



Faculty of Cognitive Sciences and Human Development

**THE RELATIONSHIP OF STRESS AND SLEEP QUALITY AMONG
UNDERGRADUATE COGNITIVE SCIENCE STUDENTS**

Cheong Car Lyn

**Bachelor of Science with Honours
(Cognitive Science)
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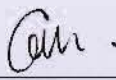
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**THE RELATIONSHIP OF STRESS AND SLEEP QUALITY AMONG
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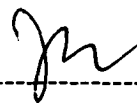
CHEONG CAR LYN

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Received for examination by:



(DR TAN KOCK WAH)

Date:

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Grade

A-

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ABSTRACT

Stress is a common problem in modern life. Most Malaysian students suffer from higher level of stress and poor quality of sleep without realizing that these factors contribute to negative affect. The present study aims to examine the relationship between stress and sleep quality. Stratified random sampling was applied in this research. 90 cognitive science students who from the University Malaysia Sarawak participated in this study by answering questionnaire. The questionnaire consists of demographic information, perceived stress questionnaire (Perceive Stress Scale (PSS)), and sleep quality questionnaire (Pittsburgh Sleep Quality Index (PSQI)). The result of the study shows that there is a weak relationship between stress and sleep quality. Those in the poor quality of sleep category report higher levels of perceived stress. Moreover, the findings showed that female students were higher stress than male students; first year students experience poor sleep quality than final year students. The results of the study also showed that the main effect of year of study was no significant difference on stress level. Besides, the main effect of gender also showed no significant difference on sleep quality. The study also found that there was no interaction effect between gender and year of study on sleep quality and stress. These implications should further promote the importance of sufficient, better quality sleep for students' health and well-being.

Keyword: gender, year of study, sleep quality, perceived stress levels.

ABSTRAK

Stres adalah masalah biasa dalam kehidupan moden. Kebanyakan pelajar Malaysia mengalami tahap tekanan yang tinggi dan kualiti tidur yang tidak memuaskan tanpa menyedari bahawa faktor-faktor ini menyumbang kepada negatif memberi kesan. Kajian ini bertujuan untuk mengkaji hubungan antara tekanan dan kualiti tidur. Persampelan rawak berstrata telah digunakan dalam kajian ini. 90 orang pelajar sains kognitif yang dari Universiti Malaysia Sarawak mengambil bahagian dalam kajian ini dengan menjawab soal selidik. Soal selidik terdiri daripada maklumat demografi, soal selidik tahap tekanan (Tahap Kesedaran Stres (PSS)) dan soal selidik kualiti tidur (Indeks Kualiti Tidur Pittsburgh (PSQI)). Hasil kajian menunjukkan bahawa terdapat hubungan yang lemah antara stres dan kualiti tidur. Mereka yang berada dalam kategori tidur yang kurang memuaskan melaporkan tahap tekanan yang lebih tinggi. Selain itu, hasil kajian menunjukkan bahawa pelajar perempuan adalah tekanan yang lebih tinggi daripada pelajar lelaki; pelajar tahun pertama mengalami kualiti tidur yang kurang baik berbanding pelajar tahun akhir.

Hasil kajian ini juga menunjukkan bahawa kesan utama tahun pengajian tidak terdapat perbezaan yang signifikan pada tahap tekanan. Di samping itu, kesan utama jantina juga tidak menunjukkan perbezaan yang besar ke atas kualiti tidur. Kajian ini juga mendapati bahawa tiada kesan interaksi antara jantina dan tahun pengajian pada kualiti tidur dan tekanan. Implikasinya akan terus mempromosikan kepentingan tidur yang cukup dan kualiti tidur yang lebih baik untuk kesihatan dan kesejahteraan pelajar.

Kata kunci: jantina, tahun pengajian, tahap tekanan, pengurusan masa

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Through this chapter, it also clearly mentioning why this research was conducted, what hypothesis will be tested, overview of this study and so on.

1.1 Background of study

Nowadays, stress is a common problem in modern life. Stress can come in different ways in an individual's daily life. Unfortunately, it is an unavoidable in every aspects of human life. Stress as a major problem in many countries. According to Life line Australia, adult accounted for 91% in Australia feel stress in one major area of their lives (Global Organization for Stress, n.d.). 50% of Australian feel very stressed about one part of their life (Global Organization for Stress, n.d.). Besides, a national survey conducted by the American Psychological Association (APA) found that average level of stress in United States is 4.9 (on a scale of 1 to 10).

