“Correlation Between Sleep Duration and Academic Performance of SHS Students of Commonwealth High School”

A Correlational Quantitative Research

Presented to

The faculty of Senior High School Department

Commonwealth High School

In Partial Fulfillment

of the Subject Requirements for the

Inquiries, Investigation and Immersion

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Chapter I

THE PROBLEM AND ITS BACKGROUND

Background of The Study

Sleep is necessary in everyone's life. It influences our physical, mental, and cognitive skills. A good night's sleep has been shown to improve learning and memory skills. Sleeping on a regular and adequate basis helps our bodies to perform a variety of vital functions. Sleep pattern each day directly affects physical health, mood and mental functioning because it observably correlates to students' performance when it comes to different activities and examinations. On the other hand, inadequate sleep, which is defined as fewer than 7 hours sleep duration per day for adults, reduces general alertness and focus that causes slowed cognitive processing. Because of having a lack of sleep, it affects the function of brain structure most especially to the prefrontal cortex, that carry most of higher brain functions including language working memory, logical reasoning, and creativity. Insufficient sleep regularly can have a negative impact on our health. Inadequate sleep has been linked to hypertension, fatigue, type 2 diabetes, depression, and cardiovascular disease. It can also have an impact on our daily activities, similar to daytime drowsiness, fatigue, poor daytime functioning, and other health issues.

This study is based on the research conducted by Zeek et al., entitled "Sleep Duration and Academic Performance Among Student Pharmacists". The two variables encompassed in this study are sleep duration and academic performance of students in the said secondary school, or the independent and dependent variables respectively. In simple terms, sleep duration typically refers to the total amount of sleep obtained, either during the nocturnal sleep episode or across the 24-h period (Kline, 2013); while, academic performance is the knowledge gained which is assessed by marks by a teacher and/or educational goals set by students and teachers to be achieved over a specific period of time (Narad and Abdullah, 2016).

Sleep is an excellent measure of health and an element that contributes to a high quality of life, but moving to a higher level of education is a significant adjustment that affects the students in every way, including sleep habits (Gallego-Gómez, González-Moro, et al., 2021). Majority of research on the relationship between sleep and cognitive processes, as well as its consequences for academic success, has been conducted on younger populations. For example, one large population-based study of Norwegian adolescents (16–19 years old), discovered that a sleep deficit and short sleep duration were independently related with a higher risk of poor grade point average (GPA) (Hysing M. et al. 2015). Also, according to studies, students with a normal night's sleep performed much better academically than those with sleep deprivation (Pilcher JJ. and Walters AS. 1997). In addition, insufficient sleep also affects the function of brain areas that are important for cognitive activities. The prefrontal cortex, which controls higher-level skills including language, working memory, logical thinking, and creativity, is the most prominently affected structure (Alhola & Polo-Kantola, 2007). Yoo et al. (2007), found that a single night of lowered sleep duration resulted in worse memory encoding, which led to lower information retention, implying that the hippocampus was impacted. Considering the given information, the researchers are eager to know whether the same consequences of having bad sleep duration are affecting the SHS students of Commonwealth High School in the same manner.

The amount of sleep one gets in a twenty-four (24) hours period has a direct impact on one's physical health, emotions, and mental well-being. Sleeping enough has a benefit on students' mental functioning, which in turn impacts their performances on assessments and, as a result, their grades. But unfortunately, students' sleep duration reduces over time, which could impact their academic performance. According to the Centers for Disease Control and Education, 57.8% of middle schoolers and 72.7% of high school students get less than the recommended amount of sleep for their age. Prior to the supplied information from the aforementioned statements, the researchers are very involved and interested in the topic since

they feel that a student's sleep quality might affect not only their academic achievement but also their overall school performance, such as tardiness and late submission of activities. The purpose of the study is to determine the relationship between sleep duration and academic performance of students of Commonwealth High School. Also, to generate awareness in people about the importance of sleep and to take care of their sleep drive. This topic needs to be addressed as this will help students, teachers, parents, and future researchers in recognizing the negative consequences of having improper sleep duration on academic performance.

