

## The Quality of Sleep and Psychological Well-Being of Senior High School Students

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### Abstract

This paper measured senior high school students' level of sleep quality and psychological well-being in a private university in the Philippines. This study utilized the descriptive - correlational research design. A stratified random sampling technique selected the 328 senior high school students. The data were collected using two standardized psychological instruments: the Pittsburgh Sleep Quality Index (PSQI) and Ryff's Scale of Psychological Well-Being (RPSWB), analyzed through descriptive and inferential statistics. The findings revealed a poor sleep quality and a moderate level of psychological well-being of senior high school students. Pearson product-moment correlation yielded a significant relationship between sleep quality and sex, year level, and academic strand; a significant relationship between psychological well-being and academic strand; and no significant relationship between sleep quality and psychological well-being. To conclude, students can attain a good level of psychological well-being despite poor sleep quality. Collaborative efforts of guidance counselors, school administrators, and teachers may help the senior high school students educate and develop their sleep hygiene practices.

**Keywords:** Sleep Quality, Psychological Well-being, Pittsburgh Sleep Quality Index, Senior High School, Ryff's Scale Of Psychological Well-Being

### Introduction

Adolescence is a crucial period in the developmental stages of the human life span, which occurs in tremendous changes and growth (Kaur & Bhoday, 2017). Thus, high school students are in heightened vulnerability due to socio-psychological disturbances and academic requirements (Alfoukha et al., 2019). Likewise, sleep is essential for their psychological growth and development; and significant for maintaining physical and mental health (Kaur & Bhoday, 2017). Sleep duration and depth decrease undergo a natural change during adolescence. These sleep shifts make adolescents late sleepers and result from external and internal influences on brain mechanisms that affect sleep and circadian rhythm (Hagenauer et al., 2009).

On the other hand, an adolescent's psychological well-being refers to the contentment with life and understanding many positive emotions. It leads to the most significant function to their academics, increases their social skills and participation, and boosts their physical and mental health. According to Savage (2011), the adolescent's stage is the foundation of the future personality and a critical stage because life goals, personality traits, meaning, direction, and purpose are laid down.

Concerning the mental health issues of adolescents, the United States Department of Health & Human Services (2017) found one in five adolescents had a

severe mental disorder, such as depression and anxiety disorders, at some point in their lives. Thus, the rise in studying well-being and how to free from mental illnesses in psychology increased dramatically because of personal and social factors that affect senior high school students.

Presently, there is little research that investigates the sleep quality and psychological well-being since most studies were conducted on aging adults (Shubha et al., 2015), health workers (Olawale et al., 2017), drug addicts (Dogaheh et al., 2012), security forces (Mishra & Reddy, 2015) and nursing students (Hsu et al., 2014). The K – 12 is relatively new to the Philippines' educational system. Thus, this study intends to fill the gaps in the scarce literature and a basis for creating a comprehensive intervention program for senior high school students.

### Research Objectives

This study aimed to determine the level of sleep quality. Likewise, it assessed the level of psychological well-being in terms of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance of the senior high school students as a whole and when categorized according to sex, year level, and academic strand.

Specifically, this study sought to answer the following questions:

1. Is there a significant relationship between sleep

quality and demographic variables?

2. Is there a significant relationship between psychological well-being and demographic variables?
3. Is there a significant relationship between sleep quality and psychological well-being?

## Literature Review

Sleep is generally a pattern of the rhythm of the mind and body, which consists of an altered state of consciousness, inhibition of sensory activity, voluntary muscles, and minimal interaction with the environment (National Institute of Neurological Disorders and Stroke, 2017). The suggested hours of sleep requirement varies by age. The study conducted by Hirshkowitz (2015) found that adolescents' sleep duration from 13 to 17 years old must be a minimum of eight hours and up to ten hours every night without sleeping interruption. According to Gould et al. (2016), adolescents' sleep quality goes through a significant dramatic shift due to the biological process like the alignment of circadian rhythm, which leads them to insomnia, excessive daytime sleepiness, and changes in the sleep-wake cycle.

