



A Study on Bedtime Procrastination, Sleep Quality and Psychological Distress among Young Adults

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Abstract: Bedtime Procrastination involves delaying sleep for leisure despite fatigue, common among Young Adults seeking “me time”. It reduces sleep quality, while increasing psychological distress like anxiety and depression. Bedtime Procrastination is the voluntary delay of going to bed at a planned time; despite knowing it will lead to insufficient sleep. Whereas psychological distress refers to unpleasant emotions like anxiety, sadness and stress from overwhelming situations, impairing daily functioning. The study aimed to examine the relationship between Bedtime Procrastination, Sleep Quality and Psychological Distress among Young Adults. A sample of 33 participants was taken between the age group of 18-25. Standardized scales were used to measure the variables. The results found out that there is a significant positive correlation between Bedtime Procrastination, Sleep Quality and Psychological Distress. The study concludes that bedtime procrastination positively correlates with poor sleep quality and higher distress which act as a self-regulation failure worsened by stress, causing sleep deficits that expand mental health issues; targeting it could improve sleep and well-being.

Keywords: *Bedtime Procrastination, Sleep Quality, Psychological Distress, Young Adults*

1. Introduction

“Procrastination is like a credit card: it’s a lot of fun until you get the bill.”

Bedtime sleep procrastination is the voluntary, often habitual delay of going to bed despite knowing it will cause next-day fatigue. Driven by a desire to “reclaim” personal time, people stay up late to engage in leisure, such as scrolling, streaming, or relaxing, because their daytime hours lack freedom. There are certain challenges and limitations linked to Bedtime Procrastination such as- Daytime fatigue and poor performance. Going to sleep late cuts total sleep time, this leads to slow thinking, low attention, weaker memory, and poorer decision-making in studies or work the next day.

Negative impact on mental and physical health: chronic sleep loss from repeated bedtime procrastination is associated with higher stress, irritability, anxiety and depressive symptoms. Overtime, long-term sleep deprivation also increased risk for health problems like weakened immunity, metabolic issues and cardiovascular strain.

Impaired self-regulation and a “vicious cycle”: Bedtime procrastination frequently indicates challenges with self-control; individuals recognize the need for sleep, yet continue to engage in activities such as scrolling, watching videos, or conversing online. Feeling guilty and exhausted the next day can lower mood and motivation, which then makes it even harder to control your bedtime the following night.

Jeoung et al. (2023) examined a randomized controlled trial aiming to establish efficacy of a behavioral intervention to decrease bedtime procrastination in a non-clinical sample of 60 participants. The participants were randomized to either treatment group or wait-list control group. The researchers found that there is a significant improvement on the BPS in the treatment group, bedtime procrastination decreased by 35.56% and sleep efficacy increased by 5.70% compared to the wait-list control group. There were also significant reductions in time spent from bedtime to lights out, and wake time to time out of bed. This study demonstrated various functions of Bedtime Procrastination as a sleep-interfering behavior.

Correa-Iriarte et al. (2023) examined the relationship between sleep quality, problematic smartphone uses and bedtime procrastination, as well as assess gender and age differences with a total of 313 participants aged between 18-60. Correlation analysis showed positive association between three main variables i.e., Sleep Quality, PSU and BP. Independent sample t-tests indicated females were more prone to PSU along with higher overall smartphone use. Post hoc analysis of one-way ANOVA exposes age difference between young adult (18-25 years old), adult (26-44 years old) and middle-aged adult (45-60 years old) in PSU and BP. Finally,

mediation analysis shows that PSU had indirect effects on sleep quality through bedtime procrastination, but no direct effects of sleep quality.

Sleep Quality refers to how well you sleep, rather than just the duration, and is defined by feeling rested, falling asleep within 30 minutes, and minimal nighttime awakenings. It is essential for cognitive function, mental health, and physical well-being. Some of the challenges are:

Insomnia Difficulties: Insomnia involves trouble falling asleep, staying asleep, or waking too early despite time available for rest. It leads to stress, irregular schedules, or poor habits like screen time before bed often worsen it.

Sleep Apnea Risks: Sleep apnea causes breathing pauses, snoring, gasping and fragmented rest, raising risks for hypertension, heart disease, and stroke. Daytime symptom like excess sleepiness and headaches occurs.