Statement of The Problem

Sleep is a vital facet of human existence that is vital to learning and memory; lack of sleep is associated with significant impairment in learning (Jorge et al., 2020). This study aims to identify the correlation between the duration of sleep and academic performance of SHS students in Commonwealth High School. Specifically, this study sought to answer the following questions:

1. What is the usual duration of sleep of SHS students?
2. What is the level of academic performance of SHS students in the 1st semester in terms of:
    2.1. 1st semester average
    2.2. Class participation
    2.3. Attendance
    2.4. Submission of activities
3. Is there a significant relationship between the duration of sleep and academic performance of SHS students in Commonwealth High School?

Hypotheses

Null Hypothesis. There is no relationship between sleep duration and students' academic performance. Neither inadequate nor inadequate sleep duration is associated with students' academic performance.

Alternative Hypothesis. There is a significant relationship between sleep duration and students' academic performance. The higher or average sleep duration is associated with higher academic performance. Whereas inadequate sleep duration poorly affects students' academic performance.

Scope and Delimitation

This study focused on the academic performance of the students as well as their average sleep duration for the past month. The research was conducted at Commonwealth High School in the school year 2021-2022, wherein the respondents are limited to students in grades 11 to 12 whether or not they are aware of the topic. This study does not include any other systems that have not been stated. Using Google Forms, the researchers will collect data through an online survey questionnaire. The data collected in the survey will only be used for academic purposes and will be kept confidential.

The goal of this study is to see the relationship between sleep duration and academic performance of Senior High School students of Commonwealth High School.

Significance of The Study

This study will help to provide information about the relation between sleep duration and academic performance of Senior High School Students of Commonwealth High School. Furthermore, this study could be highly beneficial to the following:

Students. This study will be beneficial to students as it contains useful information that will help students to understand more the relationship between sleep duration and academic performance and how it affects them.

Educators. This study will be beneficial to educators as it will give them an idea about spreading awareness to their students about the impact of sleep duration on their academic performances and how they will guide their students to avoid having a lack of sleep.

Community. This study will be beneficial to the community as suboptimal sleep is known as one of the national problems because it causes an increase in the rate of people suffering from diseases caused by lack of sleep. Through this study, they will be more aware of the cause and effects of sleep duration and how they will be able to develop solutions to help people have enough sleep to avoid its impact.

Future Researchers. The result of this study will provide useful data and be a reliable source of information to our future researchers who want to study the same topic. The information presented in this study may be used also in conducting new research and testing the validity of other related studies.

Theoretical Framework

To have a better understanding on the relation between sleep and academic performance, two models were incorporated in this study; Sutliffe's (2008) interpretation of the opponent processing model and the information consolidation theory, Born & Wilheim (2012).

The opponent process theory states that two fundamental processes are involved in humans to perform at maximum potential: the sleep-wake homeostatic and circadian rhythm processes. Homeostatic process is considered as the amount of oscillation shortly before

waking up and resting period. While, the circadian rhythm is a part of an individual's internal body clock that provides alerting mechanisms on the time to sleep and time to be awake (Sutliffe, 2008). According to Gallego-Gómez, González-Moro, et al., 2021, is an excellent measure of health and an element that contributes to the processing function of the human body; and to promote restful sleep, the circadian rhythm and sleep-wake homeostatic processes collude and help one another, Sutliffe.

Born & Wilheim's (2012) information consolidation theory states that people need to sleep in order to assimilate all the information they're acquired during the day and the day prior. In addition, this theory suggests that sleep enables the brain to prepare for the following day of acquiring information. Born and Wilheim's study indicated that sleeping helps in building and assimilating the information into a long-term memory.

