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Research Article

Sleep and Emotion Regulation among Filipino College Students

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ABSTRACT

This study examined the relationship between sleep quality and quantity and emotion regulation strategies among 281 college students from a college of the University of the Philippines Los Banos. Data were collected through a self-administered questionnaire that included the Pittsburgh Sleep Quality Index (PSQI) and the Emotion Regulation Questionnaire (ERQ). Findings indicated that participants had an average of 7.04 hours of sleep, considered sufficient in quantity, but poor in quality (mean PSQI = 8.20). Most students used cognitive reappraisal more frequently than expressive suppression. Pearson correlation analysis revealed that better sleep quality and quantity were generally associated with increased use of cognitive reappraisal. The findings underscore the need to support students' sleep health and promote adaptive emotion regulation strategies to enhance overall well-being.

Keywords*: College students, Emotion regulation, Sleep quality, Sleep quantity*

Introduction

Sleep is a normal, regular though temporary break from the waking state of a healthy human being. Health professionals believe that it is significant to have sufficient and restorative sleep to maintain the physical and mental health of an individual. If one has trouble sleeping, it can be an indication that one may have an existing illness like insomnia, which contributes to the deterioration of one's quality of life (Worley, 2018). Palmer and Alfano (2017) stated that sleep affects the mental health and psychosocial development of a person across the lifespan. Good sleep is needed in physiological processes in our body, which is why its deprivation is associated with weight gain, obesity, inflammation, cardiovascular diseases, diabetes, other metabolic issues, and neurocognitive functioning (Grandner, 2017).

In terms of sleep quantity or the number of hours of sleep, the National Sleep Foundation through the study of Hirshkowitz et al. (2015), stated that the recommended sleep duration for normal young adults is around 7 to 9 hours, although 6 hours and about 10-11 hours of sleep is still acceptable. However, maintaining the practice of sleeping less than or more than the specified number of hours may cause harmful effects on an individual's health. Further, the restorative properties of sleep also depend on the quality and timing of sleep (Hirshkowitz et al., 2015). According to the National Sleep

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Foundation (2017), sleep quality is the satisfaction of the sleep experience, including its initiation, maintenance, quantity, and feeling of refreshment upon awakening. It is described as falling asleep in 30 minutes or less, sleeping soundly through the night, and being able to go back to sleep within 20 minutes if one has or was awakened. Zhou et al. (2022) reported the prevalence of poor sleep quality as ranging from 9.8% to 63.39% among college students in China, Nepal and India. Further, poor sleep quality has been linked to depression, anxiety, and stress (Zhou et al., 2022).

Various research suggests that sleep deprivation has adverse effects on individuals. College students are a group of individuals who are more likely to experience sleep problems and deprivation (Peach et al., 2016) and their sleep quality and quantity may have positive and negative implications to their mental health (Becker et al., 2018). Their amount of rest or sleep decreases when entering college due to their personal and academic adjustments in the new environment (Zhou et al., 2022). There are new concepts being learned, new people they are meeting, a new learning space they are figuring out, and independence habits they are establishing especially for those studying far from their families. Sleeping patterns may change to cope with the new demands.

Emotion regulation can be one of the possible ways to see how sleep affects daily lives. Kim et al. (2015) defined emotion regulation as an attempt to alter or manipulate the experience and expression of emotions. They also mentioned that emotion regulation processes have essential implications on one's emotional experiences, cognition and decision-making, social interactions, mental and physical health, and well-being. Cognitive reappraisal is an emotion regulation strategy, defined as an antecedent-focused strategy which reframes or reinterprets how we look at an emotional stimulus to change its emotional impact (Troy et al., 2017). Expressive suppression, on the other hand, is a response-focused strategy involving efforts to conceal or reduce emotional experiences or expressive behaviors (Cameron & Overall, 2017). Cutuli (2014) stated that using cognitive reappraisal is associated with healthier patterns of affective and social functioning and general wellbeing.

Palmer and Alfano (2017) found that sleep affects emotional functioning which includes shortcomings in terms of emotion generation and regulation. Sufficient sleep helps in emotion regulation while individuals with insufficient sleep could be at risk for various psychiatric disorders in the long run since it can hinder execution of emotion regulation strategies (Gruber & Cassoff, 2014). Baum et al. (2014) found that even after a few nights of insufficient sleep, there is already an observable effect on adolescents such as worse moods and lesser ability to regulate their negative emotions. Palmer and Alfano (2017) stated that poor sleep quality is associated with lower use of cognitive reappraisal strategy and changes in emotional expressiveness.

