A STUDY OF SLEEP QUALITY AND AGGRESSION AMONG YOUNG ADULTS IN MALAYSIA

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A RESEARCH PROJECT

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APPROVAL FORM

This research paper attached hereto, entitled “Sleep Quality and Aggression among Young Adults in Malaysia” prepared and submitted by” Hew Lai Mun, Ooi Jin Jin, and Wong Choon Wei” in partial fulfillment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

_____ Date: _____

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Abstract

In Malaysia, there have many young adults' issues which have related to sleep quality and aggression. Sleep quality can affect the academic performance, individual of psychological and physical health while aggressive behavior was mostly happened in young adults like vandalism. Sleep quality and aggression has proven there have correlated with each other. However, it was not clearly understood there have a correlated with each others. Thus, this study aimed to investigate the sleep quality and aggression among young adults in Malaysia. This is a correlational study that uses a quantitative, cross-sectional research design. A total of three hundred and ninety-two Malaysia young adults were recruited using convenient sampling method. Pittsburgh Sleep Quality Index (PSQI) and Buss-Perry Aggression Questionnaire (BPAQ) were used in this study. Pearson correlation test was used to measure the relationship between both variables which are sleep quality and aggression and the results presented significance. Independent t-test was used to measure between the gender difference and both variables, the results indicated that there was no significant between the male and female in sleep quality but male higher sleep quality than female. Furthermore, another result indicted that there was no significant between the male and female in aggression but male higher aggression level then female. Findings in this study can used as a fundamental of future research. The future study should be focus on different kind of occupation and education background, applying longitudinal design, and stratified random sampling to improve the generalization ability of results.

Keywords: sleep quality, aggression, young adult, and gender

DECLARATION

We hereby declare that the report entitled “Sleep Quality and Aggression among Young Adults in Malaysia” submitted is written by us and is our own effort and

that no part has been plagiarized without citations.

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Table of Contents

			Page
Abstract			i
Declaration			ii
List of Tables			vi
List of Figures			vii
List of Abbreviations			viii
Chapter			
I	Introduction	1	
	Background of Study		1
	Problem statement		2
	Significant of Study		5
	Objective of study		5
	Research questions		6
	Hypothesis		6
	Definition of variables		6
II	Literature Review	10	
	Gender Difference and Sleep Quality		10
	Gender Difference and Aggression		11
	Sleep Quality and Aggression		13
	Theoretical Framework		16
	Conceptual Framework		18
III	Methodology	19	
	Introduction		19
	Research design		19

Research Sample 19
Research Location 20
Instruments 20
Research Procedure 22
Pilot Study 23
Actual Study 23
Data Analysis 23

IV Results 25
Introduction 25
Descriptive Statistics 25
Inferential Statistics 28
Research Question 1 28
Research Question 2 29
Research Question 3 30

V Discussion and Conclusion 31
Introduction 31
Discussion 31
Limitations of Study 36
Recommendations of Future Study 36
Implications of Study 37
Conclusion of Study 38

References 40

Appendices
Appendix A: Participant Information Sheet 58
Appendix B: Demographic Information 59
Appendix C: The Pittsburgh Sleep Quality Index (PSQI) 60
Appendix D: Aggression Questionnaire (BPAQ) 62

Appendix E: Assessing Normality, Linearity, and Homoscedasticity using Scatterpot 66

Appendix F: SPSS Output of Independent Sample Test between Gender Difference and Sleep Quality 67

Appendix G: SPSS Output of Independent Sample Test between and Aggression 68

Appendix H: SPSS Output of Pearson Correlation between Sleep Quality and Aggression 69

List of Tables

Table 4.1 Descriptive Statistics for Participants' Age, Gender, Occupation, Religion, Ethnicity, Current Living State and Current Education Level.

Table 4.2 Independent Samples t-Test of Gender on Sleep Quality

Table 4.3 Pearson Correlation of Sleep Quality and Aggression

Table 4.4 Pearson Correlation of Sleep Quality and Aggression

List of Figures

Figure 1.0 A conceptualized model of Sleep Quality and Aggression.

List of Abbreviations

PSQI	Pittsburgh Sleep Quality Index
BPAQ	Buss-Perry Aggression Questionnaire
SPSS	Statistical Package for the Social Science

CHAPTER I

INTRODUCTION

Background of study

Sleep quality can be defined objectively as well as subjectively. Krystal and Edinger (2008) stated that it does not have a clear definition of perceived sleep quality (Krystal & Edinger, 2008 as cited in Goelema, 2018). Perceived sleep quality can be varied in every single individual; some may attribute it to no waking up at night, while others may attribute a short latency of sleep as a good quality of sleep (Goelema et al., 2017). Poor qualities of sleep over a long period of time have various negative effects on an individual's mental and physical health like obesity, prehypertension, behavioral problems and decreased cognitive ability (Gunnarsdottir, 2014). According to the study of Kesintha, Rampal, Sidik, & Thevandran (2018), they found out 24% of secondary students in Selangor have a potentially higher sleep quality problem.

In the previous study, people who have a poorer sleep quality may lead to metabolic syndrome and cardiovascular disease (Lai & Say, 2012). Another study stated that sleep quality can affect the stress level, depression and anxiety of the person (Wunsch, Kasten, & Funchs, 2017). Sepehr, Fazilat, and Afsoon (2016) stated that sleep quality can affect the academic performance of undergraduate students. Thus, it can be seen that sleep quality plays a main role in our life and it can affect our mental, health and performance indirectly.

Ferris and Grisso (1996) stated aggression is the behaviors that may harm to others, objects, or self-harming behaviors, which may be exerted in the form of physical or verbal behaviors. Dodge and Schwartz (1997) and Feshbach (1971) stated that there are various types of aggression; however, aggression is normally being categorized according to its' functions.

According to Feshbach (1970) as cited in Feshbach (1971), the most dominant and important classification of aggression is hostile aggression and instrumental aggression. According to Atkins and Stoff (1993), explicit hostile aggression can also be explained by the terms of affective aggression, which is a type of uncontrolled and emotionally charged of physical or verbal violence that may harm the victims by causing physical injury or pain. Besides, instrumental aggression is categorized as a type of controlling and purposeful aggression that harms the victim's social status without physical aggression (Atkins & Stoff, 1993; Crick & Grotpeter, 1995; Feshbach, 1970; Meloy, 1988).

Some researchers have even reported that males are more likely to engage in physical aggression while females most likely to express aggression in a very relative sense. For example, females tend to use their relationships to impose harm, such as, manipulate peers to hurt victims' feelings of social acceptance (Miller-Ott, Aimee, Kelly, & Lynne, 2013; Basow, Cahill, Phelan, Longshore, & McGillicuddy-DeLisi, 2007; Hadley, 2003).

Problem statement

Researchers have found out that 63.9% respondents with a poorer sleep quality in the medical young adult students of Universiti Putra Malaysia (UPM) and Universiti Malaya (UM), Malaysia. The prevalence of poor sleepers in UM (67%) was slightly higher compared to UPM (60.9%) (Ngu, Masalamany, Nizar, & Siti, 2017). In KhinThandar, Nurumal, and SitiNurhizwany (2016) study, they found out that the 51.5% of a total of 105 nursing students were poor sleepers and there was a significant association between sleep quality and academic performance. This showed that the young adult in Malaysia faced sleep quality issues. According to Radex and Kapreian (2013) stated that young adult students indicated that with decreased sleep quality, it affects their psychological and physical health complaints, feelings of tension,

decreased positive affect and life satisfaction. Another study also found out that sleep quality may link to some of the Depression symptoms and suicidal symptoms (Supartini et al., 2016). Thus, sleep quality is an important issue and needed to be studied in Malaysia.

The past study has found out that the young adult is more serious in violent issues like domestic violence, it can cause the people in injury or death (Liu, Lewis, & Evans, 2013). According to Abdullah, Ortega, Ahmad, and Ghazali (2015), they have done a research regarding the aggression in Malaysia, which indicate that the young adult people (21-30 years old) score moderate and high in aggressive behaviour. Another study also found out that 91% from a total of 1634 was having an aggressive issue, they also have the gender difference of male and female, the male was 52.2% while the female was 43.3% (Marret & Choo, 2017). Thus, it can be shown that aggression is happening around the young adult people in Malaysia. According to Lundskow (2013), the universities' young adult students with several problems such as academic stress, new community relation, and changing in life conditions will increase the chances of aggressive behaviour. This result also supports by the Alami, Shahghasemi, Ghochan, and Baratpour (2015), they stated that they have low tolerance against stressors and cannot manage well of their personal conditions. Another study found out that who have experienced the aggression, their emotional will more toward to anger, feeling of disappointment and feeling of helplessness, they also indicated that the victims who have experienced from aggression are easier in facing stress situation (Schablon et al., 2012). According to Collinson, Judge, Stanley, and Wilson (2014), they also have found out that most of the aggressors are involved in vandalism (31.8%), dangerous driving (20.2%), and fighting (18.5%). According to Goh (2006), the victims who have experienced the aggressive may develop psychological and personality disorder, experienced physical injury and death, show poor academic performance

and weak in the future career.