Research conducted by Zhou et al., (2012) found out that junior middle and senior high school students had a poor sleep quality in Shanghai, China using the Pittsburgh Sleep Quality Index. Moreover, the factors associated with poor sleep were more television viewing during weekdays, more frequent computer/Internet use, earlier school starting time, and more time on homework during weekdays and weekends.

The study conducted by Desouky et al., (2015) found a relationship between sleep quality and academic year level. The respondents of this study were nursing students in the Middle East. It found out that there is a relationship between sleep quality and academic year level.

The study of Rasekhi et al. (2016) found out that there was a significant relationship between sleep quality and sex, academic performance, marital status, smoking, and physical activity using the PSQI instrument.

The study conducted by Tang et al. (2017) in China found that sleep quality using the Pittsburgh Sleep Quality Index (PSQI) among female participants had higher scores (which indicates poor sleep quality) than males in the overall sleep quality. According to

Redline et al. (2004), females tend to sleep late at night because they have lesser NREM stage 1 and stage 2 periods of sleep than men.

Throughout history, emphasis on clinical psychology has focused on maladaptive functioning. With the increasing number of young adolescents diagnosed with a mental disorder, the value of mental health is gradually increasing. Thus, studying the positive aspect and qualities of human functioning gave rise development of positive psychology. Martin Seligman, the proponent of positive psychology, believed that positive interventions should be used to attain a positive human experience must not be at the expense of disregarding human suffering, weakness, and disorder. The Positive Psychology movement emphasizes psychological health as more than just the absence of psychopathology but focuses more on building strengths, such as future-mindedness and optimism (Seligman, 2005).

Dodge et al. (2012) assessed the psychological well-being of school adolescents and found out that most adolescents showed a moderate level of psychological well-being. There was also a significant positive relationship between psychological well-being and sex, especially females. The study conducted by Perez (2012) reported a low score in autonomy, positive relations, environmental mastery, and self-acceptance but a moderate sense of purpose in life and personal growth among Filipino College samples. He further claimed that adolescents weigh down information very well regarding decision-making and evaluating personal standards. The study of Chraifa and Dumitru (2015) found out that females had a higher significant number of positive relationships than male subjects. Moreover, they also found out that self-acceptance level was higher in females compared to males.

The study conducted by Salleh and Mustaffa (2016) found that females had higher scores in autonomy than males; environmental mastery, positive relations, self-acceptance, and personal growth had higher levels for males than females. Both sexes had higher levels an equal level of purpose in life.

The study carried out by Aghaei et al. (2015) explored the relationship between sex and psychological well-being using Ryff's Scales of Psychological Well Being (RPSWB). They found out that there was a significant relationship between sex in positive relations with others, environmental mastery, and personal growth but no significant relationship in self-acceptance, purpose in life, and autonomy.

## Methodology

### Respondents

The respondents of this study were 328 senior high school students enrolled in a private university recruited using a stratified random sampling technique. The respondents belong to four academic strands: Humanities and Social Sciences (HUMSS), General Academic Strand (GAS), Science and Technology, Engineering and Mathematics (STEM), and Accountancy, Business and Management (ABM).

### Instruments of the Study

The researcher adopted two standardized instruments to determine the senior high school respondents' sleep quality and psychological well-being. The Pittsburgh Sleep Quality Index (PSQI) developed by Buysse, Reynolds, Monk, Berman, and Kuffer (1989) was used to evaluate the sleep quality of the respondents. The PSQI is a well-validated, widely used 19-item self-report measure of sleep quality. It contains seven subscales measuring domains such as subjective sleep quality, sleep latency, sleep duration, sleep disturbance, and daytime functioning, combined to yield a global composite score of sleep quality and quantity over the past month and its effects on daytime functioning.

The PSQI has been demonstrated to have high internal consistency (Cronbach's alpha = 0.83), test-retest reliability (0.85–0.87). There was some evidence for convergent validity in that global PSQI scores (where higher scores indicate greater sleep difficulties) were associated with the BDI-II ( $r = 0.50$ ,  $P < 0.001$ ), PSWQ ( $r = 0.25$ ,  $P < 0.01$ ), and anti-anxiety medication use ( $r_{bp} = 0.20$ ,  $P < 0.05$ ). The Cronbach alpha result was 0.761 in this study.