Recent studies on sleep done in the Philippine context have focused on sleep quality and its relationships to fatigue level, daytime sleepiness, social media usage; academic performance, and stress levels. Encabo et al. (2023) reported poor sleep quality among adolescent students in the post-pandemic setting. Poor sleep quality leads to feelings of being mentally drained and a lack of energy (Gumasing et al., 2022) and daytime sleepiness (Velasco et al., 2023). Distor et al. (2022) found that as college students use social media, sleep quality declines. Jorge et al. (2020) and Picio et al. (2022) found that sleepiness and sleep deprivation, respectively, is not related to academic performance. However, Embang (2021) and Toyong (2020) found that as sleep hours increase, academic performance becomes better. Velasquez et al. (2024) stated that poor sleeping habits negatively affect adolescent students' mental health states.

Thus, this study aims to investigate the sleep quantity and quality of Filipino college students in relation to their use of emotion regulation strategies. Their sleep quality and quantity may have positive and negative implications on how they regulate their emotions which in turn may affect their mental health. College adjustments, academic requirements, and social responsibilities may combine as

stressors in their daily lives and may affect the quality and quantity of their sleep. To emphasize, Cordero (Philstar, 2021) found that 54.5% of Filipino adolescent students get between four and six hours of sleep each night and only 41.8% report sleeping for seven to nine hours each night. Further, Vandekerckhove and Wang (2018) noted that emotion regulation remains an important topic to investigate in relation to sleep, particularly, the tendency to use specific emotion regulations strategies. Lastly, Zhou et al. (2022) noted in their review that most sleep studies were done by developed countries and that developing countries should conduct more research on this area. This study aims to contribute to the literature on sleep and usage of emotion regulation strategies in the crucial stage of adolescence.

Methods

Research Design

The research design used for this study is descriptive correlational design. The respondents answered according to their current condition or personal experience. Correlational design can establish the extent of the relationship between the variables in this study, which are sleep and emotion regulation strategies.

Research Locale

The locale of the study was the national university which is situated in one of the rurban municipalities in the province of Laguna, part of Region IV-A (CALABARZON), and just 30 km south of Metro Manila.

Respondents and Sampling Procedure

The respondents were students from a college of the university. There were 305 students enrolled in that semester. Complete enumeration was done. Out of 305 students, 281 responded, thus, a 92.13% response rate was attained. Table 1 shows the sociodemographic characteristics of the respondents. Out of 281 respondents, the majority are females comprising 74 % of the population, their ages range from 17 to 27 years old, with a mean age of 20. A large proportion of the respondents were freshmen (40.6%). Most of them (85.4%) are single. More than half (55.5%) of the respondents have no affiliated organization and most of the students (94%) have no part-time jobs. Lastly, the majority (69.4%) of the respondents live in a dormitory/ apartment.

Table 1. Socio-demographic characteristics of the respondents

Variables	Frequency	Percentage
Sex		
Female	208	74.0
Male	72	25.6
No answer	1	0.4
Age (years)		
17-19	124	44.1
20-22	142	50.5
23-25	13	4.6
26-28	2	0.7
Classification		
Freshman	114	40.6
Sophomore	92	32.7
Junior	18	6.4
Senior	57	20.3
Romantic Relationship Status		
Single	240	85.4
In a Relationship	39	13.9
No answer	2	0.7

Variables	Frequency	Percentage
Affiliated Organizations		
0	156	55.5
1-2	109	38.8
3-4	15	5.3
5-6	1	0.4
Part-time Employment		
No part-time work	264	94.0
Has part-time work	13	4.6
No answer	4	1.4
Living Arrangement		
Dorm/ Apartment	195	69.4
House	86	30.6

Research Instrument

Data was collected through a questionnaire consisting of socio-demographic questions, assessment of sleep quality and quantity through the Pittsburgh Sleep Quality Index (PSQI), and determination of emotion regulation strategy through the Emotion Regulation Questionnaire. The Pittsburgh Sleep Quality Index (PSQI) by Buysse et al. (1989) was used to assess sleep quality and quantity. It is an established tool containing 19 self-administered items on the number of hours of sleep, self-perception of sleep, and how often the respondents experience or do certain practices that can affect their sleep quality. The results were computed according to the stated scoring method which come from the sum of the scores of the seven components, namely, subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbance, use of sleep medicines, and daytime dysfunction. The higher the total PSQI score, the poorer is the quality of sleep. The cut-off score for determining those who have good and poor quality of sleep is five (5).

