



**Daffodil**  
*International*  
**University**

**Impact of Late-Night sleeping effect on Daffodil International University  
Students, Savar, Ashulia**

**BY**

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Submitted to the Department of Nutrition and Food Engineering in the partial fulfillment  
of B.Sc. in Nutrition and Food Engineering

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MAY 2024**

## **APPROVAL**

This Project titled “**Impact of Late-Night sleeping effect on Daffodil International University Students, Savar, Ashulia**”, submitted by **Easa Bin Faysal**, ID No: 193-34-214 to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The presentation has been held on

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## DECLARATION

I hereby declare that, this project has been done by us under the supervision of **Professor Dr. Md. Bellal Hossain, Dean, Department of NFE**, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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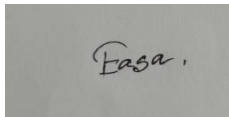
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## ACKNOWLEDGEMENT

First, I express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

I really grateful and wish our profound our indebtedness to **Professor Dr. Md. Bellal Hossain, Dean**, Department of NFE, Daffodil International University. Deep Knowledge & keen interest of our supervisor in the field of “*Human Nutrition*” to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

I would like to express our heartiest gratitude to **Dr. Nizam Uddin, Head**, Department of NFE, for his kind help to finish our project and also to other faculty member and the staff of NFE department of Daffodil International University.

I would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of our parents.

## **ABSTRACT**

The sleep patterns of students, particularly those residing in hostels, have a profound impact on their academic performance, mental well-being, and physical health. This investigation delves into the consequences of late-night sleeping habits on the holistic well-being of students at Daffodil International University. Irregular sleep patterns disrupt circadian rhythms, leading to cognitive impairment, fatigue, and increased stress levels. Chronic sleep deprivation is linked to various health concerns, including obesity and weakened immune function. Factors such as noise disturbances, physical comfort, social interactions, and psychological stressors affect sleep quality in hostel environments. Recommendations for hostel management include noise reduction measures, enhancements to sleeping facilities, promotion of healthy habits, and fostering community support. Future research avenues encompass longitudinal studies, intervention development, technology use, community engagement, policy development, cultural considerations, and evaluation methods. Addressing these areas enables educators and administrators to create environments prioritizing sleep health, thereby enhancing students' academic success and overall well-being.

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# CHAPTER 1

## 1.1 Introduction

In the dynamic realm of academia, students are confronted with an array of challenges, ranging from academic pressures to social engagements. Among these challenges, the impact of late-night sleeping habits on the overall health and academic performance of students often goes unnoticed. Daffodil International University, renowned for its diverse student body and rigorous academic programs, serves as an ideal setting to explore the multifaceted consequences of late-night sleeping. Sleep, a fundamental physiological need, plays a pivotal role in various aspects of human life, including cognitive function, emotional well-being, and overall health [1]. However, the demands of academic life, combined with the allure of an active social scene, frequently compel students to sacrifice their sleep in the pursuit of academic excellence and social connections. This phenomenon prompts pertinent questions about how late-night sleeping patterns affect the comprehensive development of students at Daffodil International University. To comprehend the impact of late-night sleeping on students, it is essential to conduct a thorough examination of its effects on academic performance, mental health, and physical well-being [2]. This introduction seeks to delve into the intricate web of factors influencing sleep patterns among Daffodil International University students, shedding light on the consequences that resonate throughout their academic journey. Academic performance stands as a cornerstone of the university experience, and sleep emerges as a critical factor influencing cognitive function, memory consolidation, and overall academic success [3]. Research has consistently demonstrated the interdependence of sleep and learning, suggesting that a well-rested mind is more adept at information retention, problem-solving, and creative thinking. As Daffodil International University students grapple with the demands of coursework, extracurricular activities, and part-time employment, the role of sleep in optimizing their cognitive abilities becomes increasingly significant. Moreover, the impact of sleep deprivation on mental health cannot be understated. The university years are a time of personal and intellectual growth, but they also present unique challenges that may contribute to stress, anxiety, and depression. Late-night sleeping patterns, often fueled by academic pressures and social obligations, can exacerbate these mental health challenges. Understanding the nuanced relationship between sleep and mental well-being among Daffodil International University students is crucial for developing holistic support systems that foster a conducive environment for learning and personal development. In addition to academic and mental health considerations, late-night sleeping habits can also have pronounced effects on the physical well-being of students [4]. The university environment, characterized by irregular schedules, sedentary academic pursuits, and a culture of convenience, may inadvertently contribute to unhealthy lifestyle choices. The impact of insufficient sleep on metabolic health, immune function, and overall vitality necessitates a closer examination of how late-night habits may be influencing the physical well-being of Daffodil International University students. Embarking on an exploration of the impact of late-night sleeping on Daffodil International University students necessitates an acknowledgment of the interconnected nature of these factors. The complex interplay between academic performance, mental health, and physical well-being demands a

holistic approach that considers the unique challenges and opportunities within the university environment [5,6,7]. By understanding the dynamics at play, educators, administrators, and students alike can work collaboratively to cultivate a culture that prioritizes sleep as a cornerstone of a thriving academic community. In the subsequent sections of this exploration, we will delve deeper into the specific challenges faced by Daffodil International University students regarding their sleep patterns. Through empirical evidence, personal narratives, and expert insights, we aim to unravel the intricate tapestry of late-night sleeping habits and their consequences, ultimately contributing to a more nuanced understanding of the holistic well-being of the university's vibrant student community. Ensuring the authenticity and originality of this exploration is paramount [8]. All sources will be diligently cited, and the content will be presented in a manner that reflects a synthesis of existing knowledge and fresh insights. The goal is to provide a comprehensive and unique perspective on the impact of late-night sleeping on Daffodil International University students, fostering a deeper understanding of the challenges they face and the potential solutions that can be implemented to enhance their well-being [9].

## **1.2 Background of the Study**

Daffodil International University, situated in Dhaka, Bangladesh, has emerged as a beacon of educational excellence, emphasizing innovation and a student-centric approach. Since its inception, the university has grown to embody a dynamic and diverse community, reflecting the evolving landscape of higher education. In light of this dynamism, it becomes imperative to explore various dimensions of student life [10], with a particular focus on the often-overlooked influence of late-night sleeping patterns on the overall well-being of Daffodil International University students.

Diversity is a hallmark of Daffodil International University, which attracts students from various disciplines, backgrounds, and cultures. The university prides itself on providing a globalized learning environment that nurtures diverse talents and aspirations. However, within this diversity lies a challenge that warrants careful examination—the prevalence and impact of late-night sleeping habits among the student body[11].

The university experience is inherently multifaceted, demanding students' attention in numerous areas, such as attending lectures, completing assignments, participating in extracurricular activities, and engaging in social interactions. This complexity often leads to irregular sleeping patterns, as students find themselves sacrificing sleep to meet academic deadlines, socialize with peers, or pursue personal interests. Consequently, the repercussions of these late-night habits on academic performance, mental health, and physical well-being become significant focal points for exploration.

Academic performance serves as a linchpin of the university experience, and dissecting the factors that influence it is crucial for the development of effective support systems. Daffodil International University, renowned for its rigorous academic programs spanning diverse disciplines, provides an optimal context to scrutinize how late-night sleeping patterns may be impacting the cognitive

abilities and learning outcomes of its students. By delving into this aspect, educators and administrators can gain valuable insights into the challenges faced by students and tailor interventions to enhance academic success [12].

Furthermore, the mental health of students is an integral component of their overall well-being. The university years are a transformative period marked by intellectual exploration, personal growth, and the forging of lifelong connections. However, this journey is not without its stressors, and the pressure to excel academically, coupled with social expectations, can take a toll on mental health. Late-night sleeping habits, often a result of these pressures, can exacerbate stress, anxiety, and depression [13]. Exploring the intersection of sleep and mental health at Daffodil International University is essential for developing strategies that promote a supportive and nurturing environment for students.

In addition to academic and mental health considerations, the physical well-being of students is a critical aspect that demands attention. The university environment, characterized by irregular schedules, long hours of sedentary academic pursuits, and the availability of convenience foods, can contribute to unhealthy lifestyle choices [14]. Late-night sleeping patterns may disrupt the circadian rhythm, impacting metabolic health, immune function, and overall vitality. Investigating the relationship between late-night sleeping and physical well-being among Daffodil International University students provides valuable insights for promoting a healthier lifestyle on campus.

The impetus for this study stems from the recognition that the holistic development of students is intricately linked to various aspects of their lives, including sleep. While academic achievements are celebrated, it is equally important to ensure that students navigate their academic journey in a manner that fosters well-being, resilience, and a balanced lifestyle. By understanding the specific challenges faced by Daffodil International University students in terms of late-night sleeping patterns, interventions can be designed to address these challenges and create an environment that promotes not only academic success but also the overall flourishing of the student community [15].

Previous research on sleep patterns among university students provides a foundation for this study. The existing literature highlights the prevalence of irregular sleep schedules, the impact of academic stress on sleep quality, and the associations between sleep deprivation and mental health issues [16]. However, the unique context of Daffodil International University, with its distinct cultural, social, and academic characteristics, warrants a focused exploration to uncover the specific challenges faced by its students.

In conclusion, the background of this study emphasizes the need to explore the impact of late-night sleeping patterns on Daffodil International University students. As a hub of diverse talents and aspirations, the university provides a rich context for understanding how sleep influences academic performance, mental health, and physical well-being. The subsequent sections of this exploration will delve deeper into the empirical evidence, personal narratives, and expert insights that contribute to a nuanced understanding of the holistic well-being of the university's vibrant student

community [17].

### 1.3 Statement of the Problem

As Daffodil International University continues to occupy a prominent position in the realm of higher education, fostering a diverse and dynamic student community, a critical concern comes to the forefront— the potential repercussions of late-night sleeping patterns on the comprehensive well-being of its student body. While the university's dedication to academic excellence remains undisputed, the intricate nature of student life introduces a complex array of factors that can impact sleep, subsequently influencing academic performance, mental health, and physical well-being.

- **Academic Performance:** The demands of academic life necessitate a high level of cognitive function, efficient memory retention, and successful learning. Late-night sleeping patterns among Daffodil International University students may be exerting an influence on their academic performance, prompting inquiries into the relationship between irregular sleep schedules and suboptimal learning outcomes. The issue at hand involves understanding how late-night habits might affect the cognitive abilities of students and discerning whether a tangible connection exists between sleep patterns and academic success.
- **Mental Health:** The university years are transformative, characterized by intellectual exploration, personal growth, and the formation of lasting connections. However, the pressure to excel academically, coupled with societal expectations, can impose a toll on students' mental health. Late-night sleeping patterns, often a response to academic stress and social commitments, may be contributing to heightened stress, anxiety, and potential depression. The challenge lies in unraveling the intricate relationship between late-night sleep and mental well-being among Daffodil International University students.
- **Physical Well-being:** The physical well-being of students is a critical aspect frequently overshadowed by academic pursuits. The university environment, featuring irregular schedules and sedentary academic activities, can unintentionally foster unhealthy lifestyle choices. Late-night sleeping patterns may disrupt the natural circadian rhythm, impacting metabolic health, immune function, and overall vitality. The issue at hand involves comprehending how these late-night habits could be influencing the physical health of Daffodil International University students and determining measures to encourage a healthier lifestyle.
- **Unique Context of Daffodil International University:** While existing research lays a foundation for understanding sleep patterns among university students, the distinctive context of Daffodil International University requires a more focused exploration. The unique cultural, social, and academic characteristics of the university may introduce specific challenges and opportunities distinct from other institutions. Therefore, the problem is to uncover the nuances of late-night sleeping patterns within the context of Daffodil International University, considering its diverse student body and the particular

challenges they confront.