Research Paradigm

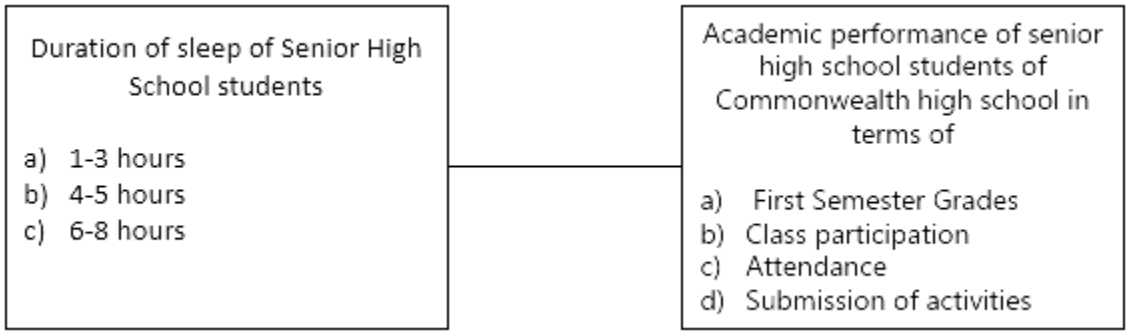

Figure 1. The Research Paradigm for the Correlation Between Sleep Duration and Academic Performance of SHS Students of Commonwealth High School

The figure depicts the concept of this research study entitled "Correlation Between Sleep Duration and Academic Performance of SHS Students of Commonwealth High School". The independent variable is the duration of sleep of senior high school students which indicates the hours of sleep by senior high school students. The dependent variable is the academic

performance of senior high school students of commonwealth high school in terms of first semester grades, class participation, attendance, and submission of activities.

Definition of Terms

Academic Performance. It is the measurement of student achievement across various academic subjects. In this study, academic performance is the final product of a student's intellectual abilities and skills in an academic environment.

Cardiovascular Disease. According to the World Health Organization (WHO), cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels.

Cognitive Skills. According to Wikipedia, cognitive skills, also called cognitive functions, cognitive abilities or cognitive capacities, are brain-based skills which are needed in acquisition of knowledge, manipulation of information and reasoning.

Daytime Drowsiness. It is defined as the inability to maintain wakefulness during waking hours, resulting in unplanned periods of sleep.

Depression. It is a common and serious medical illness that negatively affects how you feel, the way you think and how you act.

Grade Point Average (GPA). It is a number representing the average value of the accumulated final grades earned in courses over time.

Hippocampus. It is a complex brain structure embedded deep into the temporal lobe. It has a major role in learning and memory.

Hypertension. The World Health Organization (WHO) defined hypertension, also known as high or raised blood pressure, as a condition in which the blood vessels have persistently raised pressure. Blood is carried from the heart to all parts of the body in the vessels. Each time the heart beats, it pumps blood into the vessels.

Sleep Deficit. Sleep debt, also known as sleep deficit, is the difference between how much sleep you need and how much you actually get. Sleep debt adds up over time and can negatively impact your health.

Sleep Deprivation. Sleep deprivation is a general term to describe a state caused by inadequate quantity or quality of sleep, including voluntary or involuntary sleeplessness and circadian rhythm sleep disorders.

Sleep Duration. According to the dictionary, it is the quantity of time that a person's sleep. In this study, it is defined as the total amount of sleep the students obtained within the day.

Sleep Pattern. A person's schedule of bedtime and wake-up time as well as nap behavior. Sleep patterns may also include time and duration of sleep interruptions.

Chapter II

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter includes broad review of related literature and related studies, both foreign and local. The ideas and concepts of the included studies and literature give credibility and justification to the information given in the previous chapter.

Foreign Studies

In a study conducted by Alsaggaf et al. (2016) entitled “Sleep quantity, quality, and insomnia symptoms of medical students during clinical years: Relationship with stress and academic performance,” random medical students were selected to assess their sleep quality and duration and how these affected their stress level and academic performance. The assessment was done using a questionnaire including the respondents’ demographic profile and lifestyle factors. Validated measures were also used such as the Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and Perceived Stress Scale. The questionnaire was given by four trained physicians. The corresponding author arranged a workshop to teach them how to administer the questionnaire and answer queries from participants. Stress, poor sleep quality, and EDS were found to have significant relationships in multivariable regression models. Insomnia symptoms were linked to poor academic performance and stress. The findings also indicated that sleep deprivation, poor sleep quality, and EDS are all frequent among medical students throughout their clinical years. High levels of stress, as well as the need to maintain grade point averages, might be affecting their sleep quality.