According to Kamphuis, Meerlo, Koohaas, and Lancel (2012), poor in sleep quality has proven to be correlated with conduct problems and aggression, which congruent with a recent study (Vaughn, Salas-Wright, White, & Kremer, 2015). Individuals who reported sleeping on average less than 5 hours per night are 3 times more likely to lose their temper and involved in physical aggression (Vaughn et al., 2015). From the evidence from different studies, aggression seems to comorbid with sleep qualities in different population, including children, adults, and clinical populations (Shin et al., 2005; Rauer & El-Sheikh,2012; Kamphuis, Dijk, Spreen, & Lancel, 2014). It is known that poor in sleep quality may decrease the ability of Prefrontal Cortex, which function as inhibiting the aggressive behaviors that may result in individuals unable to control their impulsiveness (Kamphuis et al., 2012). It may be the reason underlying when they acted out the aggressive behaviors either harming themselves or others. Studies have clarified that sleep quality and aggression is a negative cycle, not only poor in sleep quality will increase aggression, but aggression will also result in poor sleep quality (Kamphuis et al., 2014; Rauer & El-Sheikh, 2012). According to Dr. Jean Duffy (Changes in sleep with age,2007), every 7 out of 10 adults are having problems which may affect individuals' sleep quality. Among the age group, Older adults are most likely to experience poor sleep quality, followed by young adults, aged between 18 and 34 (Vaughn et al., 2015). Although older adults are more likely to experience poor sleep quality than young adults, however, young adults have display much more aggressive behaviors than older adults. For instances, aggressive behaviors such as gangsterism, bullying and verbal or physical insults to others who have lower power or status than them. In this case, the relationship between sleep quality and aggression among young adults are questionable whether does poor sleep quality did cause displaying higher

aggression level among young adults.

Significant of study

Young adults who have the least sleep duration or irregular sleeping time may result in poor sleep quality. Yet, they are the category which displays social aggressive behaviors such as burgle, antisocial behaviors, thieving and verbally or physically insulting others. In this case, the relationship between sleep quality and aggression among young adults are being examined to understand whether there is any relationship exists between sleep quality and aggression among young adults in Malaysia. This study brings an impact on future society to be aware of that having a poor sleep quality may indicate a higher level of aggression or vice versa. Other than that, it may also serve as the starting point for the education system to make some changes on schooling time especially for those who are pursuing studies in the morning or at night shift. Unsuitable schooling time may result in stress, which may decrease ones' sleeping quality or increasing the level of frustration ones' facing. It may then indicate a higher level of aggressive behaviors are more likely to occur under plenty of risk factors or a poorer sleep quality may be found among them. Other than that, it may also serve as information for society whether aggressive behaviors acted out by colleagues or friends around them are due to poor sleep quality or the situation are in the opposite effect, which may ensure in providing a relatively more relevant and useful suggestions or interventions regarding to this issue.

Objective of study

This study aims to determine is there a relationship between sleep quality and individuals' aggression level in daily life. Throughout this study, researchers are going to explore whether gender difference have a relationship with sleep quality and aggression individually since cultural value and biological factors may attribute to a person's behaviors.

Research questions:

Research questions in this study are as below:

(i) Is there any significant gender difference in sleep quality among young adults in Malaysia?

(ii) Is there any significant gender difference in aggression among young adults in Malaysia?

(iii) Does sleep quality correlate with aggression among young adults in Malaysia?

Hypothesis:

Hypothesis 1

H_1: There is a significant gender difference in sleep quality among young adults in Malaysia

Hypothesis 2

H_1: There is a significant gender difference in aggression among young adults in Malaysia

Hypothesis 3

H_1: Sleep quality has significant relationship with aggression among young adults in Malaysia

Definition of variables

Sleep quality. *Conceptual denifition***.** According to Rosipal, Lewandowski, and Dorffner (2013), sleep quality refers both to the subjective perception of sleep and objective measures derived from physiological. The interactional between subjective and objective can help to lead in a better understanding of sleep. In Buysse (1989), objective aspects are quantitative markers like sleep duration, while subjective aspects include beliefs about the depth and restfulness of one's sleep (as cited in Visser, Hirsch, Brown, Ryan, & Moynihan, 2014). However, many researchers come to a point that sleep quality is still poorly defined by most of the researchers as it depends on one's perspective view of their own sleep quality (Harvey, Stinson, Whitaker, Moskovitz & Virk, 2008; Krystal & Edinger, 2008 as cited in German & Turner, 2013). However, it still can distinguish the difference between good sleep and poor sleep. According to

the Harvey et al., (2008) and Buysse (2014), good sleep is characterized by subjective satisfaction, suitable timing, high efficiency, more energy, better psychological functioning and stay focused in waking hours. However, poor sleep is a key feature of insomnia, poor sleep can bring many negative outcomes in their life like feel fatigue. Since the sleep quality doesn't have a clear definition, past research stated that the sleep quality can be described from a wide range of aspects, such as difficulty in falling asleep, the length of time it takes to accomplish the transition from full wakefulness to sleep, difficulty in maintaining sleep, awakenings at night, premature final morning awakening, how refreshed a person feels after sleep and a person's own view of sleep quality (Tynjala, Kannas, Levalahti, & Valimaa, 1999).

Operational definition. Sleep quality was assessed by Pittsburgh Sleep Quality Index (PSQI). PSQI have separate in 7 components which are subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction (Luo et al., 2013). Subjective sleep quality is a subjective assessment of sleep quality, the second component of sleep latency is the length of time from full wakefulness to fall asleep. Sleep duration is the duration of sleep, the fourth component of habitual sleep efficiency is the amount of time spent sleeping compared with the amount of time spent lying in bed while sleep disturbances is the experience that disturbance to sleep. Sleep medications are whether one's is using any medicine like sleeping pills before sleep. Lastly, daytime dysfunction is a lack of enthusiasm to carry out daily functions like having trouble staying awake do any activity. The seven components were then summed to yield a global PSQI score, which had a range of –21, with higher scores indicating poorer sleep quality. A score worse (higher) than "5" value for bad sleep quality (Wunsch, Kasten, & Fuchs, 2017).

Aggression. *Conceptual definition*. O' Neal (1994) defined aggression as any behavior

that hurt, harm or injury to other people. Aggressive behavior can be conceptualized as the observable expression of aggression, which can be damage the persons (Liu et al., 2013). According to Anderson and Bushman (2002) have defined human aggression as “any behavior directed and immediately and intent to hurt people”. According to Allen and Anderson (2017) also stated that the aggressive behavior will hurt the victims, and the victims is motivated to avoid the behavior. A broad definition will include a broad range of actions or behaviors from the people which are in no harmful stimulation is introduced and purposely withholding info from another person to a lot of manifestation acts of verbal and physical aggression, it also can cause the violence. According to Bushman and Anderson (2001) stated that there are two types of aggression which is affectional and instrumental aggression. Affectional aggression is an aggression that can bring negative effect to the people. Instrumental aggression is an aggressive behavior to achieve the goal and is comparatively barren of effect. However, Bushman and Anderson (2001); Tedeschi and Felson (1994) mentioned there is not a clear distinction between effective and instrumental aggression; the theorists have recommended that abandoning the affective-instrumental distinction.

Operational definition. Studies from Buss and Durkee (1957) and Buss and Perry (1992) builded up four factors model of BPAQ, which consist of Physical Aggression, Verbal Aggression, Hostility, and Anger. It consists of total 29 items. Higher marks indicating a higher level of aggression individuals has.

Gender. According to America Psychological Association (2015), gender has defined as a person’s biological sex with association of their attitudes, feelings and behaviors. It includes the roles and expectation as males or females in their own culture. Hence, gender difference is being study in this research as aggression is viewed as a type of behaviors influenced by the

society and culture values.

Young Adults. *Conceptual definition*. As according to Tang and Woollacott (1988), young adults are being defined as the age range from 19 years old to 34 years old. They are the population group that might be undergoing further study or starting their careers.

Operational definition. In this study, the young adults are being used in the age range between 20 years old to 34 years old due to the ways statistic of population in Malaysia grouping the age range is from 20 years old to 24 years old.

CHAPTER II

LITERATURE REVIEW

Gender difference and sleep quality

According to the study from Fatima, Suhai, Jake, and Abdullah (2016), they found out that the young adults indicate a higher prevalence of poor sleep quality in females than males in young adults' population and indicate that there is a significant gender difference in sleep quality. In another study also found out that the sleep problem of the female was more affected than male and also indicate young adults are high risk at sleep problem (Manzar, Zannat, Kaur, & Hussain, 2014). These results also support by a study in targeting American adult population by the Burgard, Ailshire, and Hughes (2010) in University of Michigan Institute for Social Research. The research report found out that women have poorer sleep quality than men. According to Madrid-Valero, Martínez-Selva, Ribeiro do Couto, Sánchez-Romera, and Ordoñana (2016), they stated that hormonal changes in females' body may be the reasons that woman have a poorer sleep quality than man, as it will affect the physical, physiological, and psychological changes in woman. It may further increase the risk and event of problems occurred that related to sleep, reducing the sleep quality of woman. Another reason is the social norm and cultural they are living in, where females are being viewed as the person taking care of household chores. It can account for such gender predominance, which may affect their sleep quality indirectly (Arif et al., 2015).

In another study by Ferrara et al. (2015), they found out that males have a significantly higher activity during sleep loss than females, which may indicate that males have a higher risk of propensity to affect their sleep quality after a night of sleep deprivation. This result also supports by the Krishnan and Collop (2006), she stated that man have poorer sleep quality than

woman, they have lower sleep efficiency, longer sleep-onset latency, and shorter sleep times. According to Burgard and Ailshire (2013), they stated that women are more likely to reduce their paid work when unpaid work and caregiving responsibilities are highest, they have more flexible schedules that allow them to sleep more during the day. In another possible explanation is the lifestyle of the males is worse than females, such as not eating regularly, smoking and, less exercise. This reason also supports by the Fatima et al. (2016), they stated that most of the lifestyle factors seem to influence sleep quality in male subjects only.