Moreover, stress is not only experienced by adults. University students are no different than anyone else, as they too, experience the stresses and living in the tension in this fast-paced world. University life for students mean a period that may have many adjustments which may lead to increased stress. A person's lifestyle even mental health will be affected by stressor. Stress level will be reduced when a person takes a situation positively such as accept the stress situation as a part of challenge and to find a way to solve it. Students can also expect to deal with a variety of expected and unexpected stressors through their three to four years of university life. Pressure and stress in students are increasing gradually. There are a

high prevalence of stress among medical students which ranging from 30% to 50% (Yusoff, Rahim, & Yaacob, 2010).

Most Malaysian students suffer from excessive stress (Hj Ramli et al., 2018). Stress refers to “wear and tear” the bodies experience while it adjust to pressure or threatening circumstances (Behere, Behere, & Yadav, 2011). Franken (2007) stated that stress can view as the reaction of body to adapt to a new condition in neurologically and physiologically way. Different people perceive stress differently. According to Omura (2007), an individual think a situation as stressful may not be stressful for another. Academic failure, financial problem, health problem, or loss of family members may become a stressor for a student.

University students have a lot of responsibilities. They are trying to balance academic workload, a social life and an internship. It also is a main reason why many college students are poor sleep quality. Seven to nine hours of sleep for young adults ages 18 to 25 was recommended by National Sleep Foundation. Many students, however, are not reaching this target. University of Georgia’s website showed that, on average, most university students get 6 to 6.9 hours of sleep per night (Editorial Board, 2018). Many students do not have enough sleep and it elicit mental health problem. New Straight Times had reported an alarming increase in mental health problems among Malaysia students. Statistics show that from one in 10 individuals in 2011 to one in five in 2016 (Bernama, 2016). One of the experts, Dr Mohd Suhaimi Mohamad, said students will become depressed, suffer from schizophrenia even develop inclination to commit suicide. Sleep expert and psychiatrist Prof Dr Laura Palagini also mentioned for those who experience poor sleep quality are at risk of developing mental disorders like anxiety, metabolic disorders like obesity and cardiovascular disorders like hypertension and sudden cardiac arrest (Tan, 2018).

Some stress level can be a beneficial and positive force. However, too much stress can lead to tension and anxiety and can cause sleep problems (Rebello, Kallingappa, & Hegde, 2018). Lower stress level can relate with the longer sleep duration and higher positive affect. A strong association between sleep and stress among medical students was found by past study (Almojali, Almalki, Alothman, Masuadi, & Alaqeel, 2017). As mentioned above, medical students have high level of stress and it associate with sleep quality. It is important to find out which level of stress that cognitive science students experienced and whether it related to sleep quality.

1.2 Problem Statement

1.2.1 The relationship between stress and sleep quality among undergraduate cognitive sciences students

Everywhere we look, people these days are stressed out. A stress issue few of our grandparents experienced yet is so common today. Numerous studies were conducted to study about stress among students who undertaking professional courses such as medical and engineering studies (Waghachavare, Dhumale, Kadam, & Gore, 2013). Past research shows that, in Tamil Nadu, medical students who studying at final year significantly experience stress (Anuradha, Dutta, Raja, Sivaprakasam, & Patil, 2017). A research by Eva et al. (2015) indicated that both public and private medical schools students of Bangladesh suffered from stress. However, most studies reporting on stress level are from Saudi Arabia and Bangladesh especially for medical students. There are few known studies to be done in Malaysia regarding the stress among undergraduate students. Hence, it is interesting to discover of this topic.

Since sleep plays an important role in physical, mental health and cognitive process, poor quality of sleep can affect the academic performance of medical students (Almojali et al., 2017). Some studies have found that university students with a poor sleep quality have lower grade in their examination. According to Menon, Karishma and Mamatha (2015), students with poor sleep quality were able to dedicate fewer hours to study but it decreased ability to focus and eventually getting poor marks. Additionally, compare with those with better grades, students with marginal academic performance reported shorter sleep and more daytime sleepiness (Chung & Cheung, 2008). However, there were little to no research conducted on the relationship of stress with sleep quality among undergraduates student (Almojali et al., 2017). Hence, it shown a worthy topic to discuss on.