To furtherly support the claim, Shelley Hershner (2019) conducted a study entitled “Sleep and academic performance: measuring the impact of sleep”. It was revealed that sleep consistencies have connections to students’ GPA. This study based its findings from books and other studies as well. The researcher showed how sleep duration, sleep regularity, sleep disorders and sleep quality affects students’ GPA. Sleep duration is associated with lower

GPAs. Among university students those with a GPA <3.0 had the shortest sleep duration. Both students with irregular and regular sleep schedules showed an increase in GPA after a 30-day study; although the regular sleepers had a greater increase in GPA than the irregular sleepers. Students with sleep disorders are more likely to have a lower GPA. Students who did not screen positive for a sleep disorder had a higher GPA than those who reported at least one sleep disorder. The subjective experience of sleep, or sleep quality, influences GPA. According to studies the researcher used, there is an association with poor sleep quality and decreased academic performance among almost all subsets of students. All in all, students with greater sleep consistency have better academic performance.

In addition, Gallego-Gómez, J.I., González-Moro, M.T.R., González-Moro, J.M.R. et al, (2021) analyzed the correlation between nursing students' sleep habits and academic performance. The study has shown a correlation between the variables. In 401 respondents, nursing students had an evening chronotype with 20.2 percent and a short sleep pattern, i.e., 6 hours of sleep per day. On the other hand, 51.1 percent of the respondents' sleep was fewer than 6 hours per day, 42.1 percent of the respondents slept 6–9 hours per day, and 6.7 percent slept more than 9 hours per day. In terms of academic achievement, 47.9 percent of students performed poorly. In the correlation of sleep habits and academic performance, researchers discovered that 32 percent of Nursing students with poor sleep habits had poor academic results. The respondents that showed poor academic results were the ones that did not have a regular hour for getting up and going to sleep, had difficulty maintaining sleep during the night, chose to prepare for a test at night, and went to bed late. Therefore the respondents' that have efficient sleep habits had better results. A short sleep pattern, bad sleep habits, and younger age were independently associated with a higher risk of poor academic performance (Gallego-Gómez, J.I., González-Moro, M.T.R., González-Moro, J.M.R. et al, 2021).

In accordance, Megan Lowry, Kayla Dean and Keith Manders (2010) conducted a study entitled "The Link Between Sleep Quantity and Academic Performance for the College Student". The researchers used a convenience sample of 103 surveys to undergraduate classes on the campus of the University of Minnesota. These classes included psychology, biology, and physiology classes. The participants consisted of 50 males and 53 females with ages ranging from 18 to 45 years old. Through this survey six variables were assessed from the participants: sleep quality, academic success, and four different aspects of sleep deprivation. As a result, quality of sleep, as assessed by the Groningen Sleep Quality Questionnaire, did not show a significant relationship with academic performance. However, the quantity of sleep was significantly related. The average amount of sleep a student receives per night does seem to be tied to the student's GPA. Also, an increased number of nights in an average week that the student obtains less than five hours of sleep (the measure of sleep deprivation) seems to be negatively related to GPA.

Moreover, in a study done by Hampton (2005) titled, “Impact of the lack of sleep on academic performance in college students”, one hundred thirty-six participants, ranging in age from 18 to over 40, were selected from various undergraduate and graduate levels from Psychology classes at Rowan University in Southern New Jersey. The participants were asked to fill out a short questionnaire about their sleeping habits, as well as their demographics, GPA, and average nightly sleep hours. The remaining survey questions were answered on a Likert Scale and contained questions that would reflect how exhausted and tired they were during the day. The researcher then used an Independent Two-Way analysis of Variance in order to analyze the data that was collected from the students. Through this study, the researcher discovered that the average number of hours of sleep a college student gets per night had an impact on their academic achievement, as evaluated by their self-reported GPA. As a result, it was discovered that students who get more sleep will have a higher GPA. These findings

support previous studies that revealed students who were sleep deprived might lose as much as 30% of what they had learned up to two days prior to sleep deprivation (Munson, 2000). Given that too little sleep makes us drowsy and unable to concentrate the next day, impairs our memory and physical performance, and can lead to mood swings and hallucinations, it's no surprise that the researcher, along with those in previous studies conducted over the past year, have found that sleep duration has a significant impact on GPA.