Moreover, there are also some researchers did not found the significant gender difference in sleep quality (Galambos, Dalton, & Maggs, 2009). According to Carney, Edinger, Meyer, Lindman, and Istre (2006) also has stated that the findings showed no significant gender difference in sleep quality in college students. There are also have some study also found out the result of gender influence on the sleep quality of college students have been inconsistent (Suen, Ellis Hon, & Tam, 2008).

Gender difference and aggression

A study in Africa American found out that males' young adults in between the age of 18 to 34 are more likely to have reactive aggression (Vaughn, Salas-Wright, White, & Kremer, 2015). However, research by White and Turner (2014) was carried out to study the gender difference in type of aggression in between age of 18 years old to 23 years old. The result was consistent with a prior research by Bailey and Ostroy (2008) that males have a higher level of proactive aggression than females. However, the relationship between gender and reactive aggression was not being observed in the study, which may indicate that there is no significant difference across males and females throughout adulthood. In this case, the relationship the relationship between gender difference and reactive aggression among young adults are

questionable whether there is a relationship within it.

In type of aggression being used, researchers found out that females are more likely to use indirect aggressive behaviors than males (Lagerspetz, Bjorkqvist, & Peltonen, 1988; Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). It was being conceptualized as a force in intending to harm others either psychologically or socially through the way of social manipulation. However, the proportions of using verbal aggression are no significant difference among males and females. The results from males showed that they are more likely to involve in physical aggression while females are more likely to use indirect aggression to lower others' social hierarchical position while heightening themselves (Osterman et al., 1998).

It is known that aggression can be exerted in many ways. According to a study by Murray and Kristi (2014), males are about doubles of the frequency to injure their partner compare to females; while females reported that they are about four times more than men to be injured by their partners. This indicated that males are more likely to exert aggressive behaviors to their partners compare to females when they are in a relationship. In other forms of aggressive behaviors, Calvete, Orue, Estévez, Villardón, & Padilla (2010) found out that there is no gender difference, either they are as a cyberbully or cyber-victim, while other researchers found out that females are more likely to become cyber-victims compare to males (Balakrishnan, 2015; Beckman, Hagquist, & Hellström, 2013).

A study reveals that the mean scores on microaggression for females is higher than males, but the difference was not significant (Jones & Galliher, 2015). Although the results are not significant, it is still a field that may need to pay close attention to since the scores of females is higher than males.

In neurobiological aspects, studies have found out that the neurobiological factors that

impacted individuals regarding to their biological sex. Low level of basal cortisol is found in aggressive males while higher basal testosterone level in females are more likely to act aggressively (Yu & Shi, 2009). Other than that, Chester et al. (2015) have found out that a composite within monoamine oxidase A (MAOA) on the X chromosome is associated with general aggression. One of the main functions of MAOA is to regulate the emotion and mood (McDermott, Tingley, Cowden, Frazzetto, & Johnson, 2009). It somehow congruent with past studies and social perception that males are more aggressive than females because males have only one X chromosome in their sexual gene.

Sleep quality and aggression

According to Kamphuis, Meerlo, Koolhaas, & Lancel (2012) recently reviewed, there is a strong foundation for correlative research showing that poor in sleep quality and shortened of sleep will cause aggressive behaviors in healthy adults. This research has proof that sleep quality is important in determining one's behaviors.

A study from Taub (1977) involving two groups of healthy young men, one group usually have a sleeping duration in between 7 - 8 hours per night while another group have sleeping duration about 9.5 - 10.5 hours per night, were significantly higher in terms of anger and hostility in the mood. It congruent with a more recent study by Granö, Vahtera, Virtanen, Keltikangas-Järvinen, and Kivimäki, (2008) that individuals with shorter duration of sleep have a higher level of hostility, which are partly related to psychiatric issues. However, other studies did not demonstrate a significant positive relationship between sleep duration and aggression, hostility, or anger (Schubert, 1977; Pilcher, Ginter, & Sadowsky, 1997; Shin et al., 2005). In another study, the difference between desired duration of sleep and self-reported actual sleeping time was positively correlated to mood complaints in adolescents and students, but not in young

adults who are currently working (Oginska & Pokorski, 2006). In summary, studies in adults that correlate short sleep duration with days-time aggression are unclear.

In the Novaco Provocative Inventory by Waters, Adam, Binks, & Varnado (1993), a small group of participants with insomnia issues were being interviewed to determine how angry they will react to numbers of possible provocative situations. The results are congruent with the hypothesis that individuals who are facing insomnia issues scored higher in aggression level than the control group. Participants were undergoing a stress-emitting test, the results showed that those having sleep problems such as reducing of quality of sleep, and difficulty in falling asleep have a higher rate of heart beat and lower level of resistance towards environmental stressors (Waters et al., 1993), which indicating a higher level of body arousal.

In past two studies, U.S. college students were being recruited and interviewed regarding the frequency of experiencing mood changes in few couple of weeks by using the Mood States Profile (POMS) (Pilcher, Ginter, & Sadowsky, 1997; Lund, Reider, Whiting, & Prichard, 2010). The POMS is a questionnaire used to evaluate the mood fluctuations, such as anger, depression, tension, fatigue, and vigor. In recent weeks, participants with poorer sleep quality experienced relatively higher anger. In summarizing the above studies, adults who having sleep quality problems or facing insomnia issues are correlated with a higher rate and intensity of aggression displayed.

Moreover, Randler & Vollmer (2013), which using 4 different sleep- wake measures and 4 dimensions of the Buss Perry Aggression questionnaire in their study as their variable. They found that the four different sleep-wake variables were differently related to the four subscales of the Aggression Questionnaire. Sleep duration was the best statistical predictor to verbal aggression and anger. Another study from Freitag, Ireland, and Niesten, (2017) show that

subjective poor sleep quality predicted increased hostile attributions. The overall sleep experience was not associated with aggression levels. Both a poor sleep experience and low sleep quality were related to increased reactive aggression, but it is only in British participants. In addition, Hisler (2016) mentioned that lower sleep quality is related to poor tendencies to control of anger and higher susceptibility to become angry. Disrupted sleep seems to represent one risk factor for dispositions towards aggression and, ultimately, committing acts of aggression (Hisler, 2016).

There are existing evidence supports the relationship exists between anger expressions and poor sleep quality, which implies that anger may contribute to sleeping difficulties and difficulties in falling asleep. Concluding results from different studies, adults who are found to be easily get angry or suppressing their angry feelings reported difficulty in falling asleep and a higher rate of unwanted night awakenings (Caska et al., 2009; Ottoni, Lorenzi, & Lara, 2011; Shin et al., 2005). In addition, adults with a tendency of viewing others in more hostile ways reported a greater difficulty in falling asleep and remaining their sleep after an interpersonal conflict occurred (Brissette & Cohen, 2002). Although there is evidence that angry feelings can undermine sleep, there is evidence that disturbed sleep can increase anger (Kamphuis et al., 2012; Krizan & Herlache, 2016).

Above researches finding may indicate that the relationship between sleep quality and aggression is not a one-way influence, but a negative cycle that either one of the factors may affect another, and results in higher aggressive level and poorer sleep quality in a long run. Varieties of study were carried out to study the relationship between sleep quality and aggression, regardless of sleep quality affects aggressive levels or aggression may affect sleep quality. However, the relationship between sleep quality and other aspects of aggression expression is

worth to understand whether which aspects of aggressive level will be higher when individuals having poor sleeping quality.

Theoretical framework

Cognitive-energy model. The cognitive-energy model was developed by Zohar, Tzischinsky, Epstein, and Lavie (2005) link between the sleep and emotional as they believe that sleep can provide energy in controlling of the personal self-regulation, the levels of energy of self-regulation will influence the intensity of the emotional in a personal reaction. The higher behaviour-regulation, the higher cognitive energy costs.

The cognitive energy associated with self-regulation is a critical resource because it is limited, used up easily, and take time to recover before delay further undermines regulation efficiency (Zohar et al., 2005). This model believes that sleep loss, which considered as sleep quality can bring an effect on cognitive energy supplies; it will indirectly affect the performance on cognitive test that required self-regulation ability like psychomotor tasks, and in a significant decrease in the subjective assessment of energy levels. It also has stated that sleep loss will cause people to feel drowsiness, exhausted, and confusion the following day (Zohar et al., 2005).

This model also indicates that as a person have lesser sleep duration, the lower of their energy. The negative emotion will influence their behavior because it needs to consume depleted resources while presenting a smaller likelihood of successful coping and also will lead to in the threatening situation. Good quality of sleep can provide a positive emotion that can successfully accomplish the task and not lead to the threatening situation.

General Aggression Model (GAM). GAM is a model developed by Anderson and Bushman (2002), which considered as a comprehensive and integrative framework that include multiple factors such as social, cognitive, developmental and biological into consideration to

study human aggressive behavior (DeWall, Anderson, & Bushman, 2012; Anderson, & Bushman, 2002; Anderson, & Carnagey, 2004; DeWall, Anderson, & Bushman, 2011). As cited in Allen, Anderson, & Bushman (2018), it was being chosen as it included many other theories of aggression and unifying it into a more comprehensive model. For example, social learning theory, script theory, cognitive neoassociation theory, excitation transfer theory, and social interaction theory. Due to its' combination of others theory, it has been widely used in varies of aggressive context such as intimate partners' violence, media violence, domestic violence, intergroup violence et cetera.