The Emotion Regulation Questionnaire (ERQ) by Gross and John (2003) is a 10-item questionnaire used in determining the emotion regulation ability and strategy of an individual. The respondent answers how intensely they agree or disagree with the use of a Likert scale. Their feeling towards the statements can predict which of the two strategies, cognitive reappraisal or expressive suppression, they are currently using.

To ensure the reliability and internal consistency of the questionnaire, a pretest was conducted with a similar sample and the Cronbach's alpha value was computed. The alpha coefficient for the sleep quality questionnaire is 0.6854, which suggests that the items have acceptable internal consistency. The alpha coefficient for emotion regulation questions is 0.8153, which indicates that the items have acceptable internal consistency.

Data Gathering Procedure

Letters were sent to the professors teaching foundation and major courses in the college to formally ask permission for the informed consent forms and questionnaires to be distributed to the students in their classes. The questionnaires were given to the respondents once they agreed to be part of the study and they were informed that once they agreed to answer, they are giving their consent to use the information solely for this research and their identity would remain confidential as reiterated in the informed consent.

Data Analysis

For the quantity of sleep, the mean and range of the number of hours were considered. For the sleep quality, using the Pittsburgh Sleep Quality Index, the scores were computed using the provided scoring method. The corresponding interpretation of the total score determines if the respondent has a good or poor quality of sleep. For the assessment of the emotion regulation, using the Emotion Regulation Questionnaire, the scores on selected items were added and its sums led to the corresponding score on

the assigned emotion regulation strategy. Pearson correlation coefficient was computed for the relationship of sleep quantity and quality with the emotion regulation strategies through the cognitive reappraisal and emotion suppression scores.

Ethical Considerations

The study was given approval by the department's guidance committee of the primary researcher. The respondents' participation was voluntary, and they were allowed to withdraw if they do not wish to continue to be part of the study. It was essential to protect their identity and responses. The respondents were assured that the information they disclosed would remain confidential and were to be used solely for the research. No names were taken from the professors without the consent of the students in accordance with RA 10173, also known as the Data Privacy Act of 2012.

Result and Discussion

Sleep Quantity

In terms of sleep quantity, there are students who sleep for as few as 3 hours and some would sleep for up to 14 hours. If we compare the recommendation of the National Sleep Foundation for the sufficient number of sleep hours for young adults (Hirshkowitz et al., 2015), the average amount of sleep of the students in this study (7.04 hours) is within the recommended hours of sleep (7-9 hours) which means they generally have adequate quantity of sleep. However, there are still some students (18.1%) who experience sleep for as short as 3 hours and as long as 14 hours which is a bigger deviation from the recommended hours. So, they cannot be considered as individuals who have sufficient sleep quantity, and they may also experience detrimental effects. Shochat et al. (2014) stated that having sufficient sleep can contribute to the improvement of their health status while getting insufficient sleep comes with detrimental effects on one's overall health condition.

The National Sleep Foundation gave an allowance in terms of their recommended hours of sleep since some people may have slight deviations from these as discussed by Hirshkowitz et al. (2015) who enumerated three classifications: appropriate or recommended, may be appropriate or acceptable, unlikely to be appropriate or not recommended. For young adults, 7-9 hours is the recommended hours of sleep, 6 and 10-11 hours are acceptable, but it is not recommended to have less than 6 hours or more than 11 hours of sleep. Table 2 shows that more than half (55.5%) of the respondents meet the recommended hours of sleep. This means that the respondents generally were able to maintain sufficient hours of sleep despite the existence of various factors that may affect their sleep. However, the percentage of students who had insufficient sleep is still noteworthy (44.5%) with more than a third having 6 hours of sleep or less. Noland et al. (2009) stated that there are still adolescents who deprive themselves of sleep regardless of their awareness of the recommended hours of sleep and the consequences of insufficient sleep due to academic, social and personal demands on their time.