Furthermore, one thing that may hinder a student from obtaining a good sleep quantity and quality is sleep deprivation. Sleep deprivation is often associated with the engagement with less than 8 hours of sleep per night. In a phenomenological study conducted by Cort-Blackson (2018) entitled “The Effects of Sleep Deprivation on Online University Students' Performance,” it was found that sleep deprivation is prevalent among university students in a virtual academic system. The data was examined using the Opponent Processing Model that explains how sleep-wake homeostatic process and circadian rhythm are relevant in attaining level of productivity. In one way or another, inadequate sleep affected their lives at home, school and workplace. Through a social platform called Skype, the researcher attained the imagery of a face-to-face interview to the respondents. Sleep deprived students demonstrated weariness, poor cognition, and irritable responses in their daily online classes. Nevertheless, fully-knowing the negative impacts of lack of sleep to their academic performance, the respondents view short sleep duration as a secondary concern as they are filled with academic, familial and job responsibilities.

Likewise, in a research study entitled "The Impact of Duration of Sleep on Academic Performance in University Students" conducted by Raley, Naber, Cross, and Perlow (2016), a total of 168 people completed the online survey. Participants were required to answer a self-administered online questionnaire that includes demographic questions such as age, gender, and ethnicity. There are 19 items in the questionnaire, including a sleep profile and an

academic profile that assesses sleep quality and academic performance. According to this study, there is a correlation between sleep duration and student academic performance. Students' academic performance benefits from healthy sleeping habits such as maintaining a regular sleep routine and obtaining enough sleep each night. The need for students to participate in a sleep education program has been identified. The program would teach students some aspects of healthy sleep hygiene, such as: falling asleep and waking up at the same time each day of the week, engaging in daily exercise but relaxing activities before bed, not drinking coffee in the evening, and other aspects of good sleep hygiene.

In correlation, Agu et. al (2021) found out that the students with a sleep duration of 6 hours or more performed better academically, while those with a sleep duration of less than 6 hours, a long sleep latency, or poor sleep qualities had the least academic performance. Their study looked at medical students' sleep habits and how they affect their academic performance. One hundred ninety-three third-year medical students (122 men and 73 women) took part in the study. The students' sleep patterns were obtained using a structured questionnaire divided into two sections: section 1 was used to collect demographic data from the students, and section 2 was used to determine the students' sleep durations, latency, and qualities. Data on their academic performance were obtained from the results of their second-year MBBS professional examination. The study they conducted had the results of fifty-nine percent of students were sleep-deprived, and 41 percent slept for 6 hours or more, 42 percent had a sleep latency of less than 10 minutes, and 60 percent frequently or occasionally woke up at night, while 44.1 percent felt sleepy during school hours. Academic performance correlated positively with sleep duration (P 0.001), but negatively with sleep latency and quality. In conclusion, inadequate sleep duration, long sleep latency, and poor sleep quality all had a negative impact on students' academic performance.

In addition, in a study conducted by Okano et al. (2019) entitled “Sleep quality, duration, and consistency are associated with better academic performance in college students”, one hundred volunteers were selected from a subset of students enrolled in Solid State Chemistry in Massachusetts Institute of Technology to participate in the study. These hundred students were given a device called Fitbit which is a wearable activity tracker as part of the completion of the study. This wearable device can record data like heart rate every 5 minutes, calories burned and activity level measurements every 15 minutes, resting heart rate daily, and sleep duration and quality for every instance of sleep throughout the day which could be determined through the Fitbit proprietary algorithm. And for them to better understand the effect of sleep across the time period while course content was learned for an assessment, they examined the measurement of the average sleep during 1 month leading up to the midterms and they discovered that the overall mean duration of sleep for participants throughout the entire semester was 7 hours and 8 minutes where the standard deviation of all sleep samples is 1 hour and 48 minutes and the standard deviation of mean sleep duration is 41 minutes per participants that shows the significant positive correlation between sleep duration throughout the semester and overall score which indicates that a greater amount of sleep was associated with a higher overall score and the significant negative correlation between sleep inconsistency and overall score indicates that a greater inconsistency in sleep duration was associated with a lower overall score.

