



Sleeping Pattern, Stress Level and Academic Behavior of Students Enrolled in Health Related Programs

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ABSTRACT

The researchers believe that by identifying the different factors that may influence one's academic behavior would enable the learners to be successful in their educational journey. This paper sought to compare the relationship between sleeping pattern, stress level and academic behavior of students enrolled in health-related courses.

This descriptive-correlational study was anchored on Johnson's Behavioral Model and Selye's Stress Theory. The study investigated the relationship between sleeping pattern, stress level, and academic behavior among 213 students enrolled in a Health-Related Course. Participants were gathered by the use of convenience sampling. Pearson-product moment correlation coefficient formula was used for data analysis.

Results revealed that during week days and weekends, the students have an *adequate sleeping pattern* but during their on-the-job-training days their sleeping pattern was *inadequate*. The stress level that they experienced was *moderate*, while their academic behavior in terms of academic self-management was *satisfactory*, academic motivation was *moderate*, academic activity was *high*, and overall attitude toward study was *positive*. There was no significant relationship between stress level and academic behavior. Sleeping pattern during weekdays has a negative relationship with academic behavior in terms of academic activity ($p < .05$), self-management ($p < .01$) and over-all attitude towards studies ($p < .05$).

The result suggested that there was a significant difference in the academic behavior of students when their age, gender, monthly allowance, and academic program were considered. Students enrolled in Bachelor of Laboratory Science demonstrated a more positive attitude toward studies, engaged more in academic activity and demonstrated better self-management, while those enrolled in Dentistry exhibited better academic motivation as compared to those enrolled in other health related programs. Researchers suggest that a follow-up study involving other institutions should be conducted for the benefit of result comparison.

Keywords: Sleeping Pattern, Stress Level, Academic Behavior

INTRODUCTION

Globalization and technological revolution made education the very first step for every human activity. Learning is a continuous process. Age and status in life do not limit an individual's

capacity and capability to learn whether it is a new skill or refining an old one. It is defined as an acquired skill from being taught or through the study process. Education is the medium by which an individual achieve success in his or her life.

Sleep, on the other hand, is an integral part of human health and life and plays a vital role in learning, performance and maintaining physical and mental health. Sleep patterns and stress has a major influence on learning, or in this case, academic behavior. The amount of sleep that one gets shows in the way the students study. As stated by Arhberg, Dresler, Genzel, Niedermaier and Steiger (2012), "Sleep quality has significant effects on cognitive performance and is influenced by multiple factors such as stress".

Sleep patterns and stress has a major influence on learning, or in this case, academic behavior. The amount of sleep that one gets shows in the way the students study. If they have gotten enough sleep, students are more awake, able to take notes in class, and able to participate with the lecture and discussions. When one does not have enough sleep, they tend to have daytime drowsiness and are unable to focus.

Stress is the bodies' reactions both neurologically and physiologically to adapt to a new condition. "Students can be stressed due to different stressors such as academic, financial, health related or loss of a close family member or friend, etc." (Siraj et al, 2013). Stress affects academic behaviors in that the more stress one feels, the less likely that individual is able to focus on their work and get requirements done. Students have a tendency to wait till the last minute to finish requirements which leads to a greater pile of work to be done, and thus increasing their stress level due to an overload of work that must be completed in a very short amount of time. This then leads to a decrease in their sleep because of cramming. Studying is the backbone of success in a student's life.

Success in learning is not only about how smart a student is. It is also seen as a result of how they conduct themselves, or their academic behavior. Academic behavior is how students learn in a systematic and efficient manner when given the opportunity or chance. According to Rogel (2012) it is "the devotion of time and attention to acquire information or knowledge, or in other words, it is the pursuit of academic knowledge by a detailed investigation of a subject or situation". In other words, it is anything that pushes students to do well in school.

When students don't have a positive academic behavior, it can lead to academic failures. For example getting low grades, failing the subject, or dropping out of school are examples of

negative academic behavior. Stress and impaired sleeping patterns can attribute to negative academic behavior. When a student isn't getting enough rest, they have may have a more difficult time arising for early morning classes during the week and increases sleepiness during the week. Although the main goal of a post-secondary institution is to facilitate education and intellectual function, scholastic achievements can be optimized by supporting the *whole* student, including their health and well-being. When students are healthy, they are more able to concentrate on their studies and reach their potential" (Versaevel, 2015).

Considering all this existing in the background and how these will somehow predict the future of the students, the researchers will explore on these ideas. Hence, this study was developed to see the effect of sleep pattern and stress on academic behavior.

LITERATURE REVIEW

Sleeping pattern

Rest and sleep are essential components of physical health, mental well-being, and energy restoration. All individuals require certain periods of calm and lesser activity so that their bodies can regain energy and rebuild stamina. The need for rest and sleep varies with age, developmental level, health status, and activity level. (Greive et al., 2014). Not getting enough sleep could cause sleepiness during the day. It can decrease an individual's ability to function. Young adults need at least 8 ½ to 9 ¼ hours of sleep each night. There is much evidence that reduced sleep quantity and/or quality may adversely affect cognitive abilities, general health, and feeling of well-being. Traditional-age college students are often engaged in the young adult tasks of exploring and extending the boundaries of independence and in determining their own lifestyle rules, particularly concerning sleeping schedules (Buboltz, et al., 2009).