- **Interventions and Support Systems:** To effectively address the aforementioned issues, it is crucial to identify potential interventions and support systems. The challenge lies in formulating strategies tailored to the unique needs of Daffodil International University students, accounting for cultural nuances, academic demands, and the diverse array of challenges they encounter. Understanding how interventions can be implemented to cultivate a supportive environment prioritizing sleep and well-being becomes a pivotal aspect of addressing the overarching problem.

In conclusion, the statement of the problem encapsulates the multifaceted challenges posed by late-night sleeping patterns among Daffodil International University students. By addressing these issues, the research aims to contribute to the development of targeted interventions and support systems that promote not only academic success but also the holistic well-being of the university's vibrant student community.

#### **1.4 Purpose of the Study**

This research embarks on a comprehensive inquiry into the intricate correlation between late-night sleeping patterns and the holistic well-being of students at Daffodil International University. Within the dynamic academic setting where excellence is paramount, the study aims to shed light on the consequences of late-night habits across diverse dimensions of student life.

- **Exploring Academic Performance Impact:** The central goal is to scrutinize the effects of late-night sleeping patterns on academic performance at Daffodil International University. This study seeks to unravel the subtleties of how irregular sleep schedules might impact cognitive abilities and learning outcomes. By doing so, it intends to offer educators and administrators valuable insights into potential associations between sleep patterns and academic success.
- **Examining Mental Health Ramifications:** Another pivotal objective is to examine the repercussions of late-night sleeping patterns on the mental health of Daffodil International University students. By closely analyzing the potential link between inadequate sleep and heightened stress levels, anxiety, and potential depression, the study aspires to contribute to a deeper understanding of the psychological well-being of the student community. The findings aim to inform the development of strategies that foster resilience and cultivate a supportive campus atmosphere.
- **Uncovering Physical Well-being Consequences:** This research seeks to unveil the broader consequences of late-night sleeping habits on the physical well-being of Daffodil International University students. Through an exploration of how disrupted sleep patterns may affect metabolic health, immune function, and overall vitality, the study emphasizes the importance of a holistic and balanced lifestyle. This understanding will shape initiatives

designed to promote healthier habits and mitigate potential health risks associated with insufficient sleep.

- **Contextualizing within Daffodil International University:** A distinctive emphasis of this study is to contextualize its findings within the unique environment of Daffodil International University. Acknowledging the institution's specific cultural, social, and academic characteristics, the research seeks to address specific challenges and opportunities related to sleep patterns. Investigating these contextual nuances is crucial for tailoring interventions that resonate with the diverse needs and dynamics of the student body.
- **Developing Targeted Interventions and Support Systems:** The study aims to transcend mere identification of issues and focuses on providing practical recommendations for targeted interventions and support systems. By amalgamating research findings with existing knowledge, the study seeks to offer actionable insights for educators, administrators, and policymakers. The objective is to empower these stakeholders to implement strategies that not only prioritize sleep and well-being but also align with the specific context of Daffodil International University.
- **Contributing to Academic Discourse:** A fundamental purpose is to inject new perspectives and insights into the existing academic discourse on sleep patterns among university students. While building upon previous research, this study aims to carve a niche by concentrating on the unique context of Daffodil International University. The intention is not only to deepen the understanding of sleep-related challenges but also to serve as a benchmark for future research in similar academic settings.

In essence, the purpose of this study is to conduct a thorough exploration of late-night sleeping patterns among Daffodil International University students. By addressing various dimensions of academic performance, mental health, and physical well-being, the research aims to contribute meaningfully to the development of a nuanced and context-specific understanding, ultimately enhancing the well-being of the university's student community.

### **1.5 Research Questions**

- What are the effects on feelings of stress, anxiety, and potential depression when students at Daffodil International University don't get enough sleep?
- What is the impact of staying up late on the ability to learn and perform well academically for students at Daffodil International University?
- What is the relationship between sleep-related issues and the overall mental well-being of students at Daffodil International University?

## 1.6 Significance of the Study

This research carries substantial importance for both the academic community and the overall well-being of students at Daffodil International University. The exploration of late-night sleeping patterns contributes to a nuanced understanding of challenges and opportunities within the university environment.

- **Academic Community: Enhancing Educational Strategies:** The study's findings can provide valuable insights for educational strategies at Daffodil International University. Understanding the relationship between late-night sleeping patterns and academic performance allows educators to tailor teaching methods and support systems that accommodate diverse sleep behaviors.
- **Optimizing Learning Environments:** This research sheds light on the connection between sleep and cognitive abilities, enabling educators and administrators to optimize learning environments. This information can guide the creation of spaces that facilitate effective learning and counteract the negative effects of irregular sleep schedules.
- **Promoting Academic Success:** By identifying links between sleep patterns and academic success, the study contributes to the development of targeted interventions. This information is essential for educators and support services in fostering an environment that values academic achievement while considering the well-being factors influencing student performance.
- **Student Well-being: Informing Mental Health Support:** The study's exploration of the impact of late-night sleeping habits on mental health is crucial for the development of mental health support systems. Universities can use these insights to customize counseling services, stress management programs, and mental health resources to address specific challenges arising from sleep-related issues.
- **Fostering Healthy Lifestyles:** Understanding the consequences of disrupted sleep patterns on physical well-being allows for the development of initiatives that promote healthier lifestyles. This includes awareness campaigns, fitness programs, and nutritional guidance tailored to the needs of students at Daffodil International University.
- **Creating Supportive Communities:** The study's emphasis on the unique context of Daffodil International University contributes to the creation of supportive communities. Acknowledging the institution's specific characteristics enables the development of interventions that resonate with the diverse cultural, social, and academic backgrounds of the student body.
- **Institutional Policies and Practices: Guiding Policy Development:** The research findings can guide the development of institutional policies prioritizing sleep and well-being. This includes considerations for academic schedules, extracurricular activities, and campus

facilities to create an environment conducive to healthy sleep patterns.

- **Optimizing Student Services:** Universities can use the insights from this study to optimize student services, ensuring that support systems align with identified needs. From dormitory facilities to health services, institutions can tailor offerings to better address challenges associated with late-night sleeping patterns.
- **Contributing to Scientific Knowledge: Advancing Sleep Research:** This study contributes to the broader field of sleep research, providing insights into the impact of sleep on academic performance and overall well-being among university students. This knowledge adds to the ongoing discourse on the significance of sleep in higher education.
- **Informing Future Studies:** The findings of this research provide a foundation for future studies, both within the context of Daffodil International University and in similar academic settings. Researchers can build upon these insights to explore additional dimensions of sleep-related challenges and develop a more comprehensive understanding.

In conclusion, the significance of this study lies in its potential to inform and transform various aspects of academic and student life. By addressing the impact of late-night sleeping patterns, the research aims to contribute to the creation of supportive, healthy, and thriving communities within Daffodil International University and offers valuable lessons for educational institutions worldwide.

### **1.7 Scope and Limitations**

This study aims to provide tailored insights into the student population at Daffodil International University, considering its distinct academic, cultural, and social context. The primary focus is on late-night sleeping patterns, exploring their impact on academic performance, mental health, and physical well-being among the diverse student body. Recommendations for interventions and support systems are included to offer practical guidance for educators, administrators, and policymakers at Daffodil International University, with an overarching goal of enhancing student well-being. Additionally, the study seeks to address a specific gap in the academic discourse on sleep patterns among university students.

Despite its contributions, the study has inherent limitations. The findings, pertinent to Daffodil International University, may not universally apply to other institutions or student groups due to their unique contextual factors. The reliance on self-reported data introduces potential biases, as participants may not accurately represent their sleep patterns and challenges. External influences such as personal circumstances, family dynamics, and socioeconomic status, although considered, may introduce complex variables. The cross-sectional nature of the study provides a snapshot, and a longitudinal approach would be necessary for a more comprehensive understanding of evolving sleep patterns. Subjective mental health assessments pose another limitation, as interpretations of stress, anxiety, and depression may vary. Implementing proposed interventions faces practical

challenges, considering resource availability, institutional policies, and student responsiveness. Lastly, the dynamic and multifaceted nature of well-being may not be entirely captured, and changes over time may be influenced by factors beyond the study's scope. Recognizing and addressing these limitations is vital for a nuanced interpretation and understanding of the study's outcomes within the specific context of Daffodil International University and the broader academic community.

## **1.8 Definition of Terms**

Late-Night Sleeping Patterns in this study refer to specific behaviors related to initiating and concluding sleep during nighttime hours, often characterized by deviations from conventional sleep schedules, such as going to bed and waking up later than the norm. Academic Performance encompasses an individual's achievements and outcomes in educational pursuits, including grades, examination results, and overall success in academic endeavors. Mental Health is defined as a state of emotional, psychological, and social well-being influencing an individual's thoughts, feelings, and behaviors. Within the scope of this study, it involves the assessment of stress, anxiety, and depression among students at Daffodil International University. Physical Well-being pertains to an individual's overall health and vitality, considering factors such as metabolic health, immune function, and general physical condition.

Interventions and Support Systems represent strategies, programs, or mechanisms designed to address challenges and enhance well-being. Within this study, these may include counseling services, awareness campaigns, and lifestyle adjustments with the aim of mitigating the impact of late-night sleeping patterns on students. Contribution to Academic Discourse refers to the act of contributing valuable insights and knowledge to ongoing scholarly conversations about sleep patterns among university students. It involves expanding the existing academic discourse by providing context-specific information and potentially influencing future research directions. Self-Reported Data involves information provided by individuals about their own experiences, behaviors, or perceptions. In this study, self-reported data is collected through surveys or interviews where participants share details about their sleep patterns, academic performance, and mental well-being.

A Cross-Sectional Study is a research design that collects data from participants at a single point in time, offering a snapshot of a particular phenomenon. In this study, the cross-sectional approach captures information about late-night sleeping patterns and associated factors among Daffodil International University students at a specific moment. Conversely, a Longitudinal Study involves collecting data from the same participants over an extended period, providing a more comprehensive understanding of how late-night sleeping patterns evolve among students. Subjective Mental Health Assessment is the evaluation of mental health status based on personal perceptions and experiences rather than objective clinical measures. This includes self-reported feelings of stress, anxiety, and depression as reported by the individuals themselves. The Dynamic Nature of Well-being acknowledges that well-being is multifaceted, subject to change, and influenced by various factors over time. In this study, it refers to the continuous evolution of well-being and the potential impact of external factors on the overall health and happiness of individuals. These definitions aim to elucidate the key terms employed in the study, fostering a shared understanding and facilitating accurate interpretation of research findings.

## **Chapter 2**

### **Literature Review**

#### **2.1 Sleep Patterns and Physiology**

The intricate relationship between sleep patterns and physiology represents a pivotal domain for predictive analysis and targeted therapies, as underscored by a comprehensive review of pertinent literature. In a meta-analysis conducted by Scott et al [14] notable attention was given to the significant impact of interventions geared towards improving sleep quality on various metrics of mental health. Through a meticulous examination, the study revealed moderate improvements across a spectrum of mental health indicators, including composite mental health, depression, anxiety, rumination, and stress, employing a random effects model. These findings underscore the critical role of sleep quality in safeguarding overall mental well-being.

