*

Statements	*Example Quote*	*Frequency, n (%)*
Requirements/ Activites	"Sleeping late because of doing school requirement" "A lot of activities and quizzes" "Enormous quantity of school works/activities"	75 (28.40)
Gadgets	"Exposed in radiation using phone for long time" "Phone addiction, social media" "Playing online games"	50 (18.94)
Stress	"I get distracted when I try sleep and I think too much" "Anxiousness and stress are the things affecting my sleep quality" "Pressure and stress in my environment"	43 (16.29)
No Time Management	"Poor time management affects my sleep quality" "Messy schedule" "Busy schedule"	36(13.64)
Noise/ Disruptions	"Loud noises around" "Noise because it can disrupt sleep or reduce its depth affecting overall quality" "Noisy boardmates"	27 (10.23)
Personal Problems	"Insomnia and hyperness" "My thoughts are the one who's majorly affecting my sleep"	21 (7.95)

	"Mental and physical health"	
Habit/Routine	"Habits/routine where I only get up to hrs of sleep but able to do the same or even better than people who have the full hours of sleep" "Late night sleep every repeating sleep cycle" "Breaking your own body clock and not sleeping in your set time sleep"	12 (4.55)
Total		264 (100%)

Thematic Analysis of the respondents' recommendations for the improvement of Sleep Quality among the students of Saint Mary's University Senior High School is shown in Table 17. It shows that the respondents' most recommended reason that affects the sleep quality of the students are Requirements/Activities with a total percentage of (28.40%) Gadgets with a percentage of (18.94%) and Stress with a percentage of (16.29%) were also mentioned by the respondents. Other recommendations also include No Time Management (13.64%), Noise/Disruptions (10.23%), Personal Problems (7.95%) and Habit/Routine (4.55%).

The results suggest that the majority of respondents attribute their poor sleep quality to various requirements and activities. This is likely because the respondents are adolescents actively engaged in school, where the pressure to excel academically can be intense. The demands of completing assignments, participating in different extracurricular tasks, and managing numerous school activities such as sports, clubs, and social events often disrupt their sleep patterns. Many students find themselves staying up late to finish homework or prepare for exams, leading to a cycle of sleep deprivation that can impact their overall health and academic performance.

Douglas (2023) identifies three ways in which homework impacts students' sleep. Firstly, the time required to complete assignments can encroach upon sleep time. Secondly, doing work close to bedtime may leave students too stimulated to fall asleep easily. Lastly, if homework is done in or near the student's bed, they may associate that space with work or stress, hindering their ability to fall asleep there.

Table 18. *Thematic Analysis of the Respondents' Recommendations in Improving Sleep Quality among the students of Saint Mary's University Senior High School*

Statements	*Example Quote*	*Frequency, n (%)*
Fixing Sleep Schedule	"Complete 8 hours of sleep" "Set my sleep schedule and limit daytime naps" "Fix my schedule and get enough sleep"	62(23.57)
Time Management	"Managing my time like doing my assignments as early as possible" "Do my tasks during the day" "Manage your time by removing unnecessary activities"	51(19.39)
Meditate	"Listening to music" "Meditating often and exercises, selflove and having a peaceful mind" "Making myself comfortable"	46(17.49)
Reduce Screentime	"Lessen the use of media" "Avoid using phone on bed time" "By eliminating the use of gadgets at night"	39(14.83)
Finish school works on time	"Finish my task immediately or as early as possible then try to get 8hrs sleep" "Do assignments on time so you can sleep early" "Do my school works early"	36(13.69)
Lessen Caffeine	"Avoid caffeine" "Rather than coffee, drink milk instead" "I drink sleep-inducing drink"	16(6.08)
Minimize Activities	"Usually by distancing my phone a few minutes before sleep, avoiding any physical demanding work on the evening or turning of the lights when it's time to" "Minimize the school works as a student in a weekly basis "By sticking to a habit and pushing through with it"	13(5)
Total		263 (100%)

Table 18 presents a thematic analysis of respondents' recommendations for enhancing students' sleep quality at Saint Mary's University. The most frequently suggested methods include fixing sleep schedules (23.57%), managing time effectively (19.39%), and practicing meditation (17.49%). Additional recommendations involve reducing screen time (14.83%), completing school assignments promptly (13.69%), limiting caffeine intake (6.08%), and minimizing activities (5%).

The results suggest that most respondents believe that fixing one's sleep schedule can enhance sleep quality. This belief likely stems from the respondents' own experiences with poor sleep quality, leading them to recommend factors that may help achieve better rest.

McMahon et al. (2020) suggest that resetting body clock is essential for improving sleep schedule. Their study found that the Structured Sleep protocol effectively ensured participants were well-rested, slept at regular times aligned with their circadian rhythms, and experienced consistent sleep outcomes across individuals.

Conclusions

In conclusion, although participants may experience poor sleep quality, this doesn't necessarily hinder their confidence in their

academic abilities or overall school performance. This finding suggests a correlation between sleep quality and academic self-efficacy, both of which are crucial components for achieving academic success. It's important to recognize that various factors, such as the work environment and study habits, can significantly affect sleep patterns, which in turn can impact academic results. Therefore, it is essential to highlight the significance of good sleep quality and to actively encourage students to develop effective study habits.

By creating a tranquil and distraction-free study environment, managing time efficiently to avoid the pitfalls of procrastination, and establishing healthy sleep routines that prioritize adequate rest, students can enhance both their sleep quality and academic self-efficacy. Moreover, educators and parents play a vital role in supporting students by promoting the importance of sleep hygiene, providing guidance on time management, and fostering a supportive learning atmosphere. Through these combined efforts, students are better equipped to achieve their academic goals while maintaining their well-being.

The primary objective of the study was obtained. The research successfully established the relationship between sleep quality and academic self-efficacy among students

With the significant findings of this study, the researchers suggest the following recommendations:

More programs or activities may be offered to improve the Sleep quality and Academic self-efficacy of the student. These programs and activities may serve as awareness to students to achieve good Sleep quality and Academic self-efficacy.

For future researchers to:

To use this study as a basis for conducting research that is related to sleep quality and academic self-efficacy.

To consider more departments, not just the Senior High School but also College Departments, to assess and compare the Sleep quality and Academic self-efficacy of college students.

To add a wider variety of respondents to achieve more precise and accurate results.

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Affiliations and Corresponding Information

Adrian Reo Dwaine B. Birco
Saint Mary's University – Philippines

Jastine Elaida J. Mendoza
Saint Mary's University – Philippines

Gecellie D. Mahi
Saint Mary's University – Philippines

Leonely D. Nabban
Saint Mary's University – Philippines

Kyle Jannryke C. Sonday
Saint Mary's University – Philippines

Kristel Joy C. Dapiawen
Saint Mary's University – Philippines

Shiellah Mae T. Barsicula
Saint Mary's University – Philippines

Lady Valen Charon A. Dela Peña
Saint Mary's University – Philippines