GAM consists of two domains, which are proximate and distal processes (Allen et al. 2018). Proximate processes explain the expression of aggression in three stages, which are inputs, routes, and outcomes (Allen et al. 2018). Inputs are the stages that determines the likelihood ones may be influenced by their internal state, including cognitive, affection, and arousal in stages two (Allen et al. 2018). Increasing the likelihood to act aggressively are considered risk factors while another way is considered as protective factors. In stages two, the person and situation factors are considered to determine whether to act aggressively or not as it influenced their appraisal and decision-making process (Allen et al. 2018). In stages three, ones are about to decide the ways to respond to person or situation, which will influence the person and situation later, recycling the proximate process (Allen et al. 2018). The second aspect is distal processes. It is a process that occurred under each stage of proximate processes (Allen et al. 2018) as it outlines the way biological and persistent environmental factors together in influencing ones' personality, which may change the person and situation factors later (Anderson, & Carnagey, 2004). Biological factors including hormones unbalancing, impairment in cognitive functioning, and lower level of serotonin or arousal (Anderson, & Carnagey, 2004). In environmental factors, it includes the

culture values imposed to a person, maladaptive parenting, violent and antisocial behaviors within family or peers' group, diffusion of responsibility and many other possible factors (Anderson, & Carnagey, 2004). It influenced individual' perception towards stimuli surrounding and further affected their emotion, arousal, and action to respond to the stimuli.

Conceptual framework

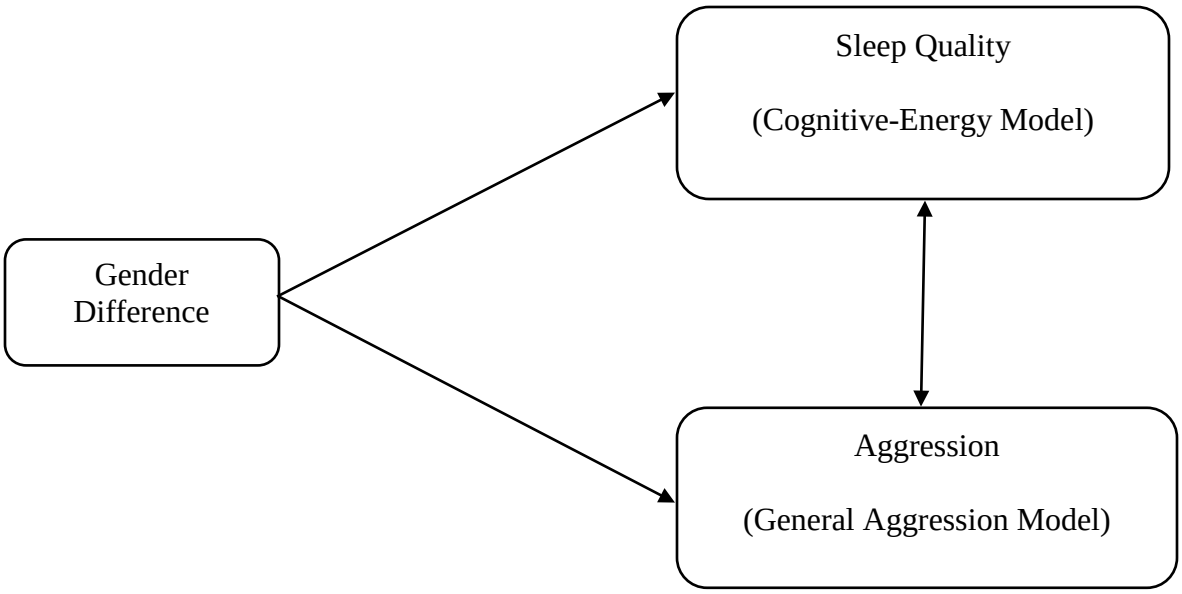

Figure 1.0 A conceptualized model of Sleep Quality and Aggression.

The conceptual frameworks above explain how Cognitive-Energy Model and General Aggression Model are interrelated. When an individual having high level of sleep loss results from a high level of emotional reactivity, it will increase the tendency to react to stressors aggressively. For example, young adults may sleep very late frequently or having poor sleeping quality due to the variety of stressors in daily life. When he had a long period of poor sleep quality, there is a high probability that they may lose in controlling their behaviors due to the ability of brain in regulating emotions may decline. However, if ones able to get a good sleep quality, he or she will able to reduce his tendency to act aggressively.

Chapter III

Methodology

Introduction

The main objective of this study is to examine the impact of sleep quality and aggression among young adults in Malaysia. The independent variable of the study is sleep quality whereas the dependent variable is aggression. Research design, research location, research sample, instruments, research procedure, pilot test and actual study and statistical data analysis will discuss in this chapter.

Research design

In this study, the cross-sectional design was selected as the participants are being recruited for participating in one time only. Cross-sectional design can determine the characteristics of different populations and researchers can predict correlation findings of the cross-sectional design (Thella & Laake, 2015). A quantitative approach was used to study a sample of young adults to understand the relationship between sleep quality and aggression in Malaysia. The research study was a correlation study to examine the relationship between the sleep quality and aggression. For data collection, the paper-pen method and online survey method were being used. The participants were obtained through convenience sampling method. Demographic questionnaire was designed in order to obtain the participants' demographic information. Data obtained from this method is considered as the most efficient and convenient way to collect data. The collected data will be applied in quantitative data analysis by SPSS.

Research sample

Malaysia total young adults of age between 20 to 34 years old is 8717339. The sample size was obtained by calculating the total population from Simplified formula for proportion

(Yamane, 1967) is 400. However, after comparing with Krejcie and Morgan (1970) sample size table, the sample size is 384. Dividing the sum of 400 and 384 from both sample size calculation methods a sample size of 392 was used for this study. To be qualified in participating in this study, young adults must be a Malaysian and age between 20 years old to 34 years old regardless of states in living and occupations. The proportion for males' and females' participants were almost equivalent due to the design of study. A total of 453 participants, including 195 males and 258 females from Malaysia were recruited to take part in the study. The data of the research were collected using convenient sampling method. The questionnaire was constructed using Qualtrics and was shared through social media like Facebook massager and paper-pen form to all the 20 to 34 years old young adult in whole Malaysia. This method is used as it allowed us to approach the targeted sample quickly and effortlessly as it only took less time and it is affordable.

Research location

In this study, the questionnaire was created using Qualtrics and was posted on few social networking sites, such as Facebook and Twitter, and also circulated through instant mobile applications, such as Messenger, WeChat and WhatsApp, and by paper pen form to attract more potential respondents.

Instruments

Pittsburgh Sleep Quality Index (PSQI). Pittsburgh Sleep Quality Index (PSQI) is a self-rated questionnaire which assesses sleep quality and disturbances over an l-month time interval (Luo et al., 2013). It is used to discriminating between "good" and "poor" sleepers and provides a reliable, valid, and standardized measure of sleep quality (Visser et al., 2014). PSQI has 19 items and grouped in 7 components which are subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and

daytime dysfunction (Visser et al.,2014). The component of subjective sleep quality which include item 9, sleep latency include items 2 and 5a, sleep duration include item 4, habitual sleep efficiency include items 1,3, and 4, sleep disturbances include items 5b to 5j, use of medication include item 6 and daytime dysfunction include items 7 and 8. For example, item 1 is ‘when have you usually gone to bed?’. It is a 3-point Likert scale (from 0 to 3 marks), 0 indicating no difficulty while 3 indicating difficulty, these seven components were then summed to yield a global PSQI score, which had a range of 0–21, with higher scores indicating poorer sleep quality. Each of the components have difference calculation like the component 1, 3, and 6 are the summation of the score, then the component 2, 5, and 7 are the summation of score from variety questions and then recode it to get the score, the last component which is component 4 is the hours of sleep divide by the hours of bed, then time 100 percentage to get the sleep efficiency in percentage and then recode it to get the score. A score worse (higher) than “5” is an empirically validated cutoff value for bad sleep quality (Wunsch, Kasten, & Fuchs, 2017). The Cronbach's Alpha of this assessment is ranged from .73 to .89 while the test-retest reliability is .77 (Kesintha et al., 2014; Hita-Contreras et al., 2014).