Furthermore, according to Jalali et al., (2020), in a cross-sectional research study entitled "The Effect of Sleep Quality on Students’ Academic Achievement" the first three students with the highest GPA scores and the last three students with the lowest GPA scores were selected to participate in the study. The study population was students from Kermanshah University of Medical Sciences. The assessment was done using a questionnaire that is in demographic form and Pittsburgh Sleep Quality Index (PSQI). The questionnaire has 18 questions that are classified into seven components to examine the quality of sleep. Each question is worth 0 to 3 points, with a maximum score of 3 for each component. The total scores

for the seven components that comprise the overall score vary from 0 to 21. The current study attempted to examine whether or not sleep disorders had an impact on academic success. As a result, a specific sample of successful or underachieved pupils was chosen to compare sleep quality and quantity. However, there was no statistically significant difference between the two groups. Several more investigations have come to similar results.

Local Studies

Steve I. Embang (2021) in “The Effects Of Sleep Deprivation Towards The Academic Performance Of Ustp-Oroquieta Students”, used a correlational-descriptive research design, in order to determine the effects numbers of hours of sleeps on students’ academic performance. A total of one hundred twenty-two second year students taking Bachelor of Technology Livelihood Education (BTLED) participated in this research endeavor. The participants are currently enrolled in the same academic year with the same subjects. The researcher found that there is sufficient evidence to conclude that there is a significant relationship between number of hours of sleep and academic performance in Eng11 & Educ 90. In other words, as the number of hours of sleep increases the academic performance in both ENG111 and Educ 90 got better. This result was also supported by the study of Brigham and Women’s Hospital in 2017. Furthermore the students who had more regular sleep patterns had better average school grades. This implies that without proper sleep, the brain's function such as the ability to concentrate, store data, and other cognitive activities will be hampered and or paralyzed. The study also found out that irregular patterns of sleep and wakefulness correlated with lower GPA.

Additionally, Delos Reyes, et al. (2019) in “School and Sleep Participation of University Students”, used the descriptive correlational method in order to identify the interrelationship between the number of hours of sleep and grade point average of the students of University of Batangas College of Allied Medical Sciences. The participants were chosen by means of

convenient sampling which then resulted in the total of 40 regular students, who range from 18 to 23 years of age. In terms of the data gathering instruments, the researchers used questionnaires to determine the profile, the number of hours of sleep, and grade point average of the respondents. The number of hours of sleep and GPA were found to have a minimal relationship in the study. The majority of the respondents agreed that the number of hours of sleep affects an individual's academic performance, while the rest stated the opposite because there are other factors to consider such as class schedule, subjects, professors, extracurricular activities, health status, daily activities, and leisure activities. Furthermore, the survey revealed that a large number of students at the College of Allied Medical Sciences were not obtaining enough sleep. So, despite the fact that there isn't much of a link between sleep and GPA, this finding among students should be taken seriously by professors and school administrators, as previous studies have shown that inadequate sleep affects not only a person's cognitive function, but also other sleep-related issues such as diabetes and cardiovascular disease.

Moreover, in a study conducted by Balbin et al. (2018) that talks about the relationship of sleep and academic performance among senior high students in a selected higher education institution, researchers found out that teens and those who suffers from inadequate sleep (less than 7 hours) are more likely to face a heightened risk of failure in school. The researchers of this study used a simple random sampling survey and selected senior high school students of Manila Central University as their respondents. Researchers personally administered the research instruments to the respondents where they were given 2-3 minutes to finish the forms. After accomplishing the forms, researchers collected the data from one section and the results were tabulated.

In accordance, Toyong P. (2020) conducted a study entitled “Sleeping Habits, Classroom Behavior, and Academic Performance of SHS Students”. He noted that the number of hours of night sleep and academic performance had a significant positive relationship. That implied that a high

number of hours of night sleep is related to high academic performance. Students who got less sleep, on the other hand, performed poorly in school. He also concluded that classroom behavior and academic performance had a significant negative relationship. That implied that excessive sleepiness in class and negative classroom behavior are linked to poor academic performance. Based on the study, it stated the three most common reasons for students sleeping late were: using their Facebook and Messenger accounts, playing mobile games, and assignments and homeworks. Students were sleepy during class discussions, slept in class during vacant periods, and felt tired during classes, according to the three most common classroom behaviors. The findings of the study were supported by Drake et al. (2003) and the National Sleep Foundation (2015), who discovered that poor school grades are associated with sleepiness and sleep deprivation. When a child does not get eight to nine hours of sleep per night, his or her alertness and school performance suffer significantly. According to the study, students who did not succeed in school, had low school enjoyment, and frequent absences slept less and had high levels of daytime sleepiness.

