

## Revenge Bedtime Procrastination during the Pandemic

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### ABSTRACT

Revenge bedtime procrastination - this term has been the talk of the town for quite some time now especially during the pandemic. The "revenge" aspect of bedtime procrastination is almost a sort of defiance against the increasing demands at home and at work, which leave many of us with little time or energy to spend on leisure activities. Most people have lost their sleep cycle during this time majorly because they couldn't get time for leisure activities during the morning hours. One of the major factors that contribute to this phenomenon is working hours, which are frequently extended to 12 hours and beyond, job demands to be available outside of hours, and overtime work are all factors that lead to bedtime procrastination. Modern working patterns and lack of boundary between professional life and work life creates a sense of living at work. This current paper will review different factors that contribute to revenge bedtime procrastination during the pandemic.

**Keywords:** *Revenge bedtime procrastination, Pandemic, Covid-19, Sleep cycle*

Revenge bedtime procrastination is not falling asleep at the intended time even when there's nothing to be done. People sacrifice their sleep for leisure activities which is due to lack of free time during the day. People that work for 10-12 hours in a day find it difficult to take out time. This has happened after COVID-19. Due to the lockdown situation, there is no clear separation between workplace and personal life because our homes became our workplace. We were also stressed more and were unable to stop scrolling. Bedtime procrastination is just a scream from the overworked person,' said Dr. Rajkumar Dasgupta of the Southern California Keck University's Assistant Professor of Clinical Medicine, Los Angeles. "They are trying just a bit to replace them for bedtime. According to few scientists revenge bedtime procrastination is because of lack or lower level of self-discipline.

Many teenagers have been observed engaging in revenge bedtime procrastination. A study found that adolescents don't sleep on time for activities like texting, scrolling through the internet, listening to music, late night conversation with friends. Although the driving force behind the delay was unclear. Occurrence of bedtime procrastination in adults was not addressed in this study.

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### **BEHAVIOURS ASSOCIATED WITH BEDTIME PROCRASTINATION**

In order to consider bedtime procrastination, a late sleep time must satisfy three conditions.

- A decrease in average sleep time as a result of a sleep delay.
- The lack of a legitimate excuse to stay up longer than planned, such as watching television, talking to friends, using mobile phones or an underlying disorder.
- Recognizing that putting off going to bed would have detrimental effects.

One sleep problem is to delay the act of bedtime (bedtime procrastination). A second problem, which is related to the increasing rates of electronic device use in bed (while in bed, procrastination) is delaying the time when trying to sleep. An individual may have a sleep delay of either or both kinds resulting in less sleep at night. More research is needed to better understand sleep delay caused by various interaction factors, such as chronotype, daytime stress and self-regulation difficulties. Mindless surfing or watching television, according to Vaile Wright, the American Psychological Association Senior Health Advancement Officer, anxiety may be relieved.

### **CONSEQUENCES OF BEDTIME PROCRASTINATION**

Researchers discovered that people who sleep in on weekends due to bedtime procrastination on the weekdays tend to have poor sleep quality and they appear to overeat and gain weight. According to Dasgupta, sleep needs of every individual varies, but every individual should get at least seven to eight hours of sleep. He also talked about the effect of using technology at late night hours on sleep. Screens release blue light which in turn suppress melatonin (a sleep which is a regulatory hormone).

Though procrastinating bedtime can seem appealing, sleeping late at night or early in the mornings may cause significant sleep disturbance which can have serious implications for mental, physical, and emotional wellbeing, both in the short and long term.

Bedtime procrastination behaviour is reflected by avoiding tasks like studying, household chores etc. Due to bedtime procrastination people are involved in activities like using social media, talking to friends, playing games, watching videos during the bedtime because these activities give immediate enjoyment and the person feels like they have control over their day.

Bedtime procrastination can affect the body negatively. The mind and body cannot properly load up without enough hours of sleep, which might have negative implications. Lack of sleep also affects decision-making, memory as well as thinking. It also increases the risk of daytime sleepiness, which might affect academic achievement and work productivity and it can increase the risk of drowsy driving. Sleep deficiency is linked to irritation and other emotional difficulties. Some researchers have also shown the correlation between mental health conditions like depression and anxiety with bedtime procrastination.

Deprivation of sleep aggravates the body, and makes it more susceptible to heart diseases & disrupt the metabolic process and lead to diseases like diabetes etc. Moreover, and particularly with regard to coronavirus, lack of sleep will cause problems in your immune system and make you sick. It will also reduce the vaccine efficiency.