Buss-Perry Aggression Questionnaire (BPAQ). Buss-Perry Aggression Questionnaire (BPAQ) will be used in this study to measure individuals’ aggression level. It is being categorized into 4 aspects of aggression, which are physical aggression, verbal aggression, hostility, and anger (emotion). BPAQ consist of a total of 29 items, which is 9 items in Physical aggression, 5 items in Verbal aggression, 7 items in Anger and 8 items in Hostility (Berry& Puss, 1992). The subcategory of Physical aggression are 2, 5, 8, 11, 13, 16, 22, 25, and 29, the subcategory of Verbal aggression are 4, 6, 14, 21, and 27,the subcategory of Anger are 1, 9, 12, 18, 19, 23, and 28 and the last subcategory of Hostility are 3, 7, 10, 15, 17, 20, 24, and 26. For

example, the subcategory 9 of Physical aggression is “I am an even-tempered person”. It is being widely used across studies examining aggression level due to its’ high internal consistency. The alpha coefficient of different aspect are as follows: Physical Aggression (.85); Verbal Aggression (.72); Anger (.83); and Hostility (.77), with a total score of alpha coefficients .89 (Berry& Puss, 1992). The test- retest reliability is .68 to .80 (Webster et al., 2015). It is being measured in 5-point Likert scales, which from 1 indicating “extremely uncharacteristic of me” to 5 “extremely characteristic of me”. There are 2 reverse-score questions among the questionnaire, which are questions 9 and 16. The score can be calculated by separating it into the 4 different aspects or summing up the scores of 4 aspects to get a total score of aggression (Faris, Ishak, & Ahmad Ramli, 2016). Higher score of BPAQ indicated a higher level of aggression either in specific aspect of aggression or general aggression (Faris, Ishak, & Ahmad Ramli, 2016). Some of the example of questions are: “I have become so mad that I have broken things”, “I can’t help getting into arguments when people disagree with me”, and “my friends say that I’m somewhat argumentative”.

Research Procedure

A research proposal will be inspected and approved by our research supervisor, Ms Low Sew Kim. Ethnical clearance was obtained from the university before the distribution of the questionnaire. A pilot test was carried out next to identify the Cronbach’s Alpha value of the questionnaires and the possible problems might occurred during the commencement of recruiting participants.

After that, data were collected through online survey by using Qualtrics and paper-pen form. The hyperlink of the survey was shared on Facebook Messenger, and WhatsApp to the 20 to 34 years old young adults across Malaysia. Before taking part in the survey, respondents were

required to read the general instructions which included the informed consent. Next, if they do not have any enquiries, and are willing to participate in the study, they were required to proceed with answering the questionnaire. Lastly, after they completed the questionnaire, all the responses were submitted for the analysis of results. After collecting the questionnaires, the responses were keyed into Statistical Package for Social Science (SPSS) version 25. The data were kept in a computer by putting the password to ensure the privacy and confidentiality of the participants. Outlier data and uncompleted responses especially in the PSQI and BPAQ questionnaires were filtered out to avoid affecting the results. The data were then being analyzed by using SPSS version 25.

Pilot study

Pilot study was conducted in Kampar by recruiting 40 potential students in Universiti Tunku Abdul Rahman. The questionnaires were spread out by using paper-pen form. The data was collected within two weeks and was analyzed by using SPSS version 25. The reliability of the PSQI and BPAQ in Cronbach's Alpha were found to be .63 and .83 respectively, which were considered moderate reliability and good reliability respectively (Hinton, Brownlow, McMurray, & Cozens, 2004).

Actual study

Current Study recruited an amount of 453 respondents, with 195 of males and 258 of females. 61 of respondents were filtered out due to under the requirement age, unfinish data, outlier data or over-excessive female respondents.

Data analysis

In this study, SPSS Version 25 was used to process and analyze for the results data. The respondents' ages and categorical variables such as gender, religion, ethnicity, current living

state, and highest education level were measured in descriptive statistics in terms of frequency and percentage. Continuous variable such as PSQI total scores, and BPAQ total scores were measured in inferential statistics in terms of total numbers, minimum value, maximum value, mean, and standard deviation.

Outlier data were filtered out before further analysis of data by using boxplot to determine whether the data are outlier. Independent-samples t-test was used to understand the relationship between gender and sleep quality; as well as gender and aggression among young adults in Malaysia. Pearson-correlation was used to understand the relationship between sleep quality and aggression among young adults in Malaysia. Scatter plot was used to understand the relationship between sleep quality and aggression in visual form.

Chapter IV

Results

Introduction

This chapter presented the descriptive statistics of respondents' demographic data, such as age, gender, occupation, religion, ethnicity, current living state and education level. Then inferential statistics were presented by using independent sample t-Test and Pearson correlation to demonstrate the data obtained throughout the study.

Descriptive statistics

Table 4.1

Descriptive Statistics for Participants' Age, Gender, Occupation, Religion, Ethnicity, Current Living State and Current Education Level.

	N	*%*	*M*	*SD*
Age				
19	5	1.3	22.76	2.48
20	51	13.0		
21	86	21.9		
22	75	19.1		
23	71	18.1		
24	30	7.7		
25	19	4.8		
26	20	5.1		
27	10	2.6		
28	6	1.5		

29	12	3.1
30	4	1.0
32	3	.8
Gender		
Male	192	49.0
Female	200	51.0
Occupation		
Student	308	78.6
Employee	67	17.1
Employer	11	2.8
Freelancer	5	1.3
Others	1	.3
Current Living State		
Johor	68	17.3
Kedah	30	7.7
Kelantan	23	5.9
Malacca	96	24.5
Selangor	19	4.8
Negeri Sembilan	13	3.3
Pahang	6	1.5
Perak	105	26.8
Perlis	7	1.8
Pulau Pinang	19	4.8

Sabah	3	.8
Sarawak	1	.3
Terengganu	2	.5
Current Education Level		
PMR	1	.3
SPM	40	10.2
STPM	24	6.1
Bachelor	318	81.1
Master	8	2.0
PhD	1	.3

The data above reported that there were total of 392 respondents took part in this study. Among all the participants, participants with the age of 21 years old (21.9%) and 22 years old (19.1%) are the highest in percentage occupied in a total of 392 respondents. Respondents age range covered from 19 years old (1.3%) to 32 years old (.3%). The Mean age of the respondents are 22.76, with the standard deviation of 2.48. There was a total of 192 male respondents (49.0%) and 200 female respondents (51.0%) throughout the study after filtered out the invalid and outlier data. Most of the respondents are students (78.6%), followed by employee (17.1%), employer (2.8%), freelancer (1.3%) and others (.3%).

Respondents data with varies kind of religion were collected, ranging from Buddha (74.5%) to Others (2.0%) and one Missing Value (.3%). In terms of ethnicity, Chinese have the largest percentage (88.5%), followed by Indian (7.4%), Malay (3.3%), Others (.5%) and Missing Value (.3%). Respondents data from different state of Malaysia also collected but not equally

distributed, ranging from the highest percentage, Perak (26.8%) to Sarawak (.3%). In terms of current education level, bachelor's degree was the highest percentage (81.1%), followed by SPM (10.2%), STPM (6.1%), Master (2.0%) and PhD (.3%).

Inferential statistics

Research Question 1: Is there any significant gender difference in sleep quality among young adults in Malaysia?

Table 4.2

Independent Samples t-Test of Gender on Sleep Quality

	Sleep Quality					
	n	*M*	*SD*	*t*	d.f.	*p*
Male	192	7.05	2.78	-1.01	390	0.313
Female	200	7.35	3.05			

Note: $p < .05$.

H_1: There is a significant gender difference in sleep quality among young adults in Malaysia

The Independent Sample t-Test result has shown that there was no significant difference between male and female young adult in sleep quality at the .05 significant level, t (390) = -1.01, p = .31. The score for male (M = 7.05, SD = 2.78) and female (M = 7.35, SD = 3.05). Although there was no significance, the male has higher sleep quality than female. Thus, the H_1 was rejected.

Research question 2: Is there any significant gender difference in aggression among young adults in Malaysia?

Table 4.3

Independent Samples T- test of Gender and Aggression

	Aggression					
	n	*M*	*SD*	*t*	d.f.	*p*
Male	192	80.92	12.65	1.01	390	.312
Female	200	79.67	11.83			

Note: $p < .05$.

H_2: There is a gender differences in aggression among young adults in Malaysia.

Independent t-test was used to test the gender difference in aggression among young adults in Malaysia. The result show that there was no significant difference between male and female in aggression at the .05 significance level t (390) = 1.013, p = 0.31. The score for female (M = 79.67, SD = 11.83) and male (M = 80.92, SD = 12.65). Although there is no significance, the male high aggression level than female. Hence, the H2 was rejected.

Research Question 3: Does sleep quality correlate with aggression among young adults in Malaysia?

Table 4.4

Pearson Correlation of Sleep Quality and Aggression

	Aggression		
	r	*p*	d.f.
Sleep Quality	.281**	.000	390

Note: *Correlation is significant at the 0.01 level (2-tailed).

H_3: Sleep quality has significant relationship with aggression among young adults in Malaysia.

The Pearson Correlation showed that there was a significant positive relationship between sleep quality and aggression among young adults in Malaysia, r (390) = .281, p = .000. The higher the poor sleep quality, the higher the aggression level among young adults in Malaysia. Hence, the third research hypothesis was supported.

Chapter V

Discussion and Conclusion

Introduction

This chapter discussed about current research' results and the supports from the past studies' result. Next, this chapter also included conclusion of the study, limitations of the study, implications of the study, and suggestions for future study.

Discussion

Gender and sleep quality. The independent sample t- test shows that gender was not a significant factor in term of sleep quality. However, female showed poorer sleep quality than male in the mean score. There are several findings supported that female had poorer sleep quality than male.