Stress

It is impossible to remove all stress from our everyday lives. "Stress is the body's nonspecific response mechanism towards demands or strains made on itself or the environment. It is a process by which we perceive and cope with environmental threats and challenges" (Siraj et al., 2013). Stress means different things to different people and usually it is linked with negative feeling. College is indeed a stage in student's life where all types of stress are encountered. "The effects of stress can be positive or negative. Positively used, stress can be a motivator for an improved quality of life. Stress can be negative, when it becomes destructive as a result of

how an individual negatively perceived it and reacted to it” (Kumari, 2012). Any stimulus that produces a stress response is called a stressor. A stressor may be almost any disturbance of the human body-heat or cold, environmental poisons, toxins given off by bacteria, heavy bleeding from a wound or surgery, or a strong emotional reaction (Tortora, 2011).

Commonly identified sources of stress for young adults include financial concerns, school or personal life balance, and lack of free time. Additionally, if a student is working full or part-time while they are pursuing their education, that can further increase stress levels (Versaevel, 2014). Poor time management and if one has a heavy workload which is associated with course requirements may lead to stress with academics, which is seen more often than not.

Academic Behavior

A student's behavior can affect his or her ability to learn. Academic behavior is defined as the regular tendency and manner that one portrays during the process of learning or taking in information (Venturina, 2014). Behavior academic outcomes refer to the changes that student actions can have on the ability to maintain good performance in the classroom. According to Concordia Online Education (2016) as academic behavior outcomes relate to negative situations and poor actions by students, the classroom environment becomes less positive and teachers can struggle to provide the best education to the entire class. Positive changes to the behavior of students can improve the academic outcomes at any grade level. When stress increases it can negatively impact academic performance and poor performance then contributes to increased stress.

METHODS

This quantitative study utilized the descriptive-correlation research design to determine the relationship between sleeping pattern, stress level, and academic behavior of students enrolled in health-related programs and was anchored on Johnson’s Behavioral Model and Selye’s Stress Theory. A quantitative method emphasizes objective measurement and the statistical, mathematical or numerical data collected through polls, questionnaires and surveys or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon” (Babbie, 2010). “A correlational research design is the measurement of two or more factors to determine or estimate the extent to which the values for the factors are related or change in an identifiable pattern” (Privitera, 2016).

Participants were gathered by the use of convenience sampling. Pearson-product moment correlation coefficient formula was used for data analysis. The participants were from the 3rd and 4th levels of the nursing and medical technology programs and 5th and 6th year from the dentistry program. The respondents were all enrolled during the second semester 2015-2016 at the Adventist University of the Philippines.

There were a total of 213 respondents for this study. Of these 213, 61 were male and 152 were female. From the 213 respondents, 50 were in the 18-19 age group, 109 were found to be in the 20-21 age group, 30 were in the 22-23 age group, and 24 students were in the age group 24 and above. The majority of the population comes from the age group 20-21, which is the common age of third year college students in the Philippines. There were 103 respondents enrolled in medical technology, 90 enrolled in nursing, and 20 in dentistry.

For its instrumentation, this study adapted the Academic Behavior Scale, Sleeping Pattern, and the Perceived Stress Scale. Each participant was given one set of questionnaire consisting of four parts. The first part was the demographic profile which includes the age, gender, program of discipline and the monthly allowance. The second part was the Academic Behavior Scale from the study “Social Engagement and Academic Behavior of Nursing Students” by Gracia, Georgette, and Vannak (2016). Third part of the questionnaire was the Perceived Stress Scale consisting of 10 questions to assess the stress level by Cohen (___). Fourth part was the sleeping pattern questionnaires constructed by the researchers.

RESULTS

Table 1. **Sleeping Patterns of Respondents**

	Mean	Standard Deviation	Verbal interpretation
Weekdays	7.09	1.626	Adequate
Weekends	8.42	1.618	Adequate
OJT Sleep	5.94	1.626	Inadequate

*OJT-On the Job Training

Results of Table 1 shows that most respondents sleeps seven hours during the weekdays with a mean of 7.09 and eight hours during weekends with a mean of 8.42 and five to six hours during their clinical or on the job training with a mean of 5.94. The mean of the hours of sleep during weekdays and weekends is interpreted as adequate, which means that the students have

adequate amount of sleep during the week and the weekends. The mean hour of sleep during OJT however is interpreted as inadequate, which means that the students do not have an adequate amount of sleep during OJT.