However, a study conducted by Keanu Paul Sygaco (2021) entitled “The Correlation of Sleep and Academic Performance” showed that there is no significant correlation between sleep duration and academic performance. The researcher used a questionnaire that is divided into three parts: in determining the parameters of the number of hours of sleep, identifying the reason why they are sleep deprived, and knowing the negative outcomes for when they are sleep deprived. The first part of the survey has shown that students have a sleep duration of 6.85 to 7.40 hours. The second part shows the 3 major reasons why the students are sleep deprived are because of: being bombarded with school activities, usage of social media, and stress. While the last part revealed that the major result of sleeplessness is exhaustion, fatigue, and pessimism. To sum up, students can sacrifice a portion of their sleep to have their desired grades and be accustomed to the lack of sleep and difficult academic tasks.

In addition, Cabalo et al., (2017) in their correlational study about the “Relationship between Quality of Sleep and Grade Point Average in Physics among Grade 12 STEM Students in Golden Acres Campus for Academic Year 2017-2018” revealed that the students' GPA in Physics Class is unaffected by sleep quality because it does not alter their own thinking skills and abilities in the topic. Other aspects may influence, but they have not been recognized and investigated by previous studies. Upon analyzing the students’ responses, the researchers have gathered six factors that concern the sleep of the students. These are sleep duration, subjective sleep quality, sleep latency, sleep disturbances, daytime dysfunction, and habitual sleep efficiency. Furthermore, as the study suggests, the correlation between the two variables is insignificant, implying that a student's sleep quality has little bearing on their Grade Point Average, therefore refuting the title.

Moreover, a study by J.N Raca et al., (2021) analyzed the correlation of the third-year medical technology students' amount of sleep, screen time, and physical activity to their Academic Performance. A descriptive correlational method was used in the study to describe the relationship between variables. With 237 respondents, the researcher obtained the data by self-administered online quizzes through Google Forms. The study has shown no significant relationship between students' amount of sleep, screen time, and physical activity to their Academic Performance.

Additionally, in a study conducted by Jorge II, Villalobos, and Nuñal (2020) entitled “A Descriptive Study on the Sleeping Habits and Correlation of Sleepiness with Academic Performance in a State University-run Medical School in the Philippines” a total of 426 medical students participated in the online questionnaire. However, only 326 out of the 426 had complete GWAs and were thus included in the final correlation study. The average medical student is "sleep deprived," sleeping about six hours each night, which is two hours less than the recommended amount of sleep. They discovered that there is no substantial difference in

academic performance between individuals who are overly sleepy and those who are not when it comes to sleepiness. Despite sleeping less than eight hours, increased sleepiness does not link with poorer academic performance among these medical students.

In accordance, In a research study conducted by Sygaco (2021) entitled "The Correlation of Sleep and Academic Performance" 50 Grade 12 Senior High School students who are taking Science, Technology, Engineering, Agriculture, and Mathematics (STEM) at Siliman University were chosen to participate in the study. In a given size of 50 respondents, only 34% are not sleep deprived while 70% of students are having partial sleep deprivation because they spend the majority of their time on schoolwork, producing projects, and engaging with social media. The top three outcomes of sleep deprivation according to the survey are fatigue, exhaustion, and pessimism as well as a decline in thinking. Hence, the best way to reduce sleep problems is to practice time management, create a comfortable resting environment, and spend less time on social media.

Furthermore, in a study conducted by Daileg, et al. (2019) the impacts of stress, an intense feeling of anxiety, to the academic performance of grade 12 students at BestLink College of the Philippines, sleep deprivation was emphasized as the primary source of stress in their everyday academic life. Sleeping late during night resulted in late getting out of the bed and missing their chance to attend school. Missing a day of school made the respondents feel uneasy and afraid of being rejected during graded recitations. Moreover, the information intake of students is affected since they missed a day/ s in school greatly affecting their examination and activity. Inadequate amount of sleep is associated with stress induced to students that later on affect their academic performance based on a descriptive study that examined 50 participants through a survey method. The researchers suggested fixing their sleeping schedule in order to come to school and take attendance, and pass the prerequisites like examinations and projects.