They discovered important variations in sleep patterns and lengths between weekdays and weekends, according to Kabrita and Muca (2016). Males had bedtime considerably later than women on both weekdays and weekends, whereas women showed only on weekdays a considerably earlier rise time. These findings are consistent with those reported by others in Arab (Sweileh, Ali, Sawalha, Abu-Taha, Zyoud, & Al-Jabi, 2012) Portuguese (Allen-Gomes, Tavares, & Pinto De Azevedo, 2009) and Taiwanese (Tsai & Li, 2004) college students in the same age group as students in their research (17–25 years of era). In all these researches, females came sooner to bed and rose sooner, slept longer, and had poorer quality of sleep than male students. There were no significant differences between the two gender between weekdays and weekends in the past research. In their research, however, the magnitude of the weekday-weekend delay in bedtime and rising time was similar in men but not in women whose sleep seemed to be truncated on the weekdays. The quantity of phase delay in bedtime in women did not match the

comparatively longer delay in wake-up time on weekends.

Gender differences in poor sleep quality was also recorded for elderly populations (Luo, Zhu, Zhao, Guo, Meng, Hong, & Ding, 2013), but latest surveys have also discovered sex differences in young adults ' sleep quality (Hung, Yang, Ou, Wu, Lu, & Chang, 2013). The gender difference in sleep issues is primarily ascribed to the primacy of affective illnesses and socioeconomic disparities, indicating that these may be the pathway factors through which sex disparity in poor sleep occurs (Bruck, & Astbury, 2012 ; Arber, Bote, & Meadows, 2009 ; Sekine, Chandola, Martikainen, Marmot, & Kagamimori, 2006). Female's predisposition to bad sleep quality may be influenced by gender differences in sleep biology (Van Reen et al, 2013) or by some other variable that we have not included in our assessment like family history of bad sleep (Sehgal, & Mignot, 2011) and is further aggravated by greater affective illnesses such as depression in women.

Gender and aggression. According to the result of table 4.3 shown that there is no significant gender differences in aggression among male and female where the average of the male sample was shown to have slightly higher aggression level than the female sample with a mean of 80.92 as compared to the female which obtained a mean of 79.67. The past study has found out that the gender did not differ significantly in aggression, where the boys were more likely involved in physiological reactivity while girls more likely involved in relational aggression (Murray- Close et al., 2014). A Malaysian study also found out that the males more engaged in hostile aggression while females tend to use their relationships to manipulate peers by inflict harm (instrument aggression). The result showed no significant gender differences among young adults but with the males have slightly high level of aggressive behavior than females (Abdullah et al., 2015).

Since there is no significant gender difference in aggression but with the male having a higher level of aggression than female. According to Barthelemy, McCormick, and Henderson (2016), men were believed to be stronger than women while women reported that they have to experience the microaggression due to their culture and environment. In their culture, women need to present themselves as "women" characteristics, they show awareness in their performance and care for other peoples' perspective on them (Barthelemy, McCormick, & Henderson, 2016). However, these characteristics as an ideal match to the men so that they not treated women as well (Nadal et al., 2015). In a past study, the researchers found out that in Malaysia violence issues among intimate partners was least as compared to India, Iran and Pakistan while most of the victims was females (Lowe et al., 2018). Thus, it can be explained as male has slightly higher aggression than female. In Asian culture, there was a social expectation for a husband to chastise his wife, the wife needs to perceive it, if she violates, the husband will feel shame to himself (Khan, 2018). This statement also supported by Sue (2010) who described that the body of female was a "men's enjoyment of pleasure" (as cited in Barthelemy, McCormick, & Henderson, 2016). In Malaysia, the score of Global Gender Gap Index indicated that men and women were not considered equal in all respects as men retained their authority (Hirschman, 2016). Thus, it can see the position of women is lower than men in Malaysia, this can indirectly affect the aggression level of male as they have empowerment in this culture and environment.

Childhood experiences might be able to explain the result obtained from this study. A study of the meta-analysis regarding effects of childhood experiences on future violence and they found out that the family-of-origin violence will bring more impact on the development of males than females which indicated that males will be more aggressive than females. It is an important

to note that there is a relationship between the exposure of violence during childhood and future aggression level of gender differences (Dharnidharka et al., 2015). Additionally, a study found out that one third (36%) of 118 partner-abusive men had a history of family abuse or neglect as they acted out physical aggression on females (Webermann & Murphy, 2018). More specifically, males reported that they feel the world was unreal, soul dissociative from their body, and the memory of childhood's violence-related flashbacks (Webermann & Murphy, 2018). The childhood experiences also supported by the Albert Bandura's social learning theory which stated that the child living in the presence of family violence will be indirectly led them tend to have the aggressive behaviors (Cockrell, 2018).

Past studies found out that childhood abuse or neglect can affect the development of a region of the brain which was hippocampus (Riem et al., 2015; Teicher& Samson, 2016). The childhood abuse or neglect can cause the smaller size of the hippocampus which can lead to abnormalities in the dorsolateral prefrontal cortex, the function of dorsolateral prefrontal cortex was managing emotion and cognitive functions (Cockrell, 2018). Thus, a person who has experienced the childhood abuse or neglect will be less mental control over their aggressive behaviors. Additionally, a study found out that only male participants have significant hippocampal change as they have childhood's violence-relatedd while female participants did not significant hippocampal changes (Teicher& Samson, 2016). Thus, it can see that childhood abuse only can affect the hippocampus size of the male.

Sleep quality and aggression. The result showed that there was a significant positive relationship between sleep quality and aggression among young adults in Malaysia. It is congruent with the past study from Kamphuis, Meerlo, Koolhaas, & Lancel (2012) where poorer sleep quality and shortened of sleep will cause aggression behaviors in young adults.

Various past studies supported that poorer in sleep quality may result in higher aggression level in different ways. Research from Lund, Reider, Whiting, and Prichard (2010) showed that poorer sleep quality experience relatively higher anger. Randler and Vollmer (2013) concluded that sleep duration was the best statistical predictor towards verbal aggression and anger. Hisler (2016) in his study stated that lower sleep quality is related to poorer sleep quality is related to lower tendency to control ones' anger, and easily get susceptible to anger, while disrupted sleep may also one of the risk factors for disposition towards aggression. Another study also showed that subjective poorer sleep quality predicted higher hostile attribution (Freitag, Ireland, & Niesten, 2017).

Apart from that, some of the past studies also showed that higher in aggression level may have a higher tendency to experience poorer sleep quality. Individuals who were easily get angry or suppress their feeling have a difficulty in falling sleep and experienced unwanted night awakenings (Ottoni, Lorenzi, & Lara, 2011). It is congruent with another past research that individuals who had a tendency in viewing others in more hostile ways are also experienced a higher difficulty in falling sleep (Brissette & Cohen, 2002). Concluding from the past studies and our research, it applied to our research framework that sleep quality and aggression may both affect each other in the Cognitive-Energy Model and General Aggression Model. When individuals having poor sleep quality, their cognitive ability in appraisal and decision-making process may reduce, increasing the tendency to react aggressively. In other words, react aggressively may result in an awkward situation, which may influence individuals' internal states and their sleep quality indirectly.

Limitations of study

The limitation of this study was that the participants was not being recruited equally from all the states. Since this study was carried out in Malaysia, but there was not overall number of participants from different states. For example, 105 from 392 participants in Perak while only 1 participant in Sarawak. It may unable to represent the population of young adults in Malaysia. Other than that, most of the occupation of the participants was student (78.6%). Thus, it was difficult to make a statistical generalization from this study since the results needed to obtain from the general population of Malaysia. Besides that, there was various current education level of the participants, the difference education level of participants might have different perspective, belief, and opinion, it might not reflect their true results of aggression and sleep quality. According to Pfeffer (2015), the concept of educational quality was multi-dimensional concerning conceptualization, assessment, and measurement and it is difficult to assess through one perspective. In addition, the research design of this study was cross-sectional design, it was collecting the participants in a specific time only. Thus, the data collected may not able to illustrate the effects between sleep quality and aggression from time to time. Other than that, one of the sampling methods of this study was using online survey, the data collected through online survey may contain some of non-qualified data as they might not in the age range of young adults, from 19 years old to 34 years old.

Recommendations of future study

The recommendation of this study is to collect the equal amount of each current living state of the participants, so that the future researcher can compare the findings regarding the whole young adult in Malaysia for design an intervention that suitable for different culture background which come from different states. Besides, another suggestion for future study is to

recruit equally for different occupation in young adults. This can increase a more comprehensive understanding of the pattern of sleep quality and aggression among these different occupation background as different cultural backgrounds and lifestyles might influence the relationship. Next, suggestion for future study is to collect various kind of education background of the participants, future researcher can focus on more various type of education background to get a more significant result according to (Evans et al., 2014). For future study, longitudinal design and stratified random sampling is suggested to be used. Longitudinal design allowed future researcher to get a before-and-after results over time and to understand how it affects between sleep quality and aggression. Stratified random sampling method are suggested to use as it allows future researcher to recruit participants from different states equally.

Implications of study

Theoretical Implication. The theories applied in this study were Cognitive-Energy Model and General Aggression Model, which proposed that both sleep quality and aggression have relationship in affecting each other. Plenty of similar research had been done in other country context, but not much in Malaysia. Hence, it works as an opening to broaden the literature perspective of this aspect in Malaysia, which may also help in serving as an inside for future researches to carry out a deeper research.

In Malaysia context, we found out that there is no significant relationship between gender difference with both sleep quality and aggression among young adults in Malaysia. However, plenty of past researches carried out in western country or other context had found out there is a significant relationship between it. The contradiction of the results may provide an insight to future researches regarding the cultural difference or any other potential factors which may affect the relationship between gender difference with both sleep quality and aggression.