Restless Legs Syndrome: It creates an urge to move legs at night due to uncomfortable sensations, disrupting sleep onset. Women face higher risks, with links to heart disease and depression.

Hyun et al. (2021) conducted a study to investigate potential risk factors on sleep quality of U.S. young adults during the pandemic. It was a cross-sectional study on 908 participants. The researchers found that young adults experience high rates of sleep problem during the first 2 months of the pandemic. Depressive and anxiety symptoms appear to be predictors of sleep quality regardless of any pre-existing diagnosis. High levels of PTSD symptoms and COVID-19 related worry were associated with young adult's poor sleep. A study was examined by (Chang et al., 2021) aiming to identify the effect of sleep hygiene, social network and smartphone related factors on quality of sleep in young adults including 288 participants. They found that their average weekly sleep duration was 6.86 hours with low sleep quality. The predictors of sleep quality were sleep mood, sub-items of night eating syndrome, effects of pain over the last four weeks, and social networks. The authors suggest that sleep-induced disease in young adults could be prevented by identifying sleep mood, pain, and social networks, which is important for health.

Psychological distress is a state of emotional suffering characterized by symptoms of depression and anxiety that impair daily functioning. It often arises from an inability to cope with stressors like trauma, life changes, or chronic, high-pressure situations. Some challenges are:

Impaired Daily Functioning: Psychological distress often disrupts concentration, decision-making, and productivity, making routine tasks like work or studies feel overwhelming.

Social Isolation: Distress frequently leads to withdrawal from relationship, lowering social support and increasing loneliness. This is particularly evident during crisis like pandemic, where access barriers worsen emotional strain.

Physical Health Risks: Chronic distress heightens vulnerability to conditions like pain, depression, or cardiovascular issues through mediation by factors such as low social support. It correlates with functional limitations that amplify overall health decline. Younger people may face intensified effects due to unmet expectations for activity and control.

Johansen et al. (2021) examined the gender differences in mental health are associated with social support in young adults. Cross-sectional regional health survey in Norway was conducted during the winter in three Southern counties: Aust-Agder, Vest-Agder, and Vestfold. The study was focused on young adults comparing 3 age groups: 18-24 years old (n=624), 25-31 years old (n=582), and 32-38 years old (n=795). The results showed that the sense of coherence was strongly associated with low mental distress in all age groups and for both genders, while the association between low social support and mental distress was significant for women only. Regular physical activity was not positively associated with low mental distress when sense of coherence and social support were included.

Rickwood and Espaignet, (1996) conducted a study on psychological distress among older adolescents and young adults in Australia. In 1994, the survey was conducted, 8350 adolescents and young adults aged between 16-24 were surveyed. They found high levels of psychological distress with girls being more distressed than boys at all ages. Levels of distress peaked at age 17 for both boys and girls and tended to decrease with age for girls, but to be relatively stable overtime for boys.

1.1 Bedtime Procrastination

Bedtime Procrastination is defined as “failing to go to bed at the intended time, while no external circumstances prevent a person from doing so” (Kroese et al., 2014). According to Steel (2007), bedtime procrastination is defined as “voluntary delay of an intended course of action despite expecting to be worse off for the delay.”

A study was conducted to explore the relationship between Bedtime Procrastination, Psychological Stress and Mental Health among Saudi Undergraduates. The sample size of 536

was collected for this research in which the mails were 324 and the females were 212. The results of the study conducted by the authors showed that Bedtime Procrastination was correlated positively with stress, negatively with mental well-being and that males were higher Bedtime Procrastination than females. The author explains that the students who live alone are more Bedtime Procrastinating than ones who live with their family. In addition, the authors suggest that Procrastinators have risk-taking behaviors that can be included psychological problems (Dardara & Al-Makhalid, 2021).

Teoh and Wong (2022) conducted a study on Mindfulness and Better Sleep Quality in Young Adults by reducing boredom and Bedtime Procrastination. Authors used a correlational approach and recruited a sample of 220 participants. The result shows that Mindfulness predicts a lower level of boredom which in turn predicted a lower level of Bedtime Procrastination and subsequently better Sleep Quality. The author explains that their findings highlighted the role of mindfulness in curbing Bedtime Procrastination.