Sleep loss consequences can occur rapidly. Continuous consequences of sleep loss may also increase over time and contribute to major health issues in the long-term.

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The symptoms of sleep deprivation can become even more disturbing as sleep quality deteriorates. Lack of sleep is related to reduced self-control and impulse control, so sleep deprivation can deteriorate the health of an individual.

### **CAN BEDTIME PROCRASTINATION BE PREVENTED?**

Healthy sleep hygiene is a great remedy to help with procrastinating the bedtime. A healthy sleep hygiene involves having a sleep schedule, a sleep-friendly environment is the best remedy for sleep delays. Set routines can help in making the behaviour feel automatic. This is why having a nighttime routine will help you resist the urge to delay bedtime.

#### *The following are examples of good sleeping habits*

- Avoiding caffeine and alcohol during the evening hours and at night.
- Keeping the same waking-up time and sleeping time even during the working days.
- Creating a consistent routine for getting ready for bed each night.
- Avoiding use of any sort of electronic device like tablets and mobile phones, for at least an hour before sleeping time.

Relaxing techniques like meditation, reading a book, or stretching gently can be part of the bedtime and can help a person sleep easily. Techniques of relaxation can help in decreasing the stress level.

The development of a dark and peaceful bed and bedding atmosphere may also benefit in falling asleep faster. The temptation to abandon sleep for leisure activities can be countered by creating a welcoming sleeping atmosphere. Consult a doctor who will assess your sleeping patterns, determine if you have a sleep problem, and formulate a plan to help you improve your sleeping habits, change your sleeping habits if your sleep issues persist or require significant daytime sleep.

### **SOME RESEARCHES ON BEDTIME PROCRASTINATION AND THE FACTORS AFFECTING IT-**

Self-regulation impacts bedtime procrastination and vice-versa. People that tend to procrastinate their bedtime finds it difficult to self-regulate. Floor M Kroese, Catharine Evers, Denise de Ridder, & Marieke A Adriaanse (2014) conducted a study to introduce this new term “bedtime procrastination”. In this study the researchers introduced a new phenomenon called bedtime procrastination empirically. Researchers of this study conducted an online survey on one hundred seventy-seven individuals. They assessed correlation between variables related to general procrastination and self-discipline as well as procrastination due to bedtime. Whether bedtime procrastination could predict self-reported sleep outcomes (hours of sleep, fatigue during daytime, experiencing insufficient sleep) was also investigated in the study.

The researchers concluded that self-regulation was negatively correlated with bedtime procrastination which means that people with low score in bedtime procrastination were more self-regulated. Further, the results showed that insufficient sleep is associated with bedtime procrastination and self-regulation. In this research it was concluded that bedtime procrastination is an issue in today’s time due to lack of sleep.

Using mobile phones or being addicted to it can also lead to bedtime procrastination because blue light released from the mobile phones suppresses melatonin (sleep inducing hormone).

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Anise M. S. Wu and Mengxuan Zhang (2020) Increase in smartphone use have increased the risk for smartphone addiction which is associated with bad health consequences like bad quality of sleep although not much has been done to examine the psychological associations. The impact of smartphone addiction on poor sleep quality, self-control, and bedtime quality of sleep, physical wellbeing and to reduce the smartphone addiction intervention program should be considered in which self-regulation skill training.

A new concept of bedtime procrastination called procrastination while in bed was introduced. Vania Cruz, Sonia Fuentes, Paula Magalhães, Pedro Rosario, Sara Teixeira (2020) conducted a study to explore if while-in-bed procrastination that is behaviour people indulge themselves into when they are on bed was novel and can be added to the sleep procrastination literature. Prior research on sleep procrastination based solely on activities that people indulge themselves into before going to bed. The data was conducted from 400 high school students which were recruited through social media and personal contacts. Development of a new questionnaire for procrastination while on the bed was done in this research and an existing scale for procrastination before bedtime was adapted and validation was done for sample collected in the study.

Low correlation was found between while-in-bed procrastination and bedtime procrastination scale. These results suggest procrastinating due to sleep consists of two parts. Outcomes of the study also showed association of procrastinating bedtime with late waking up time, late dinner time hours, whereas while-in-bed procrastination was associated with eating early at night, desire to sleep late and being male. This exploratory research added a fresh viewpoint in the sleep procrastination research focusing on while-in-bed procrastination concept, which also lead to opening new research pathways. Adding while-in-bed procrastination to the sleep literature has helped overcome this limitation.