1.2.2 Undergraduates' demographic attributes (gender and year) affect their stress level.

According to Anuradha et al. (2017), female medical students have higher perceived stress scale score than male students. The study also shown that final year students were more stressed than the first and second years students (Anuradha et al., 2017). Additionally, a research by Shah, Hasan, Malik, & Sreeramareddy (2010) mentioned that female students in Pakistani medical school reported higher levels of perceived stress than their male counterparts. According to Ramteke and Ansari (2016), male students experiences more stress than female students and first year students reported more stress than final year students due to they cannot manage their stress in a better way. The findings on this topic were contradicting and more research need to be done to find out which gender, female or male, is most affected by stress (Agines, Anbumalar, Jaswanti, Priya, & Reniangelin, 2017). From the past studied that had mentioned, it can be conclude that most of the study discuss over gender and year of study on stress separately. Besides, some of the finding on this topic were contradicting. These contradictions of result also proved that it was a research gap and worth to discuss on.

1.2.3 Undergraduates' demographic attributes (gender and year) affect their sleep quality

Some of studies had shown that gender differences and years of study will affect the sleep quality. A research by Tobi Seun-Fadipe and Samuel Mosaku (2017) indicated that female students had a better sleep quality when compared with male. The research also reported that the students in final year of study will experienced poorest sleep quality (Tobi Seun-Fadipe & Samuel Mosaku, 2017). In addition, one of the past studies show that female students have worse quality of sleep than male and more awakening (Tsai & Li, 2004). This was supported by research of Fatima, Doi, Najman and Mamun (2016) which has shown that significant gender difference in the prevalence of poor sleep quality. The researchers also mentioned that female had a poor sleep quality than male. Besides, the first year and second year of medical students was reported poorer sleep quality than years of students (Correa et al., 2017). However, a study of Afandi et al (2012) had showed that there is no gender difference to their sleep quality. A research gap A little research had done also show that it was a research gap and worth to discuss on.

Nevertheless, there are very few known research that investigates how differences of gender and years of study affected stress and sleep quality among undergraduate and the relationship between stress and sleep quality among undergraduate cognitive science students. Therefore, to bridge the gap, a present research is proposed.

1.3 Objectives

1.3.1 General Objective:

This study attempts to identify the relationship between stress and sleep quality among undergraduate cognitive sciences student of FCSHD based on gender and year of study in University Malaysia Sarawak.

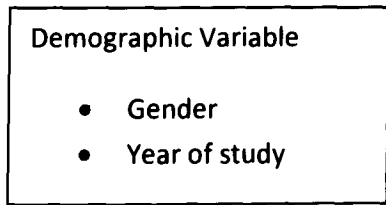
1.3.2 Specific Objective:

The specific objectives with this project are:

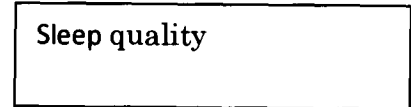
1. To study the relationship between stress and sleep quality among undergraduate cognitive sciences students.
2. To study if undergraduates' demographic attributes (Gender and year) affect their sleep quality.
3. To identify if undergraduates' demographic attributes (Gender and year) affect their stress level.

1.4 Conceptual Framework

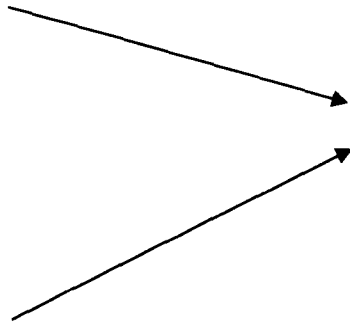
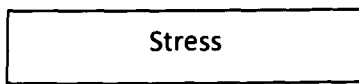
Independent Variables



Dependent Variables



Independent Variable



1.5 Hypothesis:

H_01 : There is no significant relationship between stress and sleep quality among undergraduate cognitive sciences students.

H_02 : There is no significant difference in term of undergraduates' demographic attributes (gender and year of study) on sleep quality.

H_03 : There is no significant difference on level of stress in term of undergraduates' demographic attributes (gender and year of study).

1.6 Definition of Term

1.6.1 Stress

Conceptual Definition: Stress is an internal state which is induced by external stressors. Stress refer to the reaction of body to adapt to a new condition in neurologically and physiologically way (Franken, 2007). Stress level will be reduced when a person takes a situation positively such as accept the stress situation as a part of challenge.