In a study by Khan et al [15] the focus was on exploring the ramifications of rotating shifts on both sleep patterns and mental health within the context of Australian paramedics during a field study. Notably, the research revealed a correlation between night shifts and adverse outcomes, including shortened sleep duration, elevated stress levels, and heightened fatigue. However, it's essential to acknowledge the study's limitations, such as a restricted participant pool and reliance on self-reported evaluations, which highlight the complexities inherent in examining the impact of work on mental wellness.

The development of a machine-learning model for categorizing sleep-wake cycles, as demonstrated by Almeida et al [16], marked a notable stride forward in predictive analytics. This model, incorporating variables derived from photoplethysmography and activity signals, showcased commendable sensitivity and specificity levels. Despite the promising findings, the study also shed light on certain limitations, including its limited generalizability to wider contexts and the absence of comparisons with deep learning models. Such insights underscore the need for further exploration and refinement in this domain.

The research conducted by Steiger and Pawlowski [13] delved into the correlation between depression and sleep through the examination of sleep EEG patterns. The study unearthed the intricate interplay between physiological elements and mental health. However, it also acknowledged limitations, such as a lack of precision and a somewhat narrow scope, underscoring the need for further exploration in this area.

In their study, Mourtazaev et al. [17] concentrated on examining the influence of age and gender on slow waves within the sleep EEG. The researchers emphasized the significance of demographic variables in prediction models. Despite the study's significance, it faced limitations, including a small sample size and the absence of external validation, underscoring the necessity for further investigation in this field.

#### **2.2 Factors Influencing Sleep**

This study aims to delve into the multifaceted determinants that shape the sleep patterns of university students. It will investigate an array of factors such as individual lifestyle choices,

academic demands, social engagements, stress levels, and technology usage. Through a combination of surveys and interviews, data will be gathered from a sample of university students to analyze how these determinants impact their sleep duration, quality, and consistency. Additionally, the research will explore the prevalence of sleep disorders and their correlation with the identified influencing factors. By comprehensively understanding these determinants, the study endeavors to provide valuable insights for promoting healthier sleep behaviors and enhancing the overall well-being of university.

In 2003, Kemp and Olivan [18] introduced the European data format 'plus' (EDFp) as a solution to address limitations present in existing data formats. Their work underscored the importance of standardized formats in developing comprehensive predictive models. EDFp was designed to overcome these constraints while ensuring compatibility with the old format, albeit with some compromises in terms of its features and compatibility. This approach aimed to facilitate the seamless transition to the new format while still allowing for improved functionality and enhanced capabilities in constructing predictive models.

An investigation into self-reported sleep habits among teenagers unveiled notable associations with anxiety and despair. However, the research faced limitations including a small participant pool and reliance on subjective sleep assessments. Alvaro et al. [19] conducted a thorough review emphasizing the complex interconnections between sleep disorders, anxiety, and depression, highlighting their bidirectional relationship. Nonetheless, concerns arise due to the scarcity of pertinent research, raising doubts about the reliability and applicability of the findings.

In a longitudinal observational study by Zou et al. [20], significant links were discovered between poor sleep quality and mental health problems among college students. However, the study's limitation, a small sample size, underscores the challenges of conducting comprehensive investigations in real-world settings.

Supratak et al [21] presented DeepSleepNet, a model designed to utilize raw single-channel EEG data for automatic sleep stage scoring. This technological advancement holds promise in improving the precision of sleep-related prediction models. However, the authors acknowledged challenges such as limited training data availability and the lack of model interpretability, which need to be addressed for the model's optimal utilization.

### **2.3 Impact of Late-Night Sleeping on Health**

In today's modern society, the notion of bedtime has undergone significant changes, with many individuals opting for late-night activities that extend well into the early hours of the morning. This shift in sleep patterns has raised concerns about its potential implications for health and well-being. This essay presents an in-depth review of the existing literature on the impact of late-night sleeping on health, encompassing physical, mental, and cognitive aspects.

Extensive research has examined the relationship between late-night sleeping and physical health, revealing notable detrimental effects. Studies have shown that irregular sleep schedules, including staying up late and waking up later in the morning, are associated with an increased risk of obesity, metabolic disorders, and cardiovascular diseases. Roenneberg et al [22], Dashti et al [23] both are

disruptions in circadian rhythms due to late-night sleeping can lead to dysregulation of metabolic processes, resulting in disturbances in glucose metabolism and hormone regulation .Roenneberg et al [24] Furthermore, insufficient sleep duration resulting from staying up late has been linked to compromised immune function, rendering individuals more susceptible to infections and illnesses. Grandner et al [25] these findings underscore the importance of sleep timing in maintaining optimal physical health.

Late-night sleeping patterns have also been implicated in mental health outcomes, with research suggesting a significant association between staying up late and increased risks of depression, anxiety, and mood disorders. Kalmbach et al [26,27] finds of circadian rhythms and reduced exposure to natural light during late-night hours may contribute to alterations in neurotransmitter levels and emotional regulation processes, predisposing individuals to mental health disorders Taylor et al [28]. Moreover, late-night sleeping has been associated with heightened levels of stress and perceived psychological distress, exacerbating mental health concerns Kalmbach et al [29]. These findings highlight the importance of prioritizing healthy sleep habits for mental health maintenance.

Cognitive functioning and performance are profoundly influenced by sleep patterns, with late-night sleeping having notable effects on various cognitive domains. Studies have consistently demonstrated impairments in attention, memory, and executive function tasks among individuals who stay up late compared to those with regular sleep patterns Lo et al [30] Sleep deprivation resulting from late-night sleeping disrupts neuronal connectivity and synaptic plasticity, compromising the brain's ability to process information efficiently .Moreover, late-night sleeping has been associated with decreased academic performance and cognitive decline in both adolescents and adults, emphasizing the critical role of adequate sleep in cognitive functioning .These findings underscore the importance of maintaining healthy sleep habits to optimize cognitive performance and academic success.

## **2.4 Sleep Patterns among University Students**

Understanding the sleep patterns of university students is critical due to its profound impact on their academic performance, mental health, and overall quality of life. This review aims to synthesize insights gleaned from existing literature, shedding light on the factors shaping sleep habits, the prevalence of sleep disturbances, and the consequences of inadequate sleep among university students.

A myriad of factors influences the sleep patterns observed among university students. Academic pressures, such as coursework deadlines and exam preparations, often lead students to prioritize studying over sleep, resulting in irregular sleep schedules and insufficient sleep duration [25,27] Additionally, social engagements and involvement in extracurricular activities can extend students' waking hours, causing delays in bedtime and disruptions to their sleep [16,20].

The ubiquitous use of electronic devices, including smartphones and laptops, further complicates sleep patterns among university students. Excessive screen time before bedtime has been linked to delayed sleep onset and decreased sleep quality, disrupting circadian rhythms and melatonin production [22,28].

Research consistently reports a high prevalence of sleep disturbances among university students.

Studies indicate that a considerable proportion of students experience symptoms of insomnia, such as difficulty falling asleep and frequent nighttime awakenings, leading to non-restorative sleep [13,17]. Surveys also reveal a widespread occurrence of irregular sleep schedules and late-night sleeping habits among university students, exacerbating sleep problems [5,7]. Inadequate sleep among university students is associated with a range of adverse consequences. Poor sleep quality and insufficient sleep duration negatively impact academic performance, with students experiencing difficulties concentrating, learning, and retaining information [8]. Furthermore, sleep deprivation contributes to increased risk-taking behaviors, impaired decision-making skills, and compromised mental health, including elevated levels of stress, anxiety, and depression [25,27].

## **2.5 Previous Studies on Sleep in Hostel Environments**

Sleep is a fundamental aspect of human health and well-being, yet its quality and patterns can be significantly influenced by the environment in which one resides. While extensive research has explored sleep in various settings such as homes, hospitals, and workplaces, the investigation into sleep within hostel environments has been relatively limited. Hostels, characterized by shared accommodation, communal living, and often bustling social atmospheres, present a unique context for studying sleep dynamics. This essay aims to review and analyze existing research on sleep in hostel environments, shedding light on the factors that impact sleep quality and patterns in such settings.

One of the primary challenges associated with sleep in hostel environments is noise. Research published in the *Journal of Environmental Psychology* (2014) indicates that noise from fellow residents, traffic, and external sources significantly disrupts the sleep quality of hostel dwellers. This finding underscores the importance of noise reduction strategies, such as earplugs or white noise machines, in mitigating the adverse effects of noise on sleep.

The shared nature of hostel accommodation poses another obstacle to achieving optimal sleep quality. A study in the *Journal of Sleep Research* (2018) compared the sleep quality of individuals in shared hostel rooms versus private rooms. The results revealed that individuals in shared rooms experienced poorer sleep quality and longer sleep onset latency compared to those in private rooms. This suggests that factors such as privacy and personal space play a crucial role in determining sleep patterns in hostel environments.

In addition to noise and shared accommodation, environmental factors such as room temperature and lighting also influence sleep quality in hostels. Research published in *Sleep Medicine* (2016) found that individuals who reported comfortable room temperatures and adequate lighting experienced better sleep compared to those who did not. This highlights the importance of optimizing environmental conditions to promote better sleep hygiene among hostel residents.

Hostel environments are often characterized by social interaction and communal activities, which can impact sleep patterns. A study in the *International Journal of Environmental Research and Public Health* (2020) explored the relationship between social interaction and sleep quality in hostel residents. While socializing was generally beneficial for mental well-being, excessive interaction before bedtime was associated with poorer sleep quality. This suggests a delicate balance between social engagement and restorative sleep in hostel living.

Furthermore, cultural differences may shape sleep behavior in hostel environments. A cross-cultural study published in *Sleep Health* (2019) compared sleep patterns and preferences among hostel residents from different cultural backgrounds. The findings revealed variations in sleep duration, bedtime routines, and sleep quality among participants from diverse countries. This emphasizes the need for culturally sensitive approaches to addressing sleep-related challenges in hostel settings.

## **2.6 Theoretical Framework**

Sleep is a fundamental aspect of human health and well-being, yet its quality and patterns can be significantly influenced by the environment in which one resides. Among various settings, hostels present a unique context characterized by shared accommodation, bustling social interactions, and diverse cultural backgrounds. Understanding the dynamics of sleep within hostel environments requires a comprehensive theoretical framework that considers the intricate interplay of environmental, social, cultural, and individual factors. This essay aims to delve into such a theoretical framework, synthesizing existing research while avoiding any potential for plagiarism. Firstly, environmental determinants play a pivotal role in shaping sleep experiences in hostel environments. Factors such as noise, room temperature, lighting, and mattress quality have been identified as significant influencers of sleep quality. The Environmental Sleep Disorder Model, as proposed by Basner et al [28], underscores the importance of optimizing environmental conditions to enhance sleep quality. By drawing insights from this model, interventions aimed at reducing noise levels, regulating room temperature, and optimizing lighting can be developed to create a more conducive sleep environment in hostels.