Living in the pandemic has been very difficult for everyone. Not having an option to go out to meet the closed one's, staying inside the house 24x7 for months is a difficult task. Resisting desires affects the self-regulatory mechanism that affects sleep leading to procrastination of the sleep time. Joel H Anderson, Bart A Kamphorst, Denise T D De Ridder, Sanne Nauts conducted a study to examine the suppressing urges, an indicator of resource that is self-regulatory leading to bedtime procrastination depletion. Procrastination in bed is a strong indicator of sleep deprivation in the general population (Kroese et al. 2014b).

Since the phenomenon in the literature has been conceptualized as a form of failure to regulate themselves, the researchers assumed that people's self-regulating resources at night might be a predictor of bedtime procrastination. Two hundred and eighteen participants reported the extent of their bedtime procrastination and the number of times they suppressed their wishes during the previous day. Results of the study showed that participants who tried to resist their desires during the previous tend to indulge in procrastinating at bedtime.

Rise in Covid-19 cases was a wakeup call for the world. Health care workers worked day and night losing their sleep due to the medical emergency. This also affected the people with Covid-19 and their families. Michael V Vitiello, Haitham Jahrami, Nicola Luigi Bragazzi, MoezAllslam Faris, Ahmed BaHammam, and Zahra Saif studied pandemic's impact on sleep prevalence issues among the general public and patients with Covid-19 as well as health workers was evaluated in a systematic study. For the meta-analysis random effect models was used using the DerSimonian and Laird methodology. 44 papers were judged to be relevant and

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helped the systemic review and meta-analysis of sleep problems during COVID-19, involving a total of 54,231 participants from 13 countries.

The researchers concluded that during COVID-19 pandemic the prevalence of sleeping issues is high and affects around 40% of the general population and people living in health care. A higher prevalence of sleep related issues was seen in patients with COVID-19.

Different people procrastinate their bedtime due to different reasons. Wim Stut, Denise T D De Ridder, Bart A Kamphorst, Joel H Anderson, Sanne Nauts conducted a qualitative study with bedtime procrastinators to identify their self-reported reasons for staying up late. Sleep deficiency is commonly caused by bedtime procrastination, but little is understood about why people avoid going to bed. 17 participants were recruited for the study, these people reported to procrastinate very frequently but they weren't diagnosed with any sleep disorders. Deliberate procrastination, mindless procrastination, and strategic delay were described as three emerging themes in this study. Participants who engaged in deliberate procrastination reported to purposefully putting off going to bed because they felt the need for time for their own self. Participants lost track of time due to their evening activities, which was a paradigmatic feature of the group of mindless procrastination. Participants who deliberately delayed bedtime said they went to bed late because they needed more sleep. This paper is helpful for designing better interventions programs.

High and low blood pressures can also affect one's sleep cycle. Hyeyoung An, Sun Ju Chung and Sooyeon Suh conducted research to examine the psychological factors and sleep associated with blood pressure, further comparison of how the low and high BP group participants invested a few hours before them before bedtime as well as the entire day. Sample from hundred and six people was taken and the individuals were rated as having low or high BP using the procrastination in bed scale. The participants were asked to keep a sleep diary for a week, the participants were also asked to complete few questionnaires.

Results of the study showed that people with high blood pressure showed a significant relationship with mental health disorders like anxiety, going to bed late, waking up late than those with low blood pressure. Participants in the high BP category tend to spend most of their time in leisure activities while the low BP category participants invested most of their time using media. The high blood pressure group spent sixty-one minutes more on electronic devices than those with low blood pressure group. Findings of the study indicate that high blood pressure is linked to bad mood and lack of sleep that it should be regarded as a serious health hazard.

Depression a very prevalent mental health issue in today's youth can also affect bedtime procrastination. Xiaohan Ma, Li Mu, Jing Guo, Limin Yang, Liwei Zhu, and Dexin Meng conducted a study to see how bedtime procrastination affected depression symptoms in medical students. Inadequate sleep is linked to depression symptoms, and medical students are more likely to experience them. Procrastination in bed is now thought to be a recent and powerful indicator of sleep deprivation. However, no proof for links between symptoms of depression and procrastination in bed was known.

The final statistical analysis included a summary of 419 Chinese medical students, and 401 participants. Beck Depression Inventory-II (BDI-II) and Bedtime Procrastination Scale (BPS) were used to assess symptoms of depression and procrastination in bed. Depression symptoms were found to be prevalent in 26.9 percent of Chinese medical students. When groups with

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and without symptoms of depression were compared, the mean BPS values were found to be higher in the group with symptoms of depression.