Operational Definition: Stress occurs individually among undergraduate student in the way of intentionally or unknowingly. Everyone perceived stress differently. In this context of study, perceived stress in term of the degree in which undergraduate cognitive sciences student's life are appraised as stressful. The perceived stress scale (PSS) as an instrument to measure students' stress level.

1.6.2 Sleep quality

Conceptual Definition: Without medical aid, how the person perceives the depth of sleep, the ability to stay asleep and whether easy to fall asleep. Sleep quality refers to sleep collection based on a total sleep time (TST), sleep onset latency (SOL), degree of fragmentation, total wake time even disruptive of the sleep (Krystal & Edinger, 2008). Pittsburgh Sleep Quality Index (PSQI) will be usded to measure sleep quality of students.

Operational Definition: Most of the undergraduate students may reduce their sleeping time in order to have extra hour for studying and complete their assignment. Thus, they will experience low sleep quality and it can after their health and academic achievement as well.

1.7 Significant of study

Through this research, it can add to the existing research and provide the knowledge about the relationship between stress and sleep quality among cognitive sciences students. Thus, to have better understanding about the stress level and sleep quality of students in various way.

Besides, this research will provide knowledge to cognitive sciences students about association between stress and sleep quality. From that, the students will have awareness of managing stress and have a good sleep quality in order to prevent from mental health problem. They will notice that their physical well-being and mental health matters more than a grade does.

This research gives an important information about the level of stress among undergraduate cognitive sciences students. The prevalence of stress and sleep quality not only the medical students, but also occur among cognitive sciences students. Thus, an intervention program such as how to cope with stress will be provided by the faculty of cognitive sciences and human development.

1.8 Limitation of Study

The limitation of this study is the study sample represents a single program which is cognitive sciences and only 90 participants are participating in this research. Thus, the limitation of the population cannot to generalize the whole population of undergraduates based on the stress and sleep quality.

1.9 Conclusion

This chapter has discussed about the research background, conceptual framework, definitions of terms, and so on. The objective was mainly to investigate the relationship between stress and sleep quality among undergraduate cognitive student in UNIMAS.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews about past researchers done for the stress and sleep quality. Besides, the stress and sleep quality among undergraduate students also being discussed and the stress across gender as well.

2.1 Stress

Stress is a common thing in our daily life. Everyone experiences it. Nowadays, students not only experienced stress but also face the sleep problem and depression as well. Because of such of these issues, it has a significant impact on students' health and well-being. A research by Lund, Reider, Whiting, and Prichard (2010) had applied the PSQI in their study in order to determine stress as a major contributor to poor sleep quality. The study reported that perceive stress and tension were important factors among other predictors of sleep quality which is consumption of alcohol and caffeine, and consistency of sleep schedule. In the study, perceive stress and tension accounted for 24% of the variance in PSQI scores and college lifestyles such as high-stress periods during final exams could perpetuate stress-related sleeping difficulties (Lund et al., 2010). Not only that, in a study of Chinese adolescents, which had stated that there was 13.5% of the variance in sleep quality score, which mean perceive stress was the most significant risk factor for poor of sleep quality (Chung & Cheung, 2008).

Stress is a combination of factors that affect everyone differently. Undergraduate students encounter the problems and situations may differ from those faced by their non-students peers (Lyrakos, 2012). Reaction to stressors may be different among various groups of individuals even among siblings. This situation obviously occurs among undergraduate

students. They are young, and their behaviour and actions as well are so inconsistent. This means that some of them do not feel stresses at all, while others can be in stressful state almost all the time (Lyraikos, 2012). The recent research of Cheung et al. (2016) had showed that experiencing of sleep problems, financial difficulty, relationship crises with family or friends would affect the nursing students to perceive mild to severe stress. Students had lower satisfaction of life while experiencing higher level of stress (Wong, 2008). It was believed that similar conditions might be found on other undergraduate students of different faculties (Cheung et al., 2016) Stress level will be reduced when a person takes a situation positively such as accept the stress situation as a part of challenge and to find a way to solve it.

There are a lot of news about students experience stress and lead to suicide. One of the committed suicide cases happened was on 4th April 2018 where a 20-year-old former Sijil Pelajaran Malaysia high achiever, jumped off a building due to could not deal with the stress (Fong, 2018). Another suicide case has happened on 29th August 2013, and The Star online reported a 20-year-old college student committed suicide from the 10th floor of a flat (Yeoh, 2013). This is because she was suffering from stress after having to re-sit six exam papers. It makes the country shocked. Besides, the Economic Times has reported a student commits suicide every hour in India (Birla, 2018).