A study was conducted to examine the relationship between Bedtime Procrastination and poor Sleep Quality among Chinese College Students. The sample sizes of 1550 Chinese undergraduates were collected for this research. The authors used the standardized tests Bedtime Procrastination scale and Pittsburgh Sleep Quality Index to collect the data. The result shows that Bedtime Procrastination was a unique contributor to the severity of poor Sleep Quality. The authors suggest that this study highlighted the independent associations between Bedtime Procrastination and the prevalence and severity of self-reported poor Sleep Quality (Ma et al., 2022).

1.2 Sleep Quality

Sleep Quality is defined as “Feeling energetic and fit after sleeping is described as the sleep quality.” (Karatay et al., 2016). According to Cates et al. (2015). “Sleep, which is directly related to health and quality of life, is a basic need for a human being to continue his bio-psychosocial and cultural functions.”

Fadipe and Mosaku (2017) conducted a study to assess the Sleep Quality of undergraduate students to determine its association with Psychological Distress. The study was conducted by the authors among the students of Obafemi Awolowo University, Ile-Ife. The sample size of 520 was taken for this research. The result of this study shows that there are the presence of Psychological Distress and symptoms of depression and anxiety associated with poor

Sleep Quality. The authors observe that there are strong association between Psychological Distress and Quality of Sleep.

A study was performed to identify the factors influencing gender differences in Sleep Quality between men and women. A sample size of 300 Young Adults was taken from three Korean universities. The participants used smartphones and took no sleep medication. Authors found that the predictors of Sleep Quality in men were coffee consumption, napping, depression, being overweight, being employed, failure to engage in light exercise at least three times per week and smartphone addiction, which explained 30.2% of the variance. And the predictors of Sleep Quality in women were education to college level or higher, smoking and stress, which explain 30.5% of the variance. The authors suggest that to improve Sleep Quality, future intervention should contain lifestyle modification strategies containing smartphone addiction prevention (Chang & Choi, 2016).

Fatima et al. (2016) conducted a study to explore if gender difference in Sleep Quality is due to higher prevalence of depression in female. The standardized test Youth self-reports and the Pittsburgh Sleep Quality Index were used. The sample size of 3778 Young Adults was taken which indicate a higher prevalence of poor Sleep Quality in females than males. The authors states that female vulnerability to poor Sleep Quality should be explored beyond Psycho-Social disparities.

1.3 Psychological Distress

Psychological distress is defined as “a state of emotional suffering characterized by symptoms of depression (e.g., loss of interest; unhappiness; desperateness) and anxiety (e.g., restlessness; feeling tense). It is also characterized by other somatic symptoms like; insomnia, headaches, and lack of energy that are likely to vary across different areas” (Horwitz, 2002).

According to DSM-5, Psychological Distress is defined as “undifferentiated group of symptoms ranging from anxiety and depression symptoms to functional impairment, personality traits (confusing, troubling), and behavioral problems.”

A study was conducted on associations between sleep quality and psychological distress in early adolescence. The sample of 60 participants completed the Pittsburgh Sleep Quality Index (PSQI) and Kessler Psychological Distress (K10). The author states that in contrary to previous findings, there was no significant correlation between K10 scores and sleep duration. The author states that the association between Sleep Quality and Psychological Distress in early adolescents

provides some clues about the role that sleep may play in predicting the onset of anxiety and depression disorders (Jamieson et al., 2020).

Glozier et al. (2010) conducted a study on short sleep duration in prevalent and persistent Psychological Distress in Young Adults; community-based sample was taken from Australia. A total of 20822 Young Adults were taken in which total of 2937 samples provided full data. The results shows that only the very short sleepers are those not distressed at baseline had an increased risk for onset of Psychological Distress. 945 cohort participants reporting psychological distress at baseline, 419 were distressed at follow-up. The authors found that each hour less sleep increased the risk of psychological distress, long sleep duration showed no association with distress at any time point.

A study was conducted on Psychological Distress during the COVID- 19 lock down on Young Adults. The study was conducted to evaluate Psychological Distress related to the crisis and identifies predictive factors of anxiety or depression. The total of 2871 participants were recruited through an online questionnaire. The authors found that the population suffers from anxiety and depression. Young Adults reported lower level of living space, occupational activity, social contact and alcohol use, but higher anxiety, depression and intolerance uncertainty. Also, Youth's alcohol intake has decreased (Glowacz & Schmits, 2020).

2. Purpose

The purpose is to study Bedtime Procrastination, Sleep Quality and Psychological Distress among Young Adults.