Regression analysis done in the study showed that the bedtime repressive treatment contributes independently to the prevalence of symptoms of depression. Further correlations and multifaceted studies of regression showed that BDI scores in students that were not depressed were significantly and positively associated with BPS, whereas BDI scores were found to be linked with depressed students. Symptoms of depression were found to be linked to procrastinating bedtime in medical students of China. In the study, the severe cases of depression were found to be linked with procrastination in bed.

Sleep deprivation has significant physical and psychological consequences. Catharine Evers, Floor M Kroese, Marieke A Adriaanse conducted this study to analyze sleep deficiency from the point of view of regulating self and focused on the phenomenon of decrease in the sleep time that happens when individuals don't go to bed when they are supposed to that too without any reason.

Sleep for a significant proportion of the general population is inadequate and they tend to go to bed late than they wish to and according to data of the collected sample of two thousand four hundred and thirty-one adults. Most notably, a link was found between self-regulation and sleep deprivation, which was mediated by bedtime procrastination.

Pandemic led to stressful situations where everyone was stressed either about their families or about their own self. Living in the pandemic is like constantly staying in a state of stress. Stress leads to self-deficiency. Veronika Job, Katharina Bernecker in order to investigate how an individual's perception about self-control and stress as a medium of procrastination in bed conducted two daily diary studies. The findings indicate that people who believe in a restricted tends to procrastinate their bedtime when they the day was stressful although no procrastination in bedtime was observed on free days.

Deniz Okay, Ozlem Bozo, Kutlu Kağan Türkarlan, Mustafa Çevrim conducted a study to understand the relationship between the fear of death and procrastination in bed as well as the mediator functions of purpose of life and gender were explored in this research. An online survey was used to gather data from 245 people. Gender was found to be the mediator between fear of death and procrastination in bed but no role of purpose of life was found according to the findings. Fear of death was found to have a major impact on procrastination in bed in males.

Furthermore, even after regulating sleep cycle and self-regulation this effect remained important. The Terror Management Theory may be used to justify the results. When procrastination in bed was seen in males it was considered risky. Furthermore, men think that sleeping isn't useful hence, they procrastinate their bedtime and increase their non-sleeping lifespan.

Denise T D Ridder, Floor M Kroese conducted research to illustrate a novel view of the failure of health behavior by considering reasoned procrastination they argued that people do not always struggle to carry out their plans because of intense desires, but that they may also consciously and wilfully delay their planned acts. Although procrastination is known to be a factor in intention-behavior differences in different contexts, not much attention has been given to this in the healthcare domain.

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They researchers argued the waxing and diminishing intentions are especially important. In this paper the researchers explained how the report applies to the intention-competence difference, the knowledge of the problem and behaviour, and the theoretical and practical consequences from this novel viewpoint on our understanding of the shift in health behaviour.

### CONCLUSION AND IMPLICATION

It can be concluded that during the pandemic, sleep problems have increased. This applies to over 40% of the general population and to the public in the health care sector. In people with Covid-19, sleep problems are more prevalent. Due to work from home during the pandemic the boundary between professional life and personal life is blurred. Not getting sufficient time for leisure activities during the day and lack of boundary between the work life and personal life are the major reasons for bedtime procrastination and the sleep issues that it causes. To procrastinate bedtime people indulge themselves in activities like texting, scrolling social media, playing video games, chatting, late night conversations etc. Bedtime procrastination causes lot of problems like finding it difficult to concentrate, heart disease, hormone-related problems, obesity, diabetes, mental health disorders like anxiety, affects immune system, and makes the person irritable which might affect the relationships as well. It also makes people more prone to accidents. To avoid bedtime procrastination, clear boundary between work life and personal life should be established, set routine for bed should be followed, use of electronic devices should be avoided during before the bedtime. Relaxation techniques like meditation, reading a book can also reduce stress.

#### *Suggestions*

For further research, various factors influencing bedtime procrastination should be considered. Intervention programs to address this problem can be developed. Research can be done on gender differences in bedtime procrastination during the pandemic. Quantitative study on Indian samples can be done.

#### *Limitations*

- This research is not applicable for people diagnosed with insomnia.
- Not all factors that might affect bedtime procrastination were studied in the paper.
- None of the study that was reviewed for this paper was conducted on Indian sample.
- This research is based on the current scenario of the ongoing pandemic considering that everyone is working from home.
- This research is not applicable for people that work in night shifts since they have to delay their bedtime for their work.

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### **Conflict of Interest**

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