A research of comparing undergraduate students stress level based on degree of program had shown students who studying medicine and health sciences were high level of stress (Elias et al., 2011). This is because the exposure of abundant psychological distress and personality predispositions. Besides, a high prevalence rate of depression among undergraduate students might relate to stress from both social and academic demands (Uehara, Takeuchi, Kubota, Oshima, & Ishikawa, 2010). Higher level of vulnerability to stress were associated with high levels of depression as well as anxiety.

Most research related to stress were done among professionals. Studies worldwide have reported a prevalence of stress among medical students from 27% to 73% (Brahmbhatt, Nadeera, Prasanna, & Jayram, 2013). Besides, high level of stress were reported in medical and engineering students (Behere et al., 2011). A clinical attention was required by medical and engineering students who had stress level of such a high degree. This was supported by the study of Sani et al. (2012) which have shown that the prevalence of stress among medical students is alarmingly high which is around 71.9%.

There are many instruments can measure stress such as DASS-21 (Depression, Anxiety and Stress scale) and Perceived Stress Scale (PSS). DASS-21 is an assessment tool for depression, anxiety and stress symptoms that can assess symptom severity whereas PSS is to measure degree to which situation in one's life are appraisal as stressful. Among the instruments, Perceived Stress Scale will be used in this study. This is because, in this study, the level of students perceived stress will be measured. Thus, PSS is most suitable scale when compared with DASS-21. PSS also widely used by many researchers.

2.2 Demographic attributes (Gender and year of study) and Stress

In study of Anuradha et al. (2017), female final year medical students have higher perceived stress scale score. This is because higher level of university education which causes more academic stress and they had trouble about their job opportunities after they graduated (Shah et al., 2010). Besides, highest prevalence of stress was found in the females who was studying in second year (Sani et al., 2012). This increased level of stress indicates a decrease of psychological health in medical students which may affect students' behaviour, diminish learning, and ultimately affect patient care. However, one of the research found that the interaction between gender and year of study with stress was not significant (Ramteke & Ansari, 2016).

The findings on this topic were contradicting and more research work need to be done to find out which gender, female or male, is most affected by stress (Agines et al., 2017). In addition, the major focus of previous studies was on identifying the factors that create stress and stress level among medical students. With the changing socio-cultural environment, these factors also vary in nature. During the four- or five-years program, many transformations take place in students. The different adolescent makes over into a confident youngster. In the present paper, researcher discussed over the students' stress level and sleep quality among cognitive sciences students. But do the year of study and gender have any significant difference on stress? Does the counselling strategy which planning by faculty need to more focus on which year and gender? Hence, this research was trying to find the answer of this tickling question. This research was useful as difference in gender as it relates to year of study is an important focus of research.

2.3 Sleep Quality

Sleep is one of our basic needs. It is very important for everyone. However, there is a common misunderstanding, which is, less sleep can be adequate as long as work functioning is maintained. Therefore, the percentage of Americans (men and women) sleeping less than seven hours per night had increase (Luyster, Strollo, Zee, & Walsh, 2012). Sleep can help the body maintain a fundamental homeostatic process. Lack of sleep will bring a series of major health issues such as diabetes and cardiovascular disease. Not only that, when compared with students without sleeping disorder, students who have the disorder will be getting low grades, greater feelings of sleepiness and more irritability.

Poor sleep quality could be connected to loss of REM (rapid eye movement) sleep (Afandi et al., 2012). Students who sleep less than eight hours per night miss some of the last two hours of REM sleep (Afandi et al., 2012). The last two hours of REM sleep was very important because the further processing of newly learned material will be occurred in these hours. Thus, the rate of student learn new things will be decrease if students experience poor sleep quality.

Sleep difficulties are highly prevalent among university students (Campbell, Soenens, Beyers, & Vansteenkiste, 2018). There is 60% of university students experience poor sleep quality (Lund et al., 2010). Sleep may not become a top priority among university students during their university life. They may feel stress and tension when the projects or assignments have not finish yet. Thus, they rather reduce their sleeping time to have extra hours for doing assignment or prepared for their examination. Accumulate a “sleep debt” will occur if university students spend their night with only sleep for one to two hours (Afandi et al., 2012b) . It leads to excessive daytime sleepiness. Besides, a study of sleep quality among university student had mentioned that students experienced from sleep disturbances and poor