Table 2. Sleep quantity of the students

Classification	Frequency	Percentage
Below 6 hours	51	18.1
6 hours	49	17.4
7-9 hours	156	55.5
10-11 hours	23	8.2
Beyond 11 hours	2	0.7

Sleep Quality

In terms of determining the sleep quality, the Pittsburgh Sleep Quality Index (PSQI) scores were used. Table 3 shows the average scores for the seven components ranked from highest to lowest and the average score of the total PSQI scores. The average total PSQI scores of the respondents is 8.20 points which means

they have a relatively poor quality of sleep. Some sleep studies done in the Philippines among adolescent students also showed poor quality of sleep. Casaclang et al. (2023) found a mean PSQI score of 9.45; Quinagan and Galabo (2023) found a mean PSQI score of 7; Encabo et al. (2023) found a mean PSQI score of 7.28; while Velasco et al. (2023) found a mean PSQI score of 6.7.

The proponents of PSQI (Buysse et al., 1989) suggested that the cut-off score for classifying those with good sleep quality is less than 5, and those with scores equal or higher than 5 would be considered as having poor sleep quality. Results show that only 14% have good sleep quality while the remaining 86% have scores from 5 to 20. This percentage is higher than findings from Chatterjee and Kar (2021) where 63.4% of the students showed poor sleep quality. Given that 6 points was the most frequent score and 8.20 points was the average, the students generally have poor sleep quality. Some of the effects of having poor sleep quality include impairments in behavioral and cognitive processes (O'Brien, 2011), experiencing more negative moods which can be related to stress and tension (Lund et al., 2010), and increased depressive symptoms (Peach et al., 2016).

The tool that was used in rating sleep quality needed estimated information regarding the respondents' sleep for the past month. Since the data gathering procedure was done during the months of January and February, their point of reference was December which covers the last weeks of the previous semester. Thus, deadlines of written requirements and/or presentations and the last course exams happened during this time. It can be considered as a stressful period for students. This is followed by the Christmas break which lasts until the second week in January, and this period is considered as a more relaxed time or vacation time. Looking at the scores among the seven PSQI components, their daytime dysfunction had the highest average score, meaning they had difficulty carrying out daily tasks and experienced sleepiness during the day. Velasco et al. (2023) also found excessive daytime sleepiness in their Filipino respondents. This result strengthens the findings of Shim et al. (2019) that the daytime dysfunction of students, in general, was experienced by students through periods of the semester. Sleep quality and daytime dysfunction have an inverse relationship (Ji et al., 2023) and daytime dysfunction contributes to low academic performance (Amadi & Omidvar, 2022; El Hangouche et al., 2018).

Table 3. PSQI component average scores

PSQI Component	Average
Daytime Dysfunction	2.29
Sleep Latency	1.53
Sleep Disturbance	1.30
Subjective Sleep Quality	1.25
Sleep Duration	1.03
Sleep Efficiency	0.55
Use of Sleep Medication	0.26
Average PSQI Score	8.20

The determinants of sleep quality among college students were investigated by Wang and Biro (2021). They found that lifestyle factors such as smoking, sedentary behaviors, caffeine use, and social media usage strongly affected sleep quality among college students. This was followed by mental factors such as depression, stress, anxiety, and psychiatric disorders, social factors such as unhealthy relationships, and physical factors such as pain, fatigue, and discomfort. It is good for the young to note that adequate physical activity and healthy social relations improved sleep quality while caffeine intake, stress, and irregular sleep-wake patterns decreased sleep quality (Wang & Biro, 2021).

Noteworthy of mention are the results of sleep quality and quantity which come across as contradictory. Their sleep quantity is sufficient or good while, based on the interpretation of the PSQI scores, their sleep quality was poor. This result can suggest that having sufficient sleep quantity does not necessarily entail having good sleep quality. For these respondents, despite an adequate amount of sleep, their sleep quality maybe poor based on their PSQI scores (Table 3) which point to possible explanations like sleep latency or a longer time to fall asleep, sleep disturbances, waking up during the night and/or perceived depth of sleep. This may pose confusion on which should be the basis of assessing one's sleep- quantity or quality. Kohyama (2021) suggested that sleep quality has a greater relationship with health status and functioning compared to sleep quantity.

Emotion Regulation Strategies

Table 4 shows the summary of the scores for emotion regulation strategies as computed from their ERQ (Gross & John, 2003) scores. Since the cognitive reappraisal strategy has the higher average score with 30.14 points compared to expressive suppression with 16.10 points, this result suggests that the students use cognitive reappraisal strategy more often than expressive suppression.

Table 4. Summary of scores for emotion regulation strategies

Emotion Regulation Strategy	Min	Max	Average
Cognitive Reappraisal	6	42	30.14
Expressive Suppression	3	27	16.10

Troy et al. (2017) stated that cognitive reappraisal is a strategy wherein an individual reframes an emotional stimulus to change its affective impact. Expressive suppression involves manipulating the response including consciously hiding or restraining the emotional expression through one's behavior or actions (Cameron & Overall, 2017).