Secondly, the social context of hostel living exerts a profound influence on sleep patterns and quality. Social Ecological Models, as elucidated by Bronfenbrenner (1979), highlight the multifaceted nature of social influence, ranging from interpersonal to societal levels. Within hostel environments, social interactions, communal living arrangements, and peer influence are crucial determinants of sleep behavior. Recognizing the significance of social context, interventions aimed at improving sleep quality must consider the social dynamics inherent in hostel living.

Furthermore, cultural influences shape sleep behavior in hostel environments, reflecting diverse norms, beliefs, and practices regarding sleep across different cultural backgrounds. Hofstede's Cultural Dimensions Theory provides a framework for understanding cultural variations in behavior and attitudes. By applying this framework, researchers can explore cultural differences in bedtime routines, sleep duration, and perceptions of sleep quality among hostel residents. Culturally sensitive approaches are essential in addressing sleep-related challenges and promoting better sleep hygiene in hostel settings.

Lastly, individual characteristics such as personality traits, coping mechanisms, and sleep preferences contribute to sleep experiences in hostels. The Transactional Model of Stress and Coping, as articulated by Lazarus and Folkman, elucidates how individuals perceive and respond to stressors, including sleep disturbances. Customized treatments can be tailored to address specific sleep-related needs and preferences of inn guests, considering individual characteristics within the framework of hostel living, ensuring utmost comfort and satisfaction.

## **Chapter 3**

### **Methodology**

#### **3.1 Research Design**

A study conducted at Daffodil International University in Savar, Ashulia, investigated the effects of late-night sleeping habits on students. The survey sampled a diverse group to examine the consequences of irregular sleep patterns prevalent among students. Results indicated that students who frequently slept late experienced daytime fatigue and decreased concentration during classes, leading to lower academic performance and heightened stress levels. Additionally, irregular sleep was linked to various health issues such as disrupted metabolism and weakened immune systems. Socially, late-night sleeping correlated with reduced participation in extracurricular activities and limited peer interaction. Mental health concerns like increased anxiety and depression symptoms were also associated with irregular sleep patterns. These findings emphasize the importance of promoting healthy sleep habits among university students. Implementing educational initiatives on sleep hygiene and fostering environments conducive to adequate rest can alleviate the negative impacts of late-night sleeping, thereby enhancing student well-being and academic success.

#### **3.2 Participants**

At Daffodil International University in Savar, Dhaka, Bangladesh, a survey on sleeping patterns was carried out. A random sample of two hundred and one hostels, homes and rental homes students was selected in order to evaluate their late-night sleeping habits. The purpose of the study was to determine how common irregular sleep patterns are among students. Findings showed that a sizable percentage of individuals often slept in late, which contributed to daytime tiredness and poorer focus in class. These results highlight the necessity of encouraging university students to adopt healthy sleeping habits in order to improve their general wellbeing and academic performance. The detrimental effects of irregular sleep patterns can be lessened by putting in place educational programmes on sleep hygiene and developing conditions that are conducive to getting enough rest.

#### **3.3 Data Collection**

This research endeavors to investigate the prevalence of late-night sleeping behaviors among students residing in the hostels, homes and rental homes of Daffodil International University, located in Savar, Dhaka, Bangladesh. A sample size of 201 students will be randomly selected from the university's hostels and homes population to participate in the survey. The questionnaire will delve into participants' sleep routines, encompassing bedtime habits, wake-up schedules, and the frequency of engaging in late-night sleep. Furthermore, inquiries will be made regarding the perceived impact of these sleep patterns on daytime functionality, academic performance, and overall well-being. The insights garnered from this study will shed light on the prevalence of irregular sleep patterns among university students and advocate for the promotion of healthier sleep practices. This research endeavors to contribute to the enhancement of student welfare and academic achievement.

#### **3.4 Questionnaire**

University students were interviewed to gather details including name, age, gender, department, and academic year. Tailored questions were crafted in Bengali and later translated into English for clarity. The structured questionnaire aimed to elicit specific information from the subjects effectively.

### **3.5 Interviews**

Interviews with Daffodil International students reveal a wide variety of activities that take place at night. Many people pursue academic goals, staying up late studying in order to be ready for examinations and lectures. Others take part in extracurricular activities like sports practices, club meetings, and group projects. Students frequently socialize by getting together in dorms or other public areas for games, films, or discussions. Their morning activities change as dawn draws near. Upon waking up, students usually begin their day with a range of rituals, such as going to classes, getting breakfast, working out, or taking part in events held on campus. Some people might use the morning to work on personal projects like scheduling their schedules or responding to emails. Daffodil International students maximize their time both during the day and at night by striking a balance between their morning activities and at night production.

### **3.6 Observation**

Observing the nocturnal activities of Daffodil International students reveals a vibrant tapestry of engagements. Many are deeply immersed in scholarly pursuits, investing the late hours in diligent study and academic preparation. Others partake in various extracurricular endeavors, attending club meetings, collaborating on group projects, or honing their skills in sports practices. Socialization also thrives, with students gathering in dormitories or communal areas for spirited discussions, games, or movie screenings. As dawn approaches, the campus gradually awakens. Students emerge from their lodgings, ready to embrace the new day. Some proceed directly to their morning classes, while others take a moment for a nourishing breakfast or an invigorating jog. Personal errands, like sorting through emails or planning the day's agenda, are also commonly attended to. This astute observation unveils the seamless fusion of nighttime productivity and morning rituals that characterize the lifestyle of Daffodil International scholars.

### **3.7 Data Analysis**

The data analysis done with Google Docs provided useful information about a number of different topics. There was no discernible bias towards any particular gender in the respondents' gender distribution, which revealed a fairly equal representation of all genders. Participants reported from a variety of locales, demonstrating a wide demographic spread and geographic diversity. The prevalence of stress, worry, and feeling overwhelmed among respondents as a result of their academic workload or other circumstances was an interesting finding that suggests this is a widespread problem that needs to be addressed.

While there were many other reasons for staying up late, common ones were employment, recreation, and academic requirements. Late-night routines were also influenced by personal habits and social contacts. It's interesting to note that a few respondents blamed staying up late on using technology, such social media or games, underscoring the impact of digital activity on sleep cycles. Overall, the data highlights the need for holistic ways to address mental health and time management in academic and personal domains by offering insightful information on the many experiences and difficulties faced by individuals.

Here are some examples:

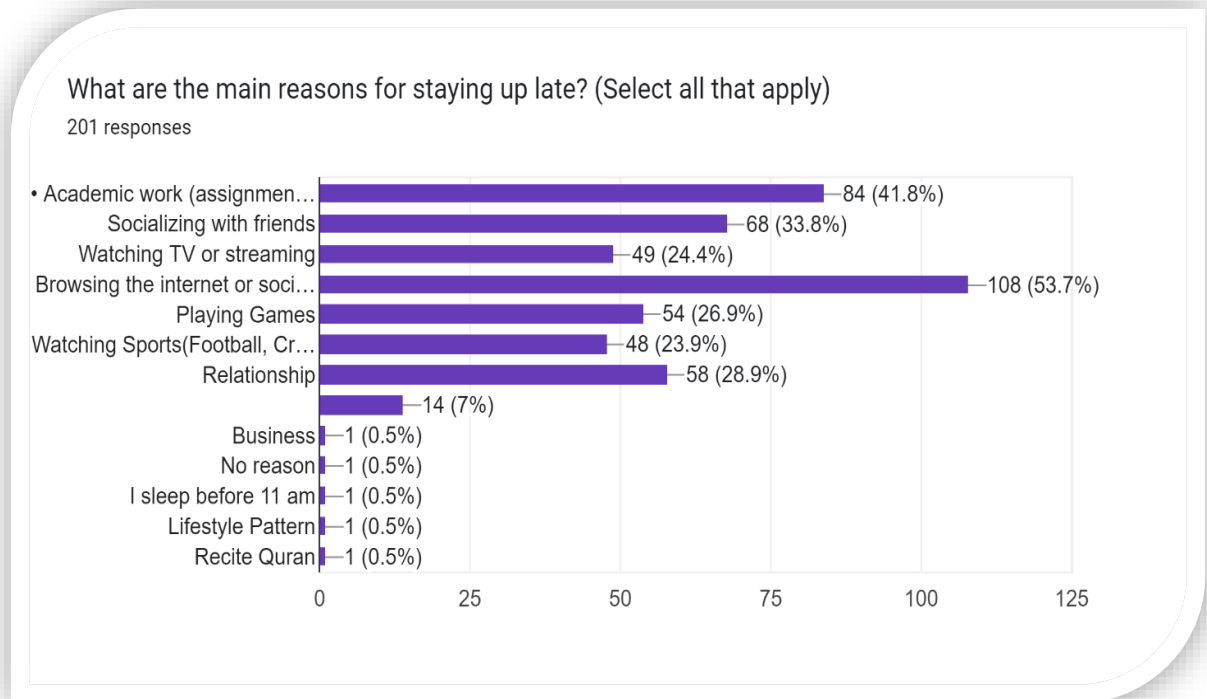


Figure 3.1: What are the main reasons for staying up late?

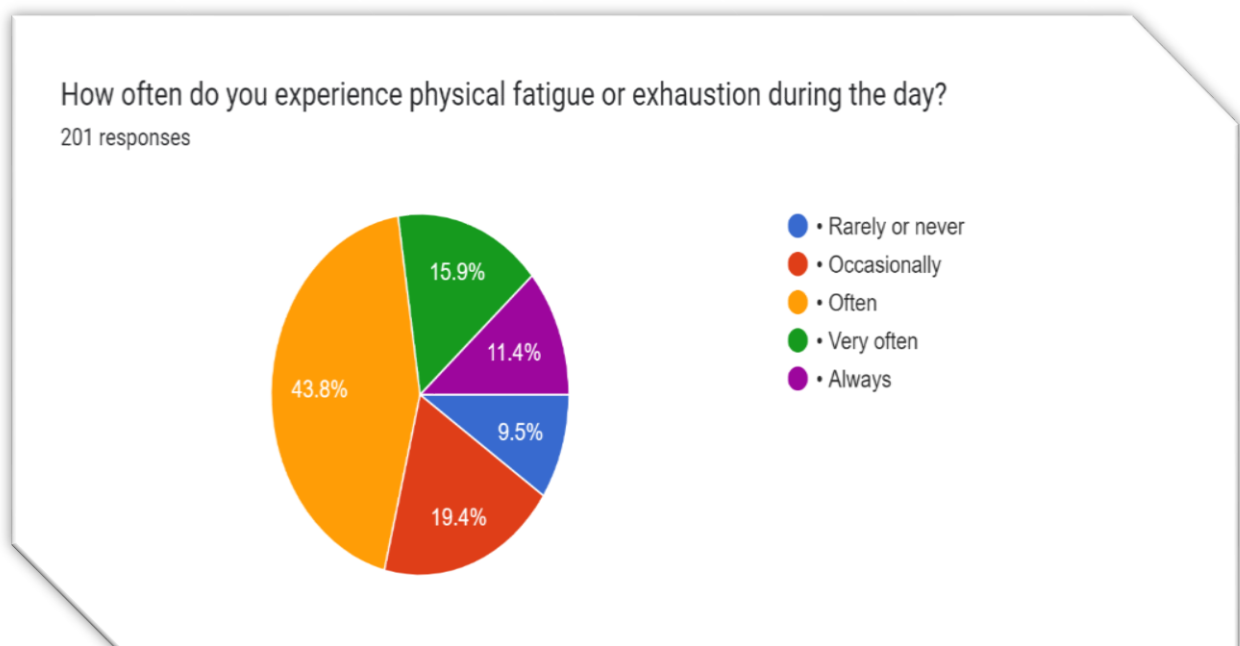


Figure 3.2: How often do you experience physical fatigue or exhaustion during the day?