3. Hypothesis

H₁: There will be a significant positive relationship between Bedtime Procrastination and Sleep Quality among young adults.

H₂: There will be a significant positive relationship between Bedtime Procrastination and Psychological Distress.

H₃: There will be a significant positive relationship between Sleep Quality and Psychological Distress.

4. Methodology

4.1 Sample

A total sample of 33 Young Adults was collected from Andaman and Nicobar Islands.

4.2 Measures

Bedtime Procrastination Scale (BPS): Bedtime Procrastination Scale was used to measure voluntary dealers of bedtime among Young Adults for the study. The scale was developed by Kroese et al., (2014). The scale consisted of 9 items, and the rating scale included 5 point Likert Scale; Never- 1, 2, 3, 4, 5-Always.

Sleep Quality Scale (SQS): Sleep Quality Scale was used to measure Sleep Quality among Young Adults for the study. The scale was developed by Yi et al., (2006). The scale consisted of 28 items and the rating scale included, Rarely (0), Sometimes (1), Often (2) and Almost Always (3).

Kessler Psychological Distress Scale (K10): Kessler Psychological Distress Scale was used to measure Psychological Distress among Young Adults for the study. The scale was developed by Kessler et al., (2002). The scale consisted of 10 items and the rating scale included, All of the time (5), Most of the time (4), Some of the time (3), A little of the time (2) and None of the time (1).

4.3 Procedure

The purpose of the research was informed to respondents to fill the questionnaire through Google form. Each participant was thanked for their cooperation. Standardized psychological test were administered to the participants.

5. Analysis of Data

Table 1: N, Mean and Standard Deviation

	Bedtime Procrastination	Sleep Quality	Daytime Symptoms	Restoration After Sleep	Problems Initiating and Maintaining Sleep	Difficulty Waking	Sleep Satisfaction	Sleep Adequacy	Psychological Distress
N	33	33	33	33	33	33	33	33	33
Mean	31.5	36.0	3.18	5.70	8.55	3.76	4.24	10.5	25.7
Standard deviation	6.30	12.9	2.34	2.05	3.51	2.41	2.15	5.79	9.26

Table 2: *Showing correlations of all variables*

	Bedtime Procrastination	Sleep Quality	Daytime Symptoms	Restoration After Sleep	Problems Initiating and Maintaining Sleep	Difficulty Waking	Sleep Satisfaction	Sleep Adequacy	Psychological Distress
Bedtime Procrastination	—								
Sleep Quality	0.207	—							
Daytime Symptoms	0.191	0.160	—						
Restoration After Sleep	-0.103	0.543**	0.096	—					
Problems Initiating and Maintaining Sleep	0.169	0.859***	0.075	0.414*	—				
Difficulty Waking	0.065	0.709***	-0.275	0.338	0.478**	—			
Sleep Satisfaction	-0.160	0.681***	-0.121	0.477**	0.503**	0.530**	—		
Sleep Adequacy	0.351*	0.905***	0.032	0.248	0.746***	0.670***	0.501**	—	
Psychological Distress	0.303	0.472**	0.199	0.419*	0.364*	0.359*	0.060	0.431*	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

6. Discussion of Results

The result found out that there is a significant positive relationship between Sleep Quality and Bedtime Procrastination ($r=0.20$, $p<0.5$); between Daytime Symptoms and Bedtime Procrastination ($r=0.19$, $p<.05$); between Daytime Symptoms and Sleep Quality ($r=0.16$, $p<.05$); between Restoration After Sleep and Sleep Quality ($r=0.54$, $p<.01$); between Restoration After Sleep and Daytime Symptoms ($r=0.09$, $p<.05$); between Problems Initiating and Maintaining Sleep and Bedtime Procrastination ($r=0.16$, $p<.05$); between Problems Initiating and Maintaining Sleep and Sleep Quality ($r=0.85$, $p<.001$); between Problems Initiating and Maintaining Sleep and Daytime Symptoms ($r=0.07$, $p<.05$); between Problems Initiating and Maintaining Sleep and Restoration After Sleep ($r=0.41$, $p<.05$); between Difficulty Waking and Bedtime Procrastination ($r=0.06$, $p<.05$); between Difficulty Waking and Sleep Quality ($r=0.70$, $p<.001$); between Difficulty Waking and Restoration After Sleep ($r=0.33$, $p<.05$); between Difficulty Waking and Problem Initiating and Maintaining Sleep ($r=0.47$, $p<.01$); between Sleep Satisfaction and Sleep Quality ($r=0.68$, $p<.001$); between Sleep Satisfaction and Restoration After Sleep ($r=0.47$, $p<.01$); between Sleep Satisfaction and Problem Initiating and Maintaining Sleep ($r=0.50$,