Even during the late adolescence to early adulthood transition, there are still developments and changes happening in the body including the regulatory mechanisms in the processing of emotional information (Ahmed et al., 2015). The brain regions responsible for generating and regulating emotions are active to enable the adolescent to adjust to all the changes and to the development of its structure and functions. This makes the youth vulnerable, leading to poor emotion regulation. This may further progress to more complicated conditions such as depression and anxiety.

The usage of cognitive reappraisal is more associated with better psychosocial well-being (Shum et al., 2024; Verzeletti et al., 2016) while the use of expressive suppression is more associated with more negative effects on one's well-being (Verzeletti et al., 2016). It is still possible for an individual to use both strategies but there is usually a tendency for an individual to use one over the other.

Those who use cognitive reappraisal tend to deal with stressful situations by reframing the situation positively or proactively. Consequently, they experience and express more positive affect, less negative affect, and better long-term psychological health (Troy et al., 2017). Further, they show a stronger tendency towards extraversion, openness to experience, agreeableness, and conscientiousness as they feel they have more control and competence in managing the stressor (Spătaru & Maricuțoiu, 2024). In contrast, those who use expressive suppression manifested less positive affect and more negative affect in those with low self-regulatory strength (Geisler & Schröder-Abé, 2015). This may also negatively affect social functioning (Cutuli, 2014). Much as expressive suppression has benefits to interpersonal behavior and conflict resolution, it only applies to those with high self-regulatory strength (Geisler & Schröder-Abé, 2015). Thus, there are recommendations that cognitive reappraisal should be promoted as an emotion regulation strategy among the youth (Cutili, 2024; Shum et al., 2024).

Culture plays a role in determining which emotion regulation strategy would be prominently used by individuals (Liddell & Williams, 2019). The meanings and practices of a society must be considered as individuals are embedded in a sociocultural context through their families, peers, educational institutions, and other socializers. The cultural practices and values in the individual's social environs influence his/her motivation to use a particular emotion regulation (Ford & Mauss, 2015). Bernardi et al. (2019) points out that an individual cognitively appraises an everyday experience based on his culture including practices, beliefs, and values taught, observed, and/or reinforced from childhood through. The Philippines, being in Asia, is generally a collectivist and interdependent culture where social harmony is valued. One's understanding of self and ensuing behaviors arise with greater consideration of others' feelings and expectations, and societal norms (Bernardi et al., 2019).

Relationship between Sleep and Emotion Regulation Strategies

Table 5 shows the computed Pearson correlation coefficient values of the relationship of sleep quality & quantity with emotion regulation strategies, namely, cognitive reappraisal and expressive suppression. Sleep quantity has a positive very weak linear correlation with cognitive reappraisal with a computed value of 0.1660. On the other hand, there was no relationship between sleep quantity and expressive suppression. Thus, as sleep quantity increases, the cognitive reappraisal scores also increase. If an individual maintains sufficient hours of sleep, it is possible that they can better handle emotions by reframing situations they encounter or changing the way they think about the situation they are experiencing. On the other hand, sleep deprivation can have negative effects on different parts of the emotion regulation process which includes identifying, selecting, and successfully implementing various emotion regulation strategies (Palmer & Alfano, 2017). Baum et al. (2014) found that adolescents who do not have enough sleep for several nights experience increased fatigue; increased feelings of being on edge, anxiety, nervousness, anger and irritability; and lesser ability to manage their emotions, especially the negative ones. Thus, with an adequate amount of sleep, adolescents may tend to regulate emotions more through cognitive reappraisal activities.

For sleep quality based on PSQI scores, the Pearson correlation coefficient for reappraisal shows a negative weak linear relationship while the computed value of its relationship with suppression shows a positive very weak linear relationship. In this study, the relationship of sleep quality and emotion regulation is interpreted as this: with better sleep quality (lower PSQI scores), cognitive reappraisal is more likely to be used, and expressive suppression is less likely to be used.