Ryff's Scale of Psychological Well-Being (1989) was utilized to measure the level of psychological well-being. The scale assesses six components of Ryff's (1989) model of well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Results in the study of Ganotice et al., (2016) reported that the model had a good fit to the data:  $\chi^2 = 263.632$ ;  $df = 119$ ;  $p = .000$ ,  $\chi^2 / df = 2.22$ ; CFI = 0.92; GFI = 0.90; TLI = 0.91; RMSEA = 0.07). In this study, the Cronbach alpha result was 0.835.

### Procedures

The respondents were given informed consent before

administering the instruments. They were asked to fill in the pertinent information needed, follow the stated instructions, and answer statements honestly. Furthermore, the respondents were assured of privacy and confidentiality.

### Ethical Considerations

The participants were oriented about the objectives of the study. They were asked to affix their signature in the informed consent to participate in the study voluntarily. The respondents were not required to fill up their names in the questionnaire for confidentiality purposes. The questionnaires were shredded after data collection.

## Result

### Level of Sleep Quality

**Table 1.** Level of Sleep Quality

Variables	M	SD	Interpretation
<b>Sex</b>			
Male	7.63	3.00	Poor
Female	9.07	5.58	Poor
<b>Year Level</b>			
Grade 11	7.90	3.13	Poor
Grade 12	9.21	6.08	Poor
<b>Academic Strand</b>			
HUMSS	14.97	1.04	Poor
ABM	7.81	2.69	Poor
GA	8.84	3.37	Poor
STEM	7.69	3.04	Poor
<b>As a whole</b>	8.54	4.84	Poor

The respondents obtained a poor level of sleep quality as a whole ( $M=8.54$ ,  $SD=4.84$ ). When it comes to sex, females ( $M=9.07$ ,  $SD=5.58$ ) had poor sleep quality compared to males ( $M=7.63$ ,  $SD=3.00$ ). When categorized to the academic strand, HUMSS ( $M=14.97$ ,  $SD=1.04$ ) strand had the lowest sleep quality level followed by GA ( $M=8.84$ ,  $SD=3.37$ ), ABM ( $M=7.81$ ,  $SD=2.69$ ), and STEM ( $M=7.69$ ,  $SD=3.04$ ) strand, respectively.

### Level of Psychological Well-Being

**Table 2.** Level of Psychological Well-Being



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Variables	M	SD	Interpretation
<b>Sex</b>			
Male	26.47	3.19	Moderate
Female	27.01	3.65	High
<b>Year Level</b>			
Grade 11	26.61	3.58	Moderate
Grade 12	27.03	3.39	High
<b>Academic Strand</b>			
HUMSS	28.55	4.07	High
ABM	26.97	3.34	Moderate
GA	26.06	2.29	Moderate
STEM	26.58	3.50	Moderate
<b>As a whole</b>	26.81	3.49	Moderate

**Table 3.** Relationship between Sleep Quality and Demographic Variables

Variable	n	r	p
Sex	328	0.144*	0.00
Year Level	328	0.136*	0.01
Academic Strand	328	-0.323*	0.05

Note: \*the correlation is significant when p<0.05.

The findings revealed as a whole, the psychological well-being of adolescents was moderate (M=26.81, SD=3.49). When it comes to sex, females had a higher psychological well-being level than males (M=27.01, SD=3.65). When it comes to year level, grade 12 had a high level of psychological well-being compared to grade 11 (M=27.03, SD=3.39). When it comes to the academic strand, the HUMSS strand had the highest level of psychological well-being (M=28.55, SD=4.07).

**Relationship between Sleep Quality and Demographic Variables**

Pearson's *r* results yielded a significant positive correlation between sleep quality and sex (*r*=0.144, significant value = 0.00, *p*<0.05), year level (*r*=0.136, significant value = 0.01, *p*<0.05) and a significant negative correlation between sleep quality and academic strand (*r*=-0.323, significant value = 0.05, *p*<0.05). Thus, the null hypothesis was rejected.