Practical Implication. Current study provides a better knowledge regarding the relationship between sleep quality and aggression among young adults in Malaysia. As for the age of young adults, they must go through the period of stress in education or workplace, and yet worrying about their future, they may ignore their sleeping duration and sleep quality. However, it may affect their daily routine indirectly and it may not be obvious to attribute it to the effects of having poor sleep quality. In this case, it provides a clearer awareness among our society that poorer sleep quality was positively related to increasing of aggressive level.

Secondly, although there was no significant relationship between gender difference with both sleep quality and aggression, however, the results showed that both males and females were having poor sleep quality and higher in aggression level. Since the results showed an average of poor sleep quality and aggression among young adults in Malaysia, it may lead them to thinking of the appropriate way to tackle this situation. Mental health professional or any other social support groups may help the society in figuring out the useful ways to increase their sleep quality and manage their emotion effectively. Other than that, mental health professional may also carry out psychoeducation from time to time in the form of talk, workshop, social media channel or media channel such as radio and television program.

Conclusion of study

From this research, it found out that there is no significant relationship between gender difference with both sleep quality and aggression among young adults in Malaysia. However, the results showed that there is a significant positive relationship between sleep quality and aggression among young adults in Malaysia. As according to Carole (2012), a global sum of five or greater than five was indicated as “poor” quality sleep. This showed that the participants recruited in our research had showed an average of “poor” quality sleeper, with an average of

above seven. In another aspect, data research also showed an above midpoint of aggression level among our participants too, scoring around 80 out of 145 in BPAQ. This may make a sense that congruent with our theoretical framework, which proposed that both the sleep quality and aggression have a significant positive relationship, yet one will be affecting another.

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Appendix A: Participant Information Sheet

UNIVERSITY TUNKU ABDUL RAHMAN
FACULTY OF ARTS AND SOCIAL SCIENCE
BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY

Sleep Quality and Aggression among Young Adults in Malaysia

We are students from Universiti Tunku Abdul Rahman (UTAR), currently pursuing Bachelor of Social Science (HONS) Psychology. This research is required to fulfill our Final Year Project (FYP). It takes less than 15 minutes in completing this research. In this research, we are going to examine the relationship between sleep qualities and aggression among young adults in Malaysia.

Your participation in this study is completely voluntary. In the process of participating this research, participants are allowing to withdraw at any time if you feel uncomfortable to the research. Personal information and data collected will not be exposed to third party other than the existing researchers and research supervisor for academic purposes.

Participating the research with honesty is expected to avoid generating a bias or wrong data in the future.

Before participating in this research, ensuring you are fulfilled with all the criteria below:

1. ***Identity as a Malaysian***
2. ***Age range in between 20 to 34***

Should you have any inquiries, feel free to contact us at choon5132@1utar.my. Your honesty in responding to the research is much more appreciated!

- o I've read and agree to participate in this research

Appendix B: Demographic Information

Section A: Demographic

1. Age : _____

2. Gender : O Male O Female

3. Occupation : O Student O Employee
O Employer O Freelancer
O None of above (Please specify): _____

4. Religion : O Buddha O Christian
O Hindu O Islam
O Others (Please specify): _____

5. Ethnicity : O Chinese O Indian
O Malay O Others (Please specify):
_____

6. Current living state : O Johor O Kedah
O Kelantan O Selangor
O Malacca O Negeri Sembilan
O Pahang O Perak
O Perlis O Pulau Pinang
O Sabah O Terengganu
O Sarawak

7. Current education level : O PMR/ PT3/ Equivalent O SPM/ equivalent
O STPM/ Equivalent O Bachelor/ equivalent
O Master/ Equivalent O PhD/ Equivalent

Appendix C: The Pittsburgh Sleep Quality Index (PSQI)

Section B: Sleep Quality

The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

During the past month,

1. When have you usually gone to bed? (Example: 2330/ 11.30pm)

   _____

2. How long (in minutes) has it taken you to fall asleep each night? (Example: 30 min)

   _____

3. When have you usually gotten up in the morning? (Example: 0700/ 7.00am)

   _____

4. How many hours of actual sleep do you get at night? (This may be different than the number of hours you spend in bed)

   _____

5. During the past month, how often have you had trouble sleeping because you…

		Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
a.	Cannot get to sleep within 30 minutes	O	O	O	O
b.	Wake up in the middle of the night or early morning	O	O	O	O

c.	Have to get up to use the bathroom	O	O	O	O
d.	Cannot breathe comfortably	O	O	O	O
e.	Cough or snore loudly	O	O	O	O
f.	Feel too cold	O	O	O	O
g.	Feel too hot	O	O	O	O
h.	Have bad dreams	O	O	O	O
i.	Have pain	O	O	O	O
j.	Other reason(s), please describe, including how often you have had trouble sleeping because of this reason(s):	O	O	O	O
		Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
6.	During the past month, how often have you taken medicine (prescribed or "over the counter") to help you sleep?	O	O	O	O
7.	During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?	O	O	O	O
8.	During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done?	O	O	O	O
		Very good (0)	Fairly good (1)	Fairly bad (2)	Very bad (3)
9.	During the past month, how would you rate your sleep quality overall?	O	O	O	O

Appendix D: Aggression Questionnaire (BPAQ)

Section C: Aggression

Here comes to last part of questions. Using the 5-point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing you.

	Extremely uncharacteristic of me (1)	Somewhat uncharacteristic of me (2)	Neither uncharacteristic nor characteristic of me (3)	Somewhat characteristic of me (4)	Extremely characteristic of me (5)
1. Some of my friends think I am a hothead	O	O	O	O	O
2. If I have to resort to violence to protect my rights, I will.	O	O	O	O	O
3. When people are especially nice to me, I wonder what they want.	O	O	O	O	O
4. I tell my friends openly when I disagree with them.	O	O	O	O	O
5. I have become so mad that I have broken things.	O	O	O	O	O
	Extremely uncharacteristic of me (1)	Somewhat uncharacteristic of me (2)	Neither uncharacteristic nor characteristic of me (3)	Somewhat characteristic of me (4)	Extremely characteristic of me (5)
6. I can’t help getting into arguments when people disagree	O	O	O	O	O

with me.					
7. I wonder why sometimes I feel so bitter about things.	O	O	O	O	O
8. Once in a while, I can't control the urge to strike another person.	O	O	O	O	O
9. I am an even-tempered person.	O	O	O	O	O
	Extremely uncharacteristic of me (1)	Somewhat uncharacteristic of me (2)	Neither uncharacteristic nor characteristic of me (3)	Somewhat characteristic of me (4)	Extremely characteristic of me (5)
10. I am suspicious of overly friendly strangers.	O	O	O	O	O
11. I have threatened people I know.	O	O	O	O	O
12. I flare up quickly but get over it quickly.	O	O	O	O	O
13. Given enough provocation, I may hit another person.	O	O	O	O	O
14. When people annoy me, I may tell them what I think of them.	O	O	O	O	O
	Extremely uncharacteristic of me (1)	Somewhat uncharacteristic of me (2)	Neither uncharacteristic nor characteristic of me (3)	Somewhat characteristic of me (4)	Extremely characteristic of me (5)
15. I am	O	O	O	O	O

sometimes eaten up with jealousy.					
16. I can think of no good reason for ever hitting a person.	O	O	O	O	O
17. At times I feel I have gotten a raw deal out of life.	O	O	O	O	O
18. I have trouble controlling my temper.	O	O	O	O	O
19. When frustrated, I let my irritation show.	O	O	O	O	O
20. I sometimes feel that people are laughing at me behind my back.	O	O	O	O	O
	Extremely uncharacteristic of me (1)	Somewhat uncharacteristic of me (2)	Neither uncharacteristic nor characteristic of me (3)	Somewhat characteristic of me (4)	Extremely characteristic of me (5)
21. I often find myself disagreeing with people.	O	O	O	O	O
22. If somebody hits me, I hit back.	O	O	O	O	O
23. I sometimes feel like a powder keg ready to explode.	O	O	O	O	O
24. Other people always seem to get the breaks.	O	O	O	O	O
	Extremely uncharacteristic	Somewhat uncharacteristic	Neither uncharacteristic	Somewhat characteristic	Extremely characteristic

	of me (1)	of me (2)	nor characteristic of me (3)	of me (4)	of me (5)
25. There are people who pushed me so far that we came to blows.	O	O	O	O	O
26. I know that “friends” talk about me behind my back.	O	O	O	O	O
27. My friends say that I’m somewhat argumentative.	O	O	O	O	O
28. Sometimes I fly off the handle for no good reason.	O	O	O	O	O
29. I get into fights a little more than the average person.	O	O	O	O	O

Appendix E: Assessing Normality, Linearity, and Homoscedasticity using Scatterplot