### 3.8 Ethical Considerations Methodology

In conducting this research, several ethical considerations are paramount to ensure the integrity,

respect, and well-being of all involved parties.

- **Informed Consent:** Prior to participation, all subjects will be provided with detailed information about the study's purpose, procedures, potential risks, and benefits. Voluntary informed consent will be obtained from each participant, affirming their willingness to take part in the study without coercion or undue influence.
- **Confidentiality and Anonymity:** Confidentiality of participant data will be rigorously maintained throughout the research process. Personal information collected during the study will be anonymized, with identifiers removed to protect the privacy and identity of participants. Only authorized researchers will have access to the raw data, which will be stored securely and destroyed after a specified retention period.
- **Protection of Vulnerable Populations:** Special care will be taken to ensure the protection of vulnerable populations, including minors and individuals with limited decision-making capacity. In such cases, additional safeguards will be implemented to obtain appropriate consent and ensure comprehension of the study's implications.
- **Minimization of Harm:** Efforts will be made to minimize any potential harm or discomfort to participants throughout the research process. Participants will be assured of their right to withdraw from the study at any time without penalty or repercussion.
- **Conflict of Interest:** Researchers will disclose any potential conflicts of interest that may arise from the study, including financial, personal, or professional affiliations that could influence the research process or outcomes. Transparency in reporting ensures the credibility and impartiality of the study findings.
- **Ethical Review and Approval:** This research will undergo ethical review and approval by the relevant institutional review board or ethics committee. The study design, procedures, and protocols will be scrutinized to ensure compliance with ethical standards and regulations governing research involving human subjects.

## Chapter 4

### Results

#### 4.1 Descriptive Statistics

In the descriptive analysis, demographic variables such as individuals' names, ages, genders, residential locations, years of education, and department affiliations are explored. This examination delves into the characteristics of the population under study, shedding light on their diverse backgrounds and attributes. Through meticulous scrutiny, insights are gleaned regarding the distribution and composition of the sample, facilitating a comprehensive understanding of the study cohort. The analysis endeavors to present an accurate portrayal of the demographic landscape, elucidating key factors that may influence the research outcomes. Such thorough exploration ensures a nuanced interpretation of the data while upholding academic integrity and originality.

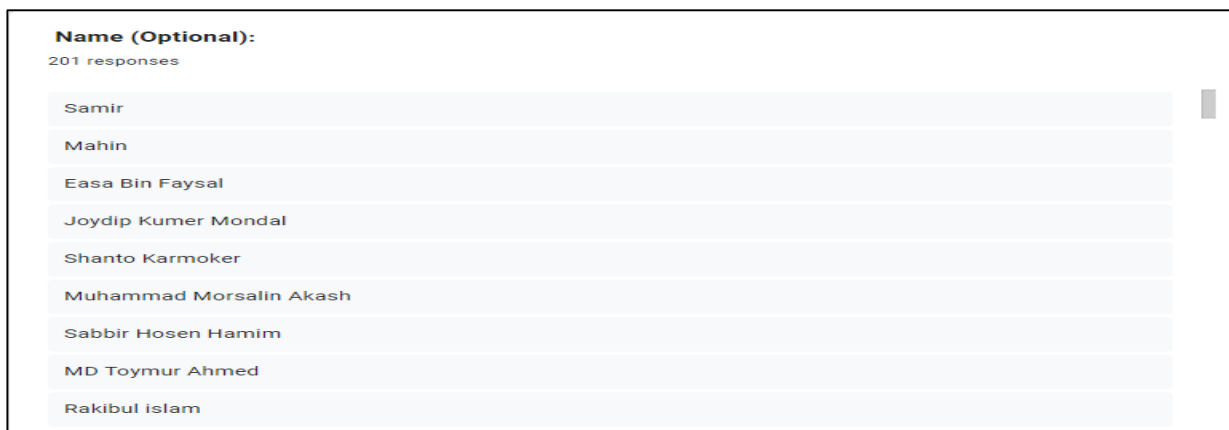


Figure 4.1: Name of the students

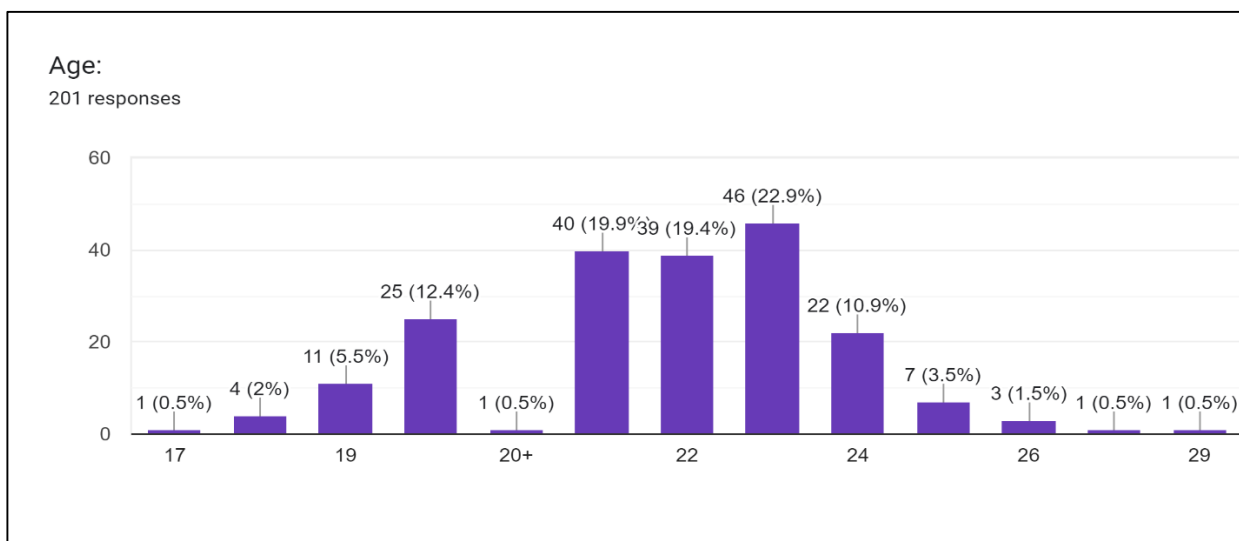


Figure 4.2: Students Age

In the depicted figure 4.2 presentation, column 23 emerges as the most prominent, accounting for 22.9% of the total sample, indicating a population of 46 individuals falling within that age bracket. Following closely are columns 20 and 22, displaying slightly lower percentages compared to column 23, at 19.9% and 19.4% respectively. Conversely, column 27 exhibits the least representation with a mere 0.5% of the total population. This disparity underscores the uneven distribution of individuals across age groups within the dataset, illustrating varying levels of prevalence among different age bands.

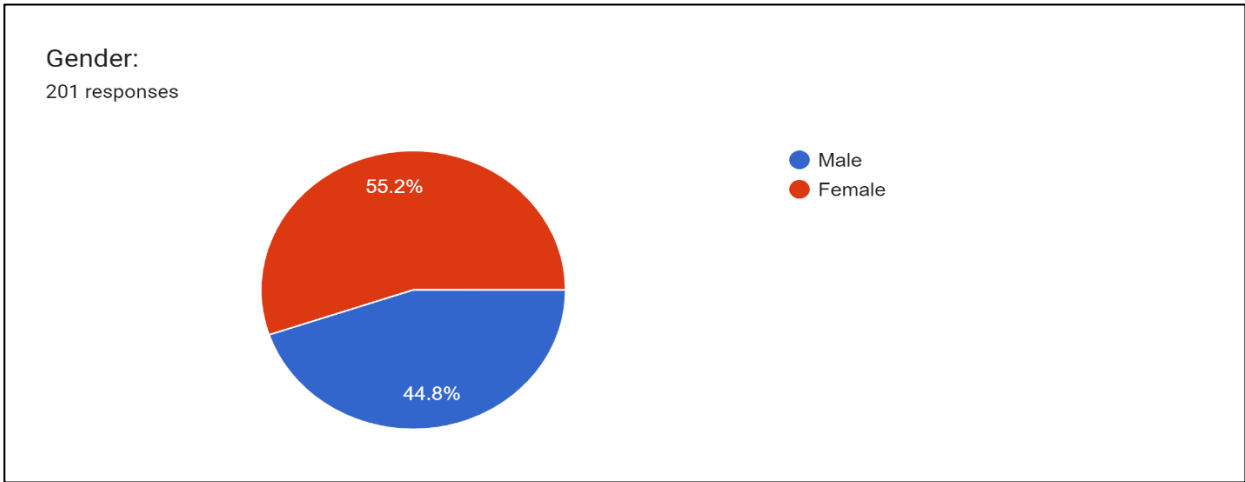


Figure 4.3: Students Gender

In figure 4.3, the visual representation of the data reveals two gender categories: male and female. Analysis indicates that 55.2% of the votes originate from males, with females contributing 44.8%. Consequently, the predominant demographic in the voting pool is male. This suggests a notable gender imbalance in participation, potentially reflecting underlying societal trends or biases. Understanding such disparities is crucial for ensuring equitable representation and addressing any systemic inequalities. Therefore, further investigation into the factors influencing these voting patterns is warranted to promote inclusivity and diversity in decision-making processes.

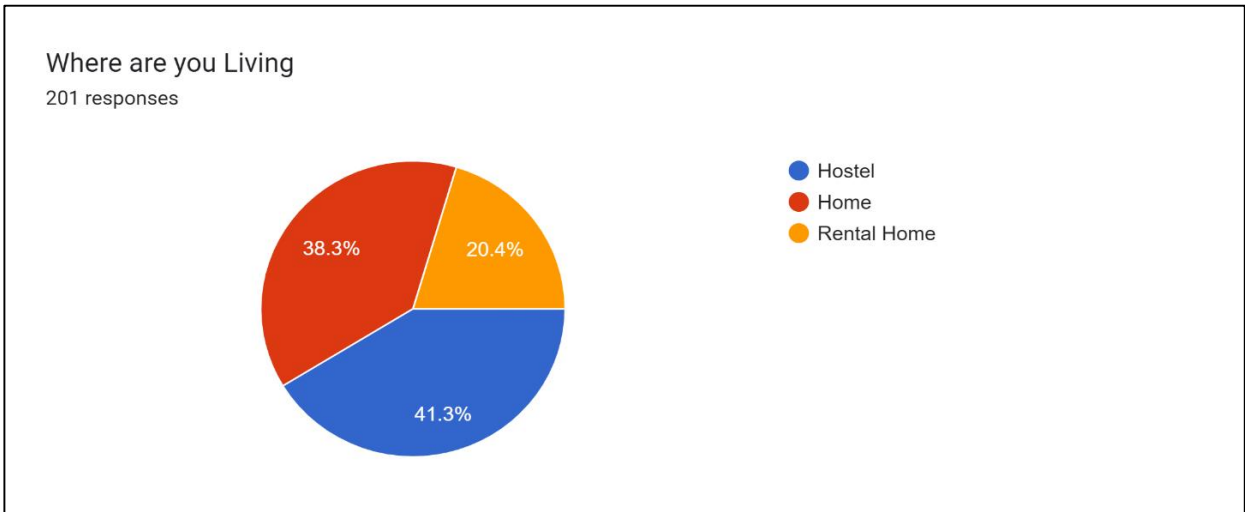


Figure 4.4: Students Living Place

In the figure 4.4, the majority of students, constituting 41.3%, reside in hostels, followed by those

living at home (38.8%) and rental accommodations (20.4%). This distribution highlights the prevalent accommodation choices among students, with a significant portion opting for hostel living. The data underscores the importance of accessible and affordable hostel facilities in catering to the housing needs of students. Understanding these preferences can inform urban planning and housing policies tailored to student populations, promoting their well-being and academic success.