**Relationship between Psychological Well-Being and Demographic Variables**

**Table 4.** Relationship between Psychological Well-Being and Demographic Variables

Variable	n	r	p
Sex	328	0.075	0.17
Year Level	328	0.061	0.27
Academic Strand	328	-0.140*	0.01

Note: \*the correlation is significant when p<0.05.

Moreover, the data showed no significant relationship between psychological well-being and sex (*r*=0.075, sig=0.17, *p*>0.05), year level (*r*=0.061, sig=0.27, *p*>0.05) and academic strand (*r*=-0.140, sig=0.11, *p*>0.05). Thus, the null hypothesis was accepted in this study.

**Relationship between Sleep Quality and Psychological Well-Being**

The results of the study showed no significant

relationship between sleep quality and psychological well-being (*r*=0.097, sig = 0.80, *p*>0.05). Thus, the null hypothesis was accepted.

**Table 5.** Relationship between Sleep Quality and Psychological Well-Being

Variable	n	r	p
Sleep Quality and Psychological Well-Being	328	0.097	0.80

Note: \*the correlation is significant when p<0.05.

**Discussion**

The findings confirmed sleep quality and psychological well-being were not related to psychological constructs. Meaning to say sleep quality did not influence the psychological well-being of the participants. When taken as a whole, senior high school students were poor sleepers and categorized to sex, year level, and academic strand. Significantly, most students sleep late at night and experience sleep deprivation. Consequently, they face a greater risk of developing sleeping disorders and daytime sleepiness and fatigue, leading to poor academic performance and overall functioning.

Biologically, the circadian rhythm during adolescence is the least aligned (Hirshkowitz, 2015). Psychologically, Erikson (1968) explained that adolescents experience a psychosocial crisis between identity and identity confusion, making them vulnerable to increased vulnerability and heightened potential for peer and social influence. In the social dimension, poor sleep quality may be due to excessive social media/internet use, earlier school starting time, and more time on homework during weekdays and weekends (Zhou et al., 2012).

The findings revealed a moderate level of psychological well-being as a whole. It signified a certain level of contentment with their lives and understood many positive emotions (Dodge et al., 2012). They experience pleasure and appreciate their current life situation since they can go to school, make good memories and cherish moments with their classmates. Further, the senior high school students engaged themselves with the existential challenges of life (Keyes et al., 2002).

This result showed a significant positive correlation between sleep quality and sex. Men and women differ in their sleeping patterns, sleeping habits, and even routine activities before sleeping. The result corresponds to the study conducted by Rasekhi et al. (2016), in which they found out that there was a significant relationship between sleep quality and sex. Likewise, the results yielded a significant positive



relationship between sleep quality and year level, which signifies that senior high school students experience poor sleep quality when they progress to higher academic levels. Moreover, there was a significant negative relationship between sleep quality and academic strand. Such association may be due to the factor that each academic strand has its uniqueness in academic competencies, academic requirements, and even to the culture of each academic strand that contributes to their sleep quality level.

The results revealed a negative relationship between academic strands and psychological well-being in terms of psychological well-being. This association may be due to teacher factor influence, academic workloads, academic requirements, subject competence, and the culture of a specific strand. The results showed that psychological well-being varies by strand because each college course requires particular knowledge and unique skills. Thus, each strand prepares them for their profession in the future.

Lastly, the data showed no significant relationship between sleep quality and psychological well-being. The results indicated that senior high school students achieved good psychological well-being despite poor sleep quality. Similar to the study results, Mishra and Reddy (2015) confirmed that sleep quality was not significantly correlated with psychological well-being using the PSQI, the same instrument used but administered to International Border Security Personnel.

## Conclusion

To conclude, senior high school students, are poor sleepers due to biological, psychological, and socio-cultural factors that affect them. Further, sleep quality is not associated with psychological well-being, which means a person can still get a good level of psychological well-being even with poor sleep quality. Adolescents should learn appropriate time management skills and observe sleep hygiene practices to prevent them from developing sleep-related disorders. Based on the results of the study, school administrators should consider rescheduling the classes of the senior high school students by starting around 09:00 AM instead of 7:30 AM. Further, the students must establish good sleep hygiene practices and psychological well-being with the collaborative efforts of teachers, guidance counselors, school psychologists, and parents.

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