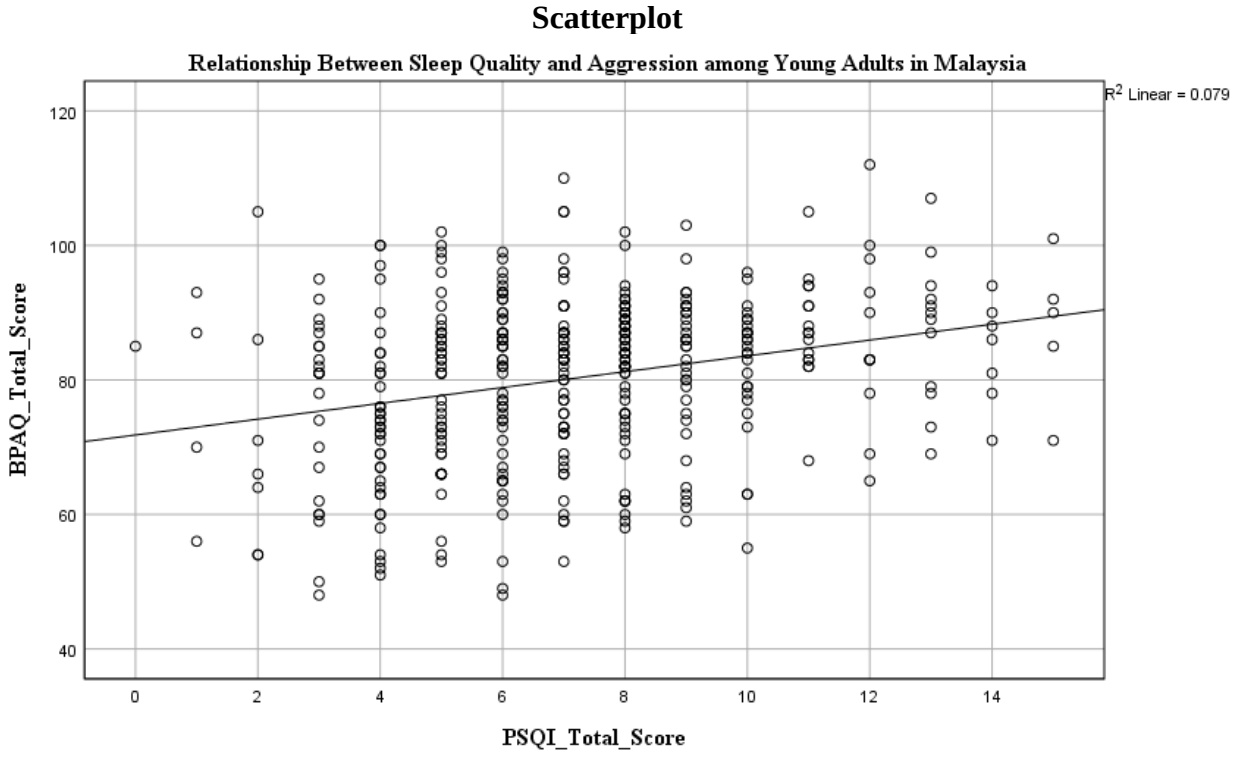

Figure 2. A fit line was added to the scatterplot of the Pearson Correlation based on sleep quality and aggression among young adults in Malaysia.

Appendix F: SPSS Output of Independent Sample Test between Gender Difference and Sleep QualityF

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
PSQI Total Score	Male	192	7.05	2.780	.201
	Female	200	7.35	3.048	.216

Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PSQI Total Score	Equal variances assumed	.841	.360	-1.010	390	.313	-.298	.295	-.878	.282
	Equal variances not assumed			-1.012	388.990	.312	-.298	.294	-.877	.281

Appendix G: SPSS Output of Independent Sample Test between Gender Difference and Aggression

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
BPAQ Total Score	Male	192	80.92	12.649	.913
	Female	200	79.67	11.825	.836

Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BPAQ Total Score	Equal variances assumed	.250	.618	1.013	390	.312	1.252	1.236	-1.179	3.682
	Equal variances not assumed			1.011	385.493	.313	1.252	1.238	-1.182	3.686

Appendix H: SPSS Output of Pearson Correlation between Sleep Quality and Aggression

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
PSQI Total Score	7.20	2.920	392
BPAQ Total Score	80.28	12.236	392

Correlations

	PSQI Total Score			BPAQ Total Score		
	Pearson Correlation	Sig. (2-tailed)	N	Pearson Correlation	Sig. (2-tailed)	N
PSQI Total Score	1		392	.281**	.000	392
BPAQ Total Score	.281**	.000	392	1		392

**. Correlation is significant at the 0.01 level (2-tailed).

Re: U/SERC/110/2019

22 July 2019

Dr Chie Qiu Ting
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Chie,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research projects from Bachelor of Social Science (Hons) Psychology programme enrolled in course UAPZ3023. We are pleased to inform you that the application has been approved under expedited review.

The details of the research projects are as follows:

	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	Sleep Quality and Aggression Among Young Adults in Malaysia	1. Hew Lai Mun 2. Ooi Jin Jin 3. Wong Choon Wei	Ms Low Sew Kim	22 July 2019 – 21 July 2020
2.	The Relationship between Gender Roles, Coping Strategies and University Adjustment Among Undergraduate Students	1. Ang Zi Xuan 2. Kalesh a/l Linganathan 3. Yap Han Jet	Dr Siah Poh Chua	
3.	Gender Differences in Impulsivity of e-commerce Online Purchase Intention Among UTAR Students: Conscientiousness, Negative Emotionality and Open Mindedness as Covariates	1. Nabilah Bt. Mohd Yusoff 2. Phang Shiau Fen 3. Lee Zhi Wen	Dr Lee Ai Suan	

The conduct of this research is subject to the following:

(1) The participants' informed consent be obtained prior to the commencement of the research;

(2) Confidentiality of participants' personal data must be maintained; and

(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,

Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Arts and Social Science
Director, Institute of Postgraduate Studies and Research

Sleep Quality and Aggression

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DEPARTMENT OF PSYCHOLOGY AND COUNSELLING
FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

UAPZ 3023 Final Year Project II

Research Project Evaluation Form

TURNITIN: ***'In assessing this work you are agreeing that it has been submitted to the University-recognised originality checking service which is Turnitin. The report generated by Turnitin is used as evidence to show that the students' final report contains the similarity level below 20%.'***

Project Title: Sleep Quality and Aggression among Young Adults in Malaysia	
Supervisor: Ms. Low Sew Kim	
Student's Name: 1. Hew Lai Mun 2. Ooi Jin Jin 3. Wong Choon Wei	Student's Id 1. 16AAB06279 2. 14AAB03362 3. 16AAB01836

INSTRUCTIONS:
Please score each descriptor based on the scale provided below:

1. For criteria **1, 2, 3,4, 5, 6**:
   0 = no attempt, 1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good

2. For criteria **3,4**:
   0 = no attempt, 1 = very poor, 3 = poor, 5 = average, 7 = good, 10 = very good

3. For criteria **7**:
   Please retrieve the mark from "**Oral Presentation Evaluation Form**".

1. ABSTRACT (5%)	**Score**
1. States clearly the research objectives. (5%)	
2. Describe briefly and clearly the approach/methodology of the study. (5%)	
3. Highlights the outcomes of the study. (5%)	
4. Highlights the significance of the study. (5%)	
5. Three relevant keywords mentioned. (5%)	
Sum	
Subtotal (*Sum* /5)	**/ 5%**
Remark:	
2. METHODOLOGY (20%)	
1. Appropriate research design/framework (5%)	
2. Appropriate sampling techniques (5%) - Sample size is justified. - Sampling method correctly mentioned - Location of how the subjects are selected	
3. Clear explanation of procedure (5%) - How is consent obtained - Description of how data was collected	
4. Explanation on the instruments/questionnaires used (5%) - Description of instrument measures, scoring system, meaning of scores, reliability and validity information.	
Subtotal	**/ 20%**
Remark:	
3. RESULTS (20%)	
1. Analyses used are appropriate for each hypothesis. (10%)	
2. Interpretations and explanations of the statistical analyses are accurate. (10%)	
Subtotal	**/ 20%**
Remark:	

4. DISCUSSION & CONCLUSION (25%)			
1. Constructive discussion of findings. - Explanation and critical analysis. Results were critically analyzed with similar and/or dissimilar results. (10%)			
2. Implication of the study. (5%)			
3. Limitations mentioned relevant and constructive to the study. (5%)			
4. Recommendations for future research. (5%)			
Subtotal			**/ 25%**
Remark:			
5. LANGUAGE & ORGANIZATION (5%)			
1. Comprehensiveness: Content Organization + Language			
Subtotal			**/ 5%**
Remark:			
6. APA STYLE AND REFERENCING (5%)			
1. APA format is followed			
Subtotal			**/ 5%**
Remark:			
7. *ORAL PRESENTATION (20%)	**Score**		
	Student 1	**Student 2**	**Student 3**
Subtotal			
Remark:			
PENALTY: **Maximum 10 marks for LATE SUBMISSION, MISSING FORM or POOR ATTENDANCE for consultation with supervisor**			
	Student 1	**Student 2**	**Student 3**
****FINAL MARK/TOTAL**			

*****Overall Comments:**

Signature: _____ Date: _____

Notes:

1. **Subtotal**: The sum of scores for each assessment criteria
2. **FINAL MARK/TOTAL**: The summation of all subtotal score
3. Plagiarism is UNACCEPTABLE. Parameters of originality required and limits approved by UTAR are as follows:
   (i) **Overall similarity index is 20% and below**, and
   (ii) Matching of individual sources listed must be less than 3% each, and
   (iii) Matching texts in continuous block must not exceed 8 words
   Note: Parameters (i) – (ii) shall exclude quotes, references and text matches which are less than 8 words. Any works violate the above originality requirements will NOT be accepted. Students have to redo the report and meet the requirements in **SEVEN(7)** days.

*The marks of "Oral Presentation" are to be retrieved from **"Oral Presentation Evaluation Form".**
**It's compulsory for the supervisor/reviewer to give the overall comments for the research projects with A- and above or F grading.