Table 2. Stress Level: Perceived Stress Scale

In the last month, have you...	Mean	Standard Deviation	Verbal Interpretation
1. Been upset because of something that happened unexpectedly?	3.4742	1.01663	Moderate
2. Felt that you were unable to control the important things in your life?	3.2207	1.08730	Moderate
3. Felt nervous and “stressed”?	3.7371	.96953	High
4. Felt confident about your ability to handle your personal problems?	3.5728	.89052	High
5. Felt that things were going your way?	3.1925	.86632	Moderate
6. Found that you could not cope with all the things that you have had to do?	2.8498	.97418	Moderate
7. Been able to control irritations in your life?	3.3568	.90825	Moderate
8. Felt that you were on top of things?	2.8498	.91423	Moderate
9. Been angered because of things that were outside of your control?	3.2019	1.03778	Moderate
10. Felt difficulties were piling up so high that you could not overcome them?	3.0986	1.04369	Moderate
Stress Grand Mean	3.2554	.44946	Moderate

Table 2 shows the Perceived Stress Scale of the respondents in the last month. It presents that students have generally “moderate” stress level, with a grand mean of 3.2554, which means that the respondents experience some stressful situations. They “felt nervous and stressed” with a mean of 3.7371 meaning that the respondents felt nervous and stressed often. The respondents mark high on “felt confident about their ability to handle their personal problems” with a mean of 3.5728 which also means that they often felt confident about their ability to handle their personal problems.

Table 3. **Academic Behavior of Students in Terms of Academic Self-Management**

Academic Self-Management:	Mean	Standard Deviation	Verbal Interpretation
1. I turn in my requirements on time.	4.0329	.84331	Good
2. I do not evaluate my performances (Ex: reviewing my mistakes in exams or quizzes and keeping track of my standing grades).	3.3756	1.12425	Satisfactory
3. I set goals for my studies.	3.7793	.96307	Good
4. I manage to find ways to study in difficult settings	3.5164	1.10572	Good
5. I do not make necessary changes in my study habit for my academic improvements	3.1362	.96410	Satisfactory
6. I go to the instructor in charge to consult and communicate my academic concerns.	3.0516	1.04257	Satisfactory
7. I see to it that I study at least 30 minutes to 1 hour per day.	2.9859	1.26072	Satisfactory
Self-Management Overall Mean	3.4111	.60201	Satisfactory

Table 3 shows the academic self-management of the respondents. It indicates that students who enrolled in health courses have *satisfactory* academic self-management as indicated by the grand mean of 3.41111. Majority rate the highest in terms of turning in requirements on time with a mean of 4.0329, which is *good*. On the other hand, most respondent rated lowest on “I study at least 30 minutes to 1 hour” with a mean of 2.9859 which is *Satisfactory*. From the results it indicates that generally the students who are enrolled in health courses turn their requirements on time. However on the other hand it shows that average of the students find time to study 30 minutes to 1 hour a day.

DISCUSSION

This study sought to establish relationship between sleeping pattern, stress level and academic behavior among students enrolled in health-related courses.

National Sleep Foundation (2015) recommended that young adults aim to achieve 7-9 hours of sleep every night. Result showed that the respondents had adequate sleep during weekdays, which is at least 7 hours of sleep per night and an hour more during weekends. This confirms the findings of Albert as quoted by (Gikunda, Abura, Kiriunguy, & Odilla, 2014) in their study that as they lose sleep on the weekdays, they try to make it up on the weekends.

The respondents, on the other hand, have different schedules during OJT and it disrupts the sleep cycles, which might be possible as to why the respondents achieve less sleep during OJT. A recent study showed that increased weekend catch-up sleep (as an indicator of insufficient weekday sleep) is associated with poor performance on objective attention tasks where the number of omission and commission errors is measured in a computerized system (BaHammam, Alaseem, Alzakri, Almeneessier, & Sharif, 2012).

Having OJT during the school year and the need to attend regular class cause disruption in the regular sleeping and waking-up pattern or cycle for a given time, thus resulting in less hours of sleep during OJT weeks. Inadequate sleep means inadequate time for the body to recover from stressors.

Sleep plays a crucial role in cognitive and emotional functioning, especially during the period of adolescence when the biological sleep-wake cycle changes rapidly. Lifestyle changes brought about by completion of course requirements in college may be accompanied by profound alterations in the timing and duration of sleep.

The academic performance of adolescents is important for their psychosocial development and to prepare them for adulthood. The learning capacity and academic performance of adolescents may be affected by sleep quality or quantity because sleep plays important roles in attention and memory, (Curcio, Ferrara & De Gennaro, 2006).

Conclusion

Based on the findings of the study, the researchers concluded that the students in health-related programs of the Adventist University of the Philippines have “moderate” or normal sleeping patterns and are getting enough rest during the week and on weekends, despite not getting enough rest during clinicals or OJT. However, it should be noted that medical technology students in their OJT do not have any classes to attend, thus giving more time to rest whereas nursing and dentistry students are still required to attend classes and turn in assignments during

the clinical duty. The students are also experiencing a “moderate” amount of stress based on the perceived stress scale. The academic behavior of the students in terms of motivation, attitude, self-management, and activity is good, seeing as the results showed that the students range from moderate to high on the four determinants. There is also no significant relationship between stress and academic behavior, suggesting that the students’ stress level does not affect how they study.

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