This study showed that most students were found to have poor sleep quality but use cognitive reappraisal more often than expressive suppression. Reddy et al. (2017) found that, whether the adolescents experienced sleep deprivation or idealized sleep conditions, using cognitive reappraisal lessened negative emotions effectively. On the other hand, Parsons et al. (2022) found no association between sleep quality and the use of cognitive reappraisal to regulate negative emotions. Palmer and Alfano (2017) pointed out that choosing which emotional regulatory strategy to use depends on the availability of the individual's psychological resources and the specific emotional context the individual finds himself facing. Reddy et al. (2017) suggests that it is possible that partial sleep restriction does not automatically result to the inability to use emotion regulation strategies, specifically, cognitive reappraisal. The respondents may have adjusted to the intermittent condition of having poor sleep quality during the semester and are still able to apply appropriate emotion regulation strategies which help dampen the impact of their various personal and academic stressors. It is also possible that being able to make up for their sleep debt on nights when they can sleep longer may help contribute to keeping some degree of cognitive reappraisal ability intact to regulate their emotions.

Table 5. Pearson correlation matrix of sleep quality and sleep quantity, and reappraisal and suppression scores

Variable1	Variable2	Value
Sleep Quantity	Cognitive Reappraisal	0.1660
Sleep Quantity	Expressive Suppression	0.0000
PSQI scores	Cognitive Reappraisal	-0.2050
PSQI scores	Expressive Suppression	0.1380

Vandekerckhove and Wang (2018) also emphasize that people may adopt effective emotion regulation strategies to lessen sleep disruptions and may be aware that poor sleep quality compromises emotion regulation. Palmer and Alfano (2017) reported that individuals who engage in cognitive appraisal strategies were less vulnerable to the impacts of sleep deprivation. It is a vicious cycle which must be and can be avoided. Daily stressors are present in life and thus, emotions need to be sufficiently regulated to avoid sleep disturbances and mental health problems. Having sufficient sleep quantity and quality are important in the process of emotion regulation. Adolescents must be made aware of this cycle and be assisted in ensuring sleep quality and effective emotion regulation.

This study only focused on college students from one college of the University of the Philippines Los Baños whose ages belong to the late adolescence stage. Their sleep and emotion regulation were the focus of this study, specifically, the amount of sleep they usually get, their quality of sleep, and their emotion regulation strategies. The results of this study can be applied only to these students. The limitations encountered in this study were the unwillingness of some students to participate which affected the response rate, self-report bias, and data using only the cross-sectional design.

Conclusion and Recommendations

The average number of hours of sleep the students experience is 7.04 hours which means that their sleep quantity is still within the range of the recommended hours classified by the National Sleep Foundation. In terms of sleep quality, their average PSQI score is 8.20 points which is equivalent to having poor quality of sleep. For the emotion regulation of the respondents, most of them use cognitive reappraisal more than expressive suppression. Finally, the relationship of sleep and emotion regulation strategies were analyzed using Pearson correlation coefficient and despite its deviation from the actual result of sleep quality (PSQI score) and emotion regulation, it suggested that better sleep quantity and quality generally promote the use of cognitive reappraisal as an emotion regulation strategy.

Sleep and emotion regulation are very interesting topics but are not well-studied especially in the Philippines, so future research still have research gaps to fill. In terms of respondents and settings, finding diverse types of university students from various schools, degree programs and locations may help in terms of representation of the different experiences of university students. Since the results of this study only achieved weak relationships among the variables, future researchers can further explore other factors or assessment tools that would establish stronger relationships between variables. Other factors that can also be investigated in future studies are the influences of culture and socialization on the adolescent student. It is possible that establishing wide and strong social networks are important to developing Filipino adolescents and spending time with family, peers and trusted adults is one way to strengthen the relationship. Even if they get poor quality of sleep, if their social environment is safe and comfortable, they would not need to suppress their feelings. College students experience a lot of stress and their family, friends, and even professors may help them in managing stress through appropriate and regulated emotions. These possible explanations leave more questions and challenge for future researchers. There is more to discover about the relationship between emotion regulation

and sleep quality especially in various adolescent contexts.

Universities can establish information education programs on the importance of adequate good sleep and its bidirectional relationship with emotion regulation among the youth for better wellbeing. Sleep intervention programs can also be established to implement effective types as proposed by Albakri et al. (2021) such as starting classes later in the day, lifestyle modifications, mind-body exercises, and relaxation techniques. Structured programs on effective emotion regulation strategies such as conflict resolution techniques, coping with anger and negative emotions, stress management, resiliency training, and mind-body and mindfulness interventions (Muray & Rosanbalm, 2017) can be provided through workshops or seminars. The university health center and the offices related to student affairs like the counselling office can lead such programs.

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