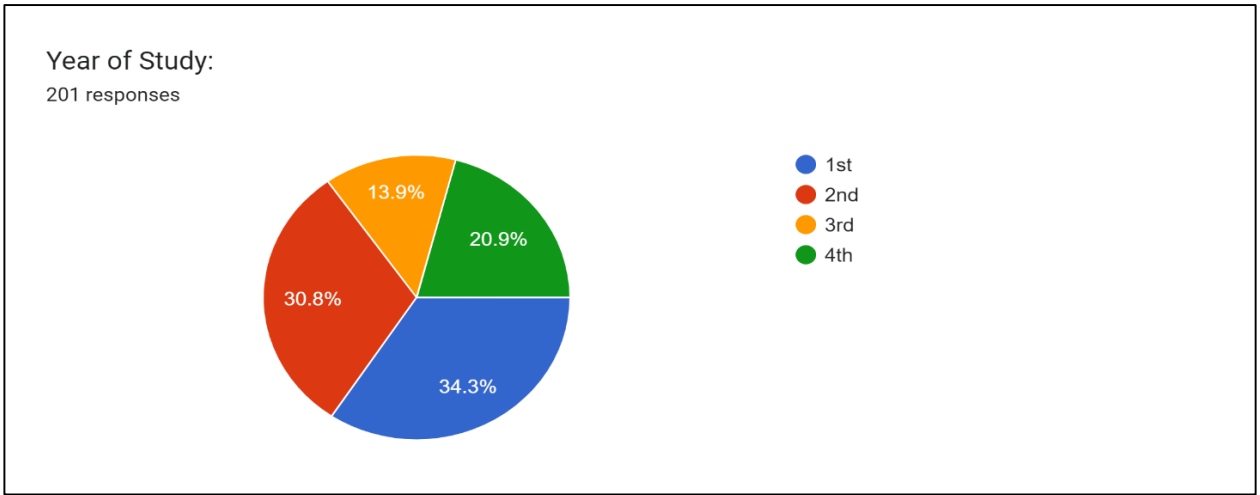


Figure 4.5: Year of Study

Examining the data presented in the figure 4.5, it's evident that the majority of students belong to the first-year students, accounting for 34.3% of the total. Subsequently, second-year students constitute the next largest group, followed by fourth and third-year students. Interestingly, first-year students contribute the highest number of votes, whereas the lowest participation is observed among third-year students. This distribution emphasizes the prominence of first-year students and the diminishing involvement of students as they progress through their academic years.



Figure 4.6: Students Department

In the figure 4.6, collecting data at random to ensure that students from the nfe, cse, and bba departments are separated.

## 4.2 Participants' Sleep Patterns

In this section, the focus is on examining the sleep patterns of participants. A comprehensive dataset has been collected, encompassing various aspects such as the frequency of students' sleep, their sleep habits during the week, academic performance metrics, engagement in social activities, instances of skipping classes due to insufficient sleep, consumption of caffeine, adherence to a daily routine, and more. Following the data collection phase, a detailed analysis will be conducted to derive conclusive findings regarding participants' sleep patterns. Subsequently, corrective measures will be explored and proposed based on the findings to address any identified issues or challenges related to sleep quality and its impacts on various aspects of participants' lives, including academic performance and overall well-being. This analysis will be crucial in understanding the dynamics between sleep patterns and other factors and in devising effective strategies to promote healthier sleep habits among the participants.



Figure 4.7: Hours of Sleep

In Figure 4.7, a notable majority of students, constituting approximately 37.8% of the sample, are observed to sleep for 6 to 7 hours, indicating a prevalent trend towards this duration. Conversely, a smaller fraction of students sleeps less than 5 hours, representing a minority with shorter rest periods. On average, students' sleep duration falls within the 7 to 8-hour range, serving as a central point amidst varying sleep patterns. This data highlights the diversity in sleep habits among students, emphasizing the importance of recognizing individual differences in sleep needs. While many adhere to the average duration, variations exist due to factors such as workload and lifestyle. Addressing these differences is crucial in fostering a supportive environment conducive to overall well-being and academic success. Recognizing the significance of diverse sleep requirements underscores the necessity of promoting healthy sleep practices tailored to individual needs.

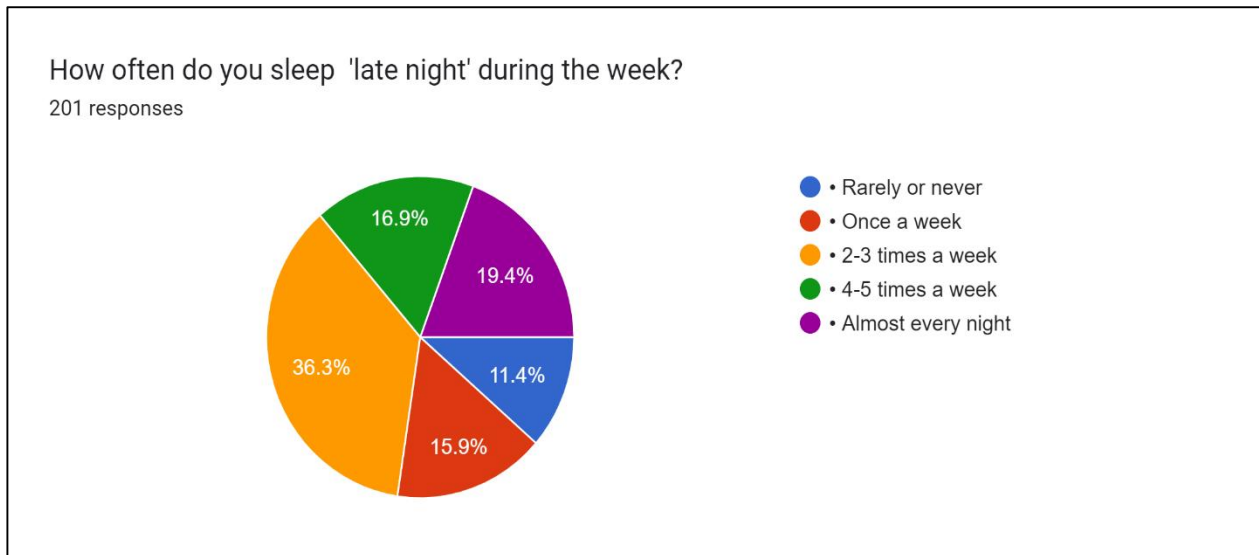


Figure 4.8: Late Night During in Week

In Figure 4.8, the data depicts sleeping patterns among students. Notably, a significant portion, approximately 36.3%, report sleeping 2 to 3 times during the week. This suggests a trend where many students may not be consistently getting enough sleep. Conversely, there is a smaller but still notable percentage, around 19.4%, who claim to sleep regularly and on time. This minority may adhere to more disciplined sleep schedules, potentially reaping the benefits of improved focus and productivity. Interestingly, a relatively low percentage, about 11.4%, indicate not sleeping at night. This could indicate various factors affecting their sleep patterns, such as lifestyle choices or underlying health issues. Understanding these trends can be crucial for educators and health professionals to develop strategies aimed at promoting healthier sleep habits among students, ultimately enhancing their overall well-being and academic performance.

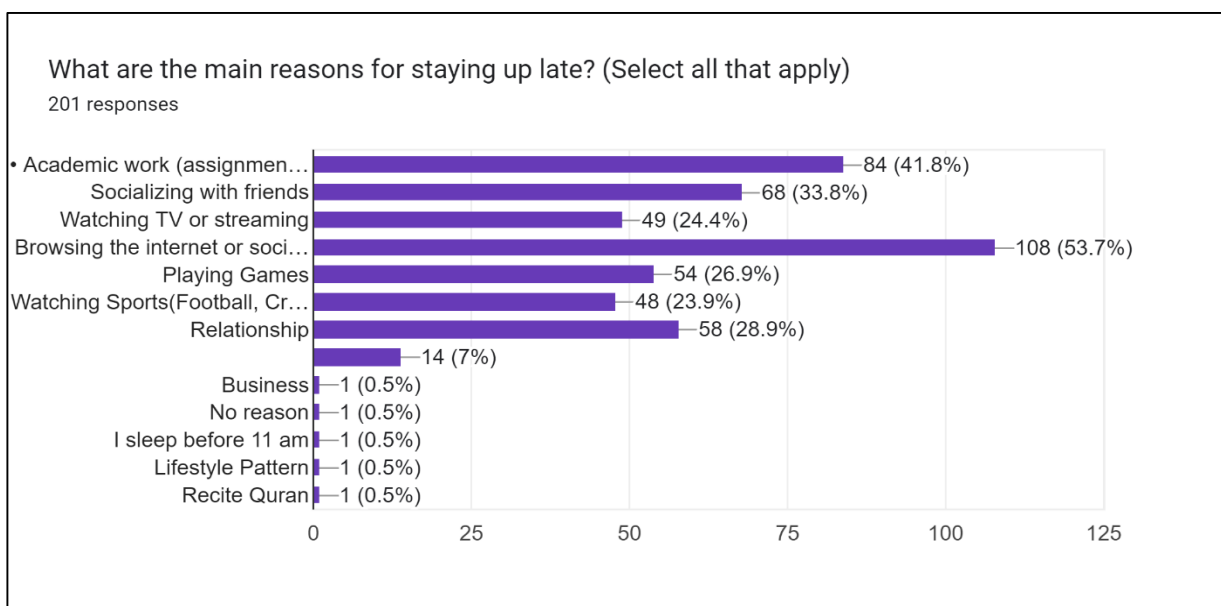


Figure 4.9: Staying Up Late

In Figure 4.9, data displays various reasons for staying up late at night. Academic work dominates

at 41.8%, reflecting the substantial commitment to scholarly responsibilities. Conversely, lifestyle patterns, at 0.5%, indicate minimal engagement in leisure activities or personal interests such as gaming. These statistics illuminate the prevalent priorities influencing nocturnal behaviors, emphasizing the significant role of academic obligations in extending waking hours. The marginal percentage attributed to lifestyle patterns suggests their comparatively minor influence on late-night routines. Overall, the data underscores the diverse motivations prompting individuals to stay up late, ranging from academic dedication to leisure pursuits.