Chapter III

METHODOLOGY

Research Design

Since the major goal of this study is to see if there is a link between sleep duration and academic performance, the quantitative correlational design method will be used. A correlational study, according to Waters (2017), is a quantitative method of research in which you collect two or more quantitative variables from the same group of participants and the researchers try to determine if there is a relationship between the two variables. This design also suggests that the researchers in the study will not attempt to control or manipulate the variables in the same way that they would in an experiment. In a correlational method, the researchers can formulate relationships and prove the presence of existing relationships of variables, whether or not the variables are related. The use of correlation will show if there is a relationship between sleep duration and academic performance of a student. In this manner, the researchers will be able to demonstrate that there is a relationship between the two variables.

Research Locale

The research will take place at Commonwealth High School, a public high school that is located at Ecols St., Brgy. Commonwealth, Quezon City. This location was chosen since the school accommodates Senior High School students, making it easy for researchers to collect data. Students will also be the best responders since they will be able to express their present understanding of the topic since they are the ones experiencing the problem firsthand.

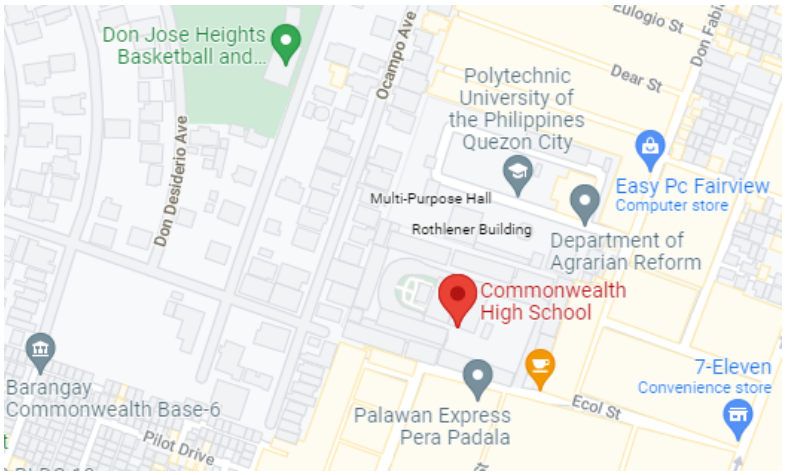

Figure 2. Commonwealth High School as the Sampling Site

Sample and Sampling Procedure

The chosen respondents of the study are the Senior High School students of Commonwealth High School. In this study, quota sampling is used. The researchers would be gathering 50 students from grade 11 and 50 students from grade 12 giving a total of 100 respondents.

Grade Level	Number of Participants
11	50
12	50
Total:	**100**

Research Instrument

The research instrument of this study is through questionnaires to gather information from Commonwealth Senior High School students. A questionnaire is a research tool that consists of a series of questions designed to elicit information from respondents. The survey is through Google Forms, which consists of three parts. The first part consists of the respondent's

demographic profile which includes their name, sex, and year level. Moreover, the second part is their sleep duration (number of sleep hours). Lastly, the third part consists of questions that will assess their academic performance, in terms of first-semester grade, class participation, attendance, and submission of the activities.

Data Gathering

The following steps will be taken for this study:

Step 1: The researchers decided for the number of samples they will accommodate For the sample size, quota sampling was used.

Step 2: The researchers created a survey questionnaire which was validated by the research adviser before handing out to the target sample.

Step 3: The questionnaires created by the researchers will be given to the target respondents.

Data Analysis

The data analysis process is a method for analyzing the data that has been collected. Once the data has been distributed and collected, the results will be arranged visually through tabular presentation and graphs, evaluated statistically, and the data will be interpreted based on their findings.

Statistical Treatment of Data

The questions and findings of the survey of respondents were organized by the researcher. The Pearson's Correlation Coefficient was chosen as the statistical technique by

researchers to investigate the relationship between sleep duration and grade-point average among SHS students at Commonwealth High School.

The standard table for interpretation of the correlation was stated below:

Formula:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

VERBAL INTERPRETATION

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	Negligible correlation