$p < .01$); between Sleep Satisfaction and Difficulty Waking ($r = 0.53$, $p < .01$); between Sleep Adequacy and Bedtime Procrastination ($r = 0.35$, $p < .05$); between Sleep Adequacy and Sleep Quality ($r = 0.90$, $p < .001$); between Sleep Adequacy and Daytime Symptoms ($r = 0.03$, $p < .05$); between Sleep Adequacy and Restoration After Sleep ($r = 0.24$, $p < .05$); between Sleep Adequacy and Problem Initiating and Maintaining Sleep ($r = 0.74$, $p < .001$); between Sleep Adequacy and Difficulty Waking ($r = 0.67$, $p < .001$); between Sleep Adequacy and Sleep Satisfaction ($r = 0.50$, $p < .01$); between Psychological Distress and Bedtime Procrastination ($r = 0.30$, $p < .05$); between Psychological Distress and Sleep Quality ($r = 0.47$, $p < .01$); between Psychological Distress and Daytime Symptoms ($r = 0.19$, $p < .05$); between Psychological Distress and Restoration After Sleep ($r = 0.41$, $p < .05$); between Psychological Distress and Problem Initiating and Maintaining Sleep ($r = 0.36$, $p < .05$); between Psychological Distress and Difficulty Waking ($r = 0.35$, $p < .05$); between Psychological Distress and Sleep Satisfaction ($r = 0.06$, $p < .05$); between Psychological Distress and Sleep Adequacy ($r = 0.43$, $p < .05$). However, there was significant negative relationships between Restoration After Sleep and Bedtime Procrastination ($r = -0.10$, $p < .05$); between Difficulty Waking and Daytime Symptoms ($r = -0.27$, $p < .05$); between Sleep Satisfaction and Bedtime Procrastination ($r = -0.16$, $p < .05$); between Sleep Satisfaction and Daytime Symptoms ($r = -0.12$, $p < .05$).

The purpose of the study was to gain a better understanding of the relationship between Bedtime Procrastination, Sleep Quality and Psychological Distress. The pattern of result is consistent with the previous literature. The study was conducted to explore the effect of smartphone addiction on the relationship between Psychological stress reaction and Bedtime Procrastination in young adults during the COVID-19 pandemic consisting of 1217 samples. The finding showed that the individual level of psychological stress reaction was positively associated with Bedtime Procrastination (Yang et al., 2023). Another study was conducted by (Glozier et al., 2010) on Short sleep duration in prevalent and persistent Psychological Distress in Young Adults: the DRIVE study. The sample consists of 2937 participants (aged 17-24). The result shows that shorter sleep duration was linearly associated with prevalent Psychological Distress. The findings contribute to a growing body of evidence that there are significant relationship between Bedtime Procrastination, Sleep Quality and Psychological Distress.

7. Conclusion

The current research study focused on the correlation between Bedtime Procrastination and Sleep Quality which impacts Psychological Distress among Young Adults aged between 18-25 years old. To collect the data standardized scales were used. The Bedtime Procrastination Scale, containing 9 items, to measure the level of Bedtime Procrastination of an individual; the Sleep Quality Scale, containing 28 items, to measure sleep quality of an individual and Psychological Distress Scale (K10), containing 10 items, to measure the level of psychological distress of an individual. A total number of 33 samples were taken for the research study. The measured data indicates that there is a positive correlation between all the variables i.e. Bedtime Procrastination, Sleep Quality and Psychological Distress.

The current research study has a few limitations that need to be studied. First, it had a small sample size (N=33) and a limited age group (18-25), it provides a less accurate estimate and do not precise represent a larger population. Second, the participant's responses also included a social desirability bias which can lead to inaccurate result.

The current studies support and highlight that Bedtime Procrastination and Sleep Quality play a key role in improving mental health of an individual. This suggests that future studies explore these factors across diverse populations and settings to gain deeper insights and develop targeted interventions for alleviating psychological distress.

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