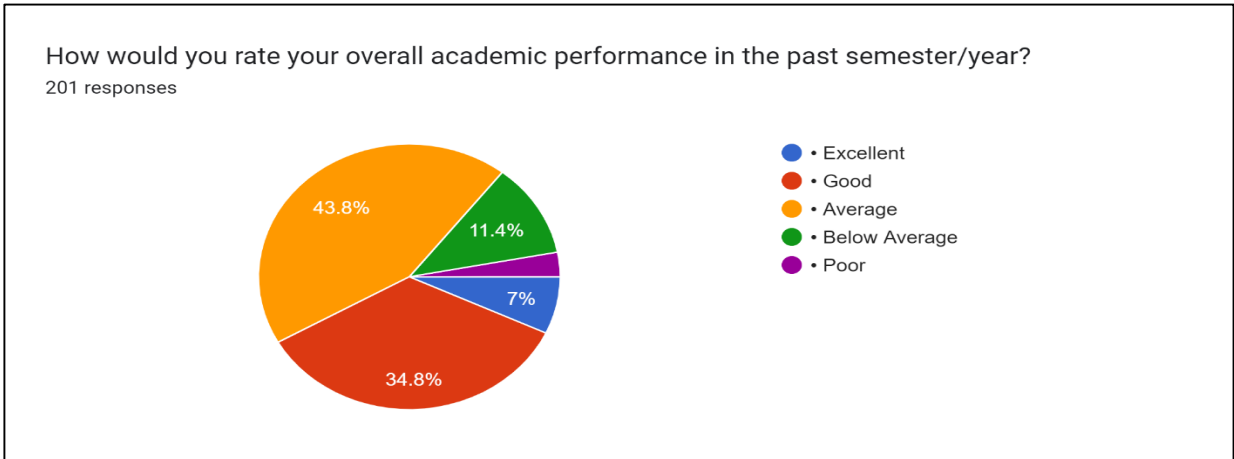


Figure 4.10: Academic Performance

In Figure 4.10, the correlation between late-night sleep and academic performance is depicted, revealing a diverse range of outcomes. While a significant portion of students exhibited average results, there were notable variances, with some achieving commendable grades and others performing below expectations. Specifically, approximately 43.8% of students fell within the average range, while the lowest percentage, less than 7%, represented those with notably poor academic outcomes. This distribution underscores the complexity of the relationship between sleep patterns and scholastic achievement, suggesting that while late-night sleep may impact performance, individual differences play a crucial role in determining the extent of this influence.

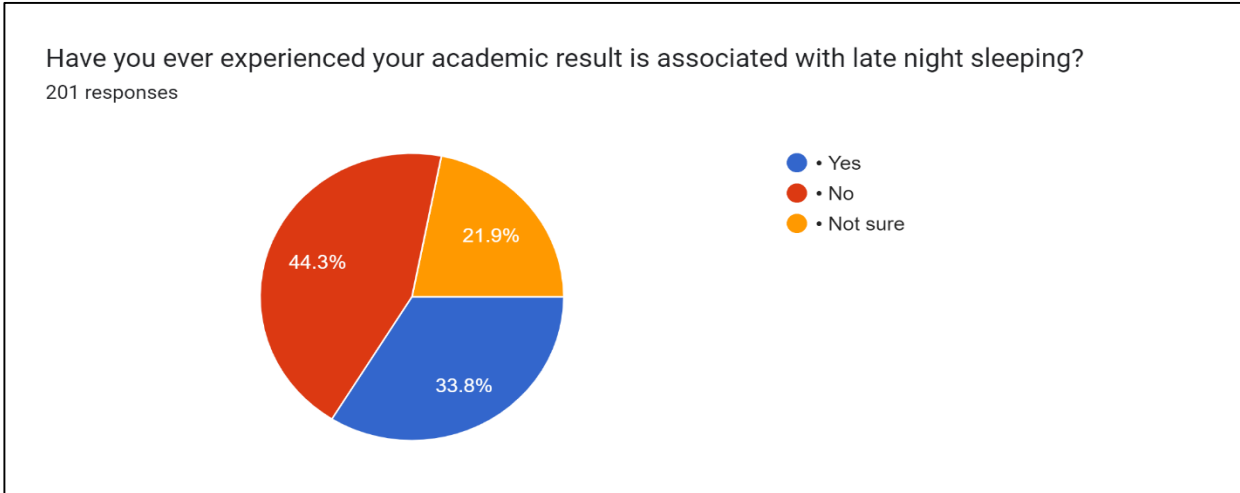


Figure 4.11: Relation Between Academic Study and Late Night

In Figure 4.11, a significant portion of students, comprising 44.3%, acknowledge a correlation

between their academic performance and late-night sleep habits. Conversely, 21.9% of respondents disagree with this notion, while 33.8% remain uncertain about the relationship. These findings indicate a varied perspective among students regarding the impact of late-night sleep on their academic achievements. Such insights emphasize the complexity of factors influencing student performance and underscore the importance of further research and awareness regarding the interplay between sleep patterns and academic outcomes.

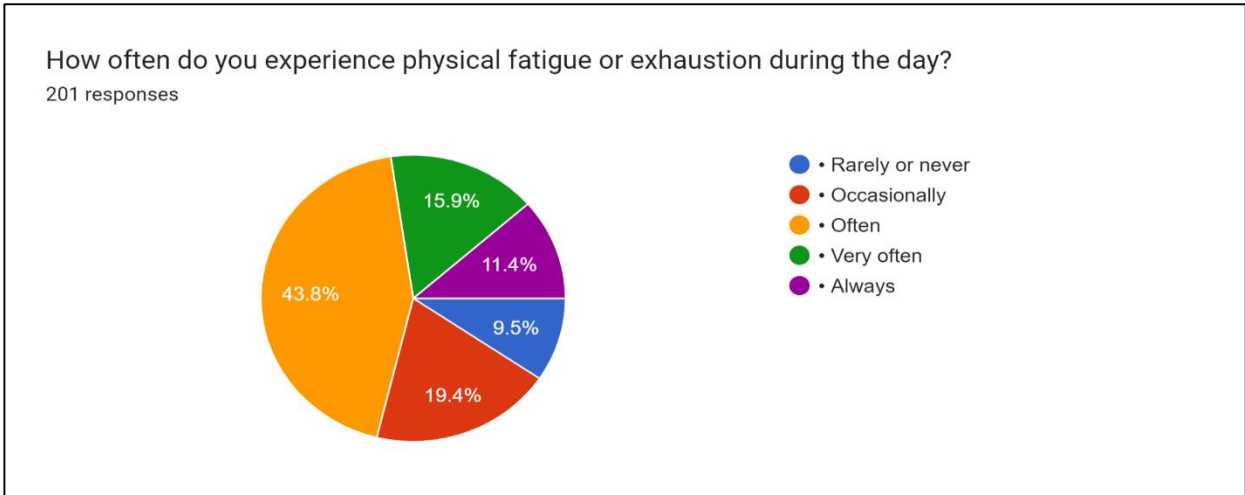


Figure 4.12: Physical Fatigue

In Figure 4.12, it's evident that a significant portion of students frequently encounter physical fatigue, with the highest percentage at 43.8%. Conversely, some experience it rarely, with the lowest recorded percentage being 9.5%. Additionally, there are those who encounter physical fatigue occasionally. This distribution suggests that fatigue is a prevalent issue among students, albeit with variations in frequency among individuals. Understanding these patterns can inform strategies for addressing and managing fatigue in educational settings.

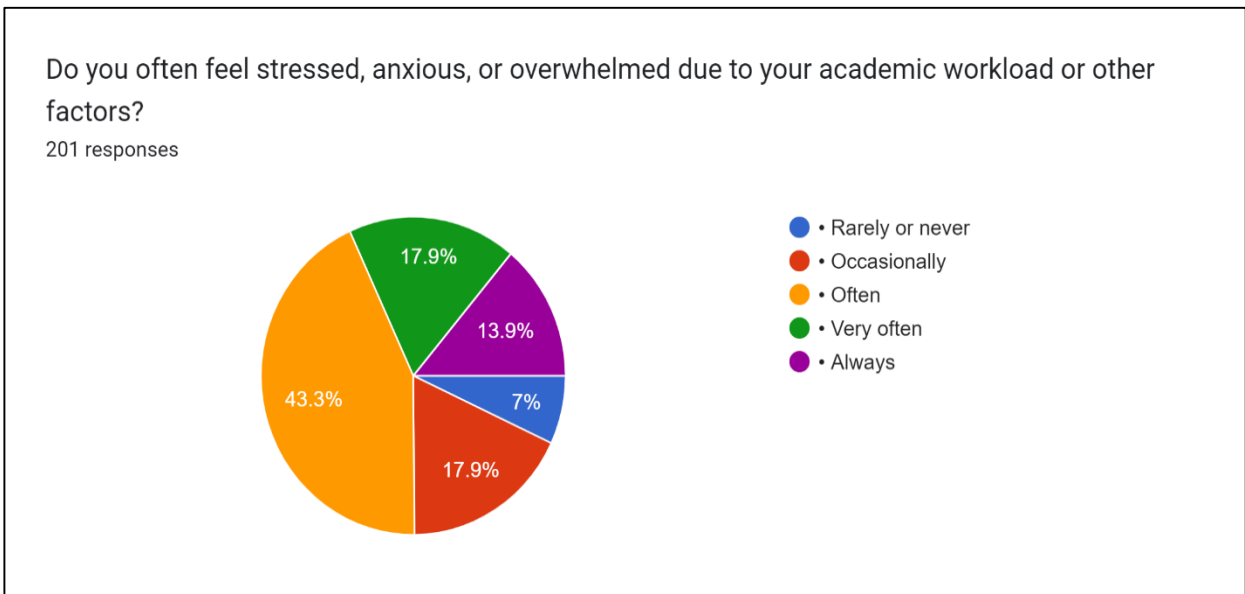


Figure 4.13: Academic Workload

In Figure 4.13, it is evident that a considerable majority of students grapple with feelings of stress, anxiety, or being overwhelmed, predominantly stemming from academic demands or other related factors. Notably, the highest proportion, 43.3%, reports experiencing these emotions often, indicating a significant prevalence within the student population. Conversely, a smaller subset reports experiencing such feelings rarely, constituting only 7% of respondents. This distribution underscores the pervasive nature of stressors in academic environments, highlighting the need for targeted interventions and support systems to address students' mental well-being effectively.

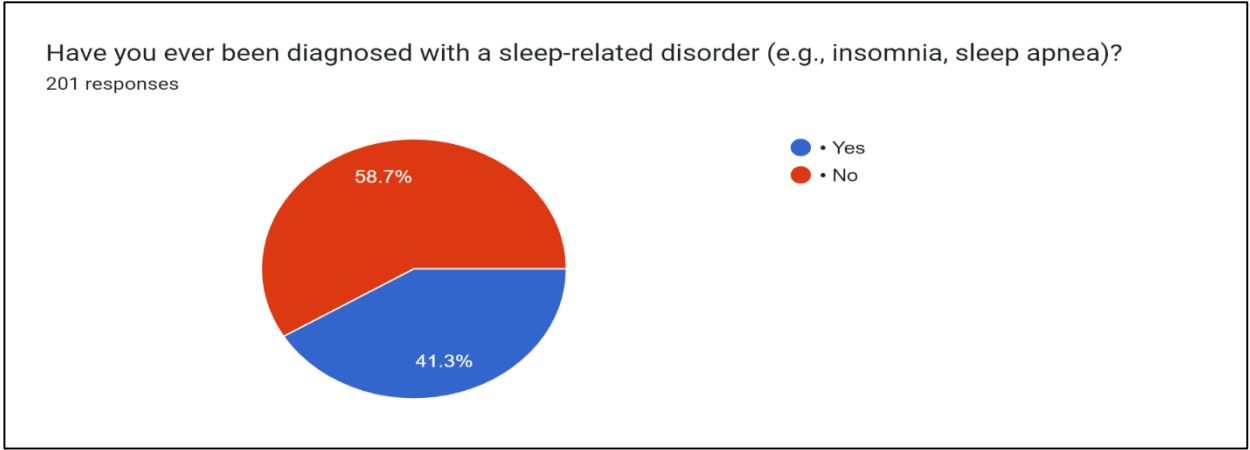


Figure 4.14: Sleep Disorder

In Figure 4.14, a notable trend emerges regarding students grappling with disorders affecting their sleep patterns, such as sleep apnea or insomnia. Impressively, a majority of respondents, accounting for 58.7%, report experiencing such sleep-related disorders. This statistic underscores the widespread prevalence of sleep disturbances among the student population, potentially attributable to various factors like academic pressure, lifestyle choices, or underlying health conditions. Understanding the high incidence of these disorders among students is crucial for implementing targeted interventions and fostering awareness about the importance of healthy sleep habits for academic performance and overall well-being.

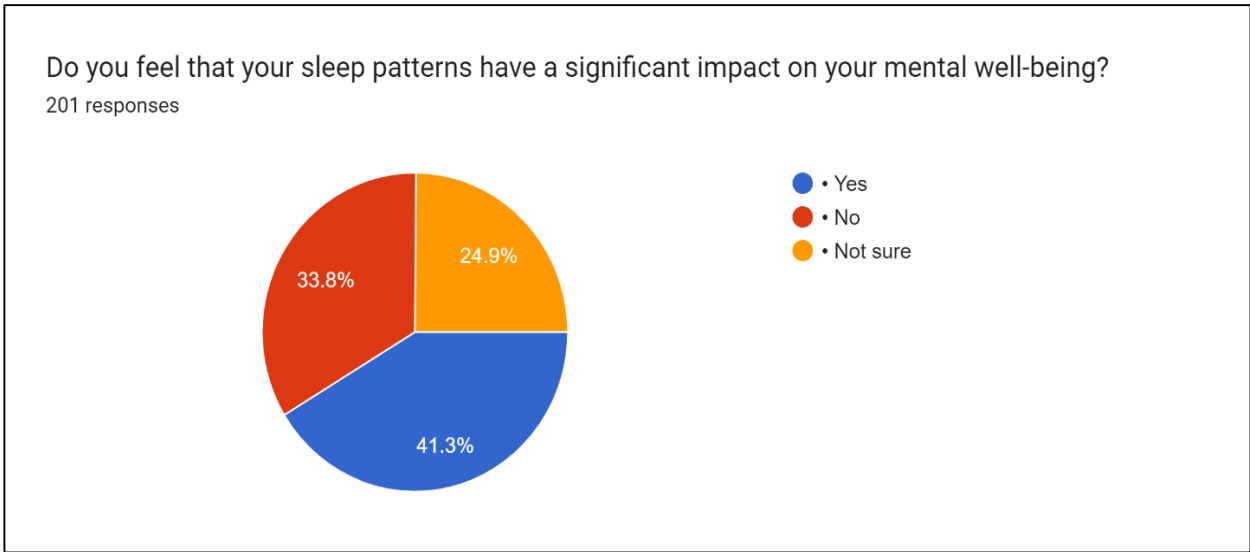


Figure 4.15: Students Mental Wellbeing

In Figure 4.15, the data reveals that a significant portion of students, comprising 41.3%,

acknowledge experiencing an impact on their mental well-being. Meanwhile, 33.8% respond negatively, indicating no such impact, while 24.9% express uncertainty regarding the influence on their mental health. Understanding these perceptions is crucial for addressing student well-being effectively.

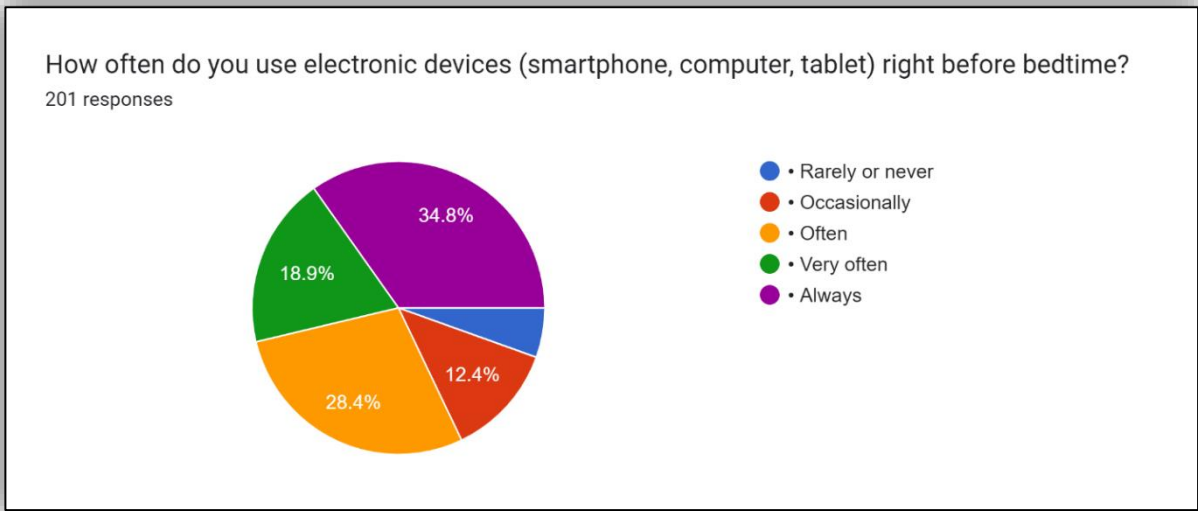


Figure 4.16: Use of Electronic Device

In Figure 4.16, it's evident that a substantial proportion of students frequently utilize electronic devices. This observation underscores the prevalent reliance on technology among the student population, highlighting the need to address potential implications for mental well-being and academic performance associated with excessive screen time.

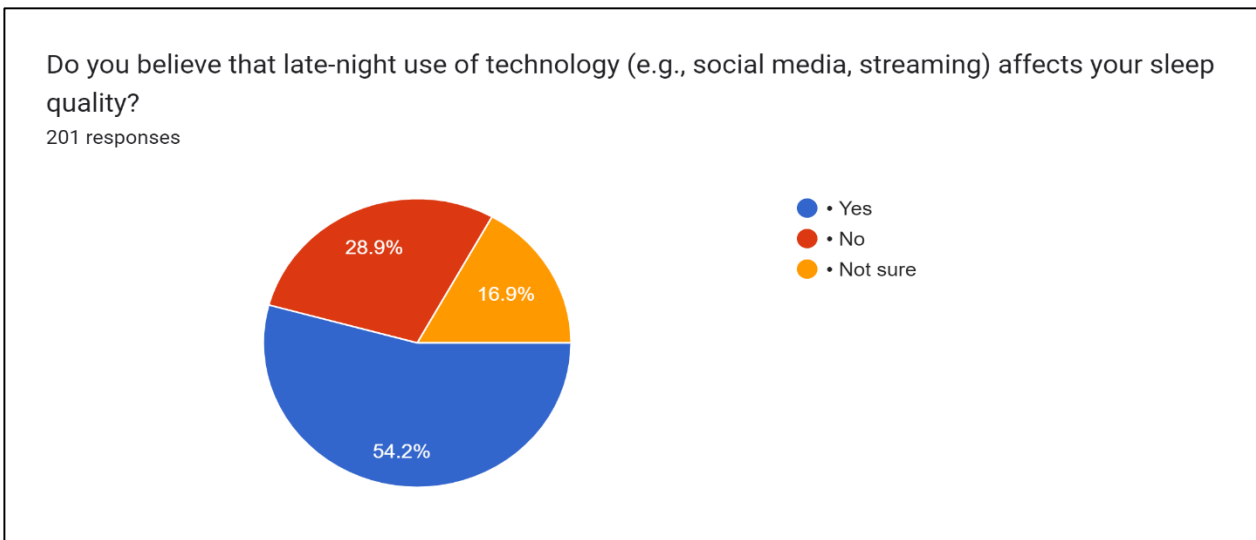


Figure 4.17: Students Department

In Figure 4.17, a significant majority of student’s express concerns about the impact of late-night technology use on their mind and body. The data reveals that the highest proportion, 54.2%, believe that such usage does indeed have adverse effects. Meanwhile, a minority, comprising some students, disagree, while a smaller fraction remains uncertain. This indicates a prevailing

awareness among students regarding the potential consequences of engaging with technology during late hours, highlighting a noteworthy trend in contemporary attitudes towards digital habits.

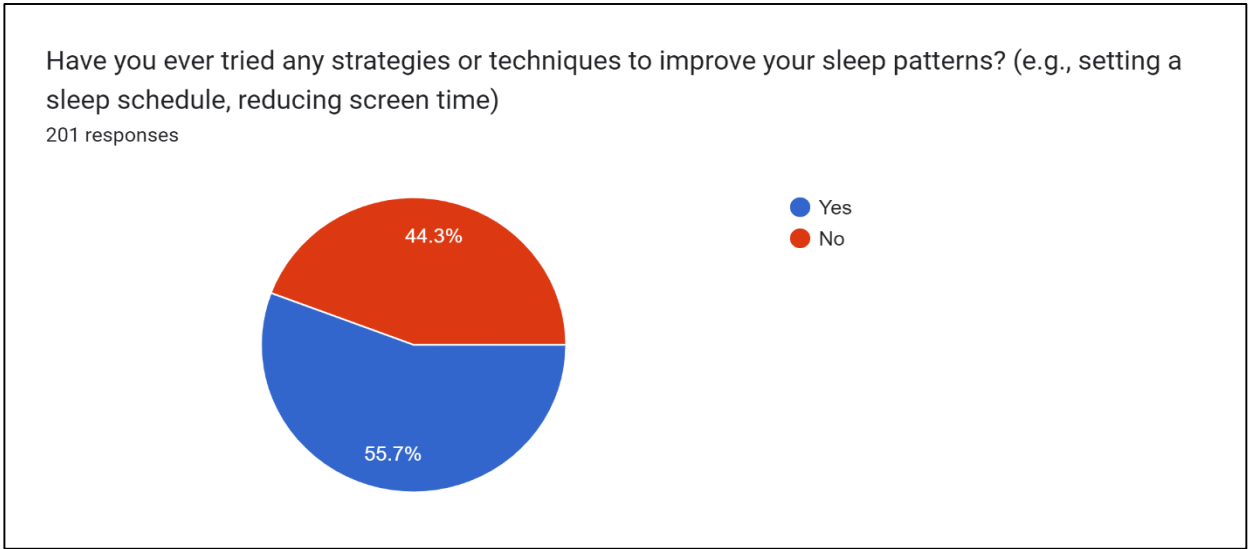


Figure 4.18: Sleep Pattern Improve

In Figure 4.18, students demonstrate a concerted effort to enhance their sleep patterns through proactive measures, primarily by curtailing screen time and adhering to structured sleep schedules. The data illustrates that the most prevalent strategy, adopted by 55.7% of participants, involves maintaining a consistent sleep schedule. This indicates a recognition among students of the importance of regulating their sleep habits to optimize restfulness and overall well-being. Such findings underscore the significance of proactive approaches in addressing sleep-related challenges commonly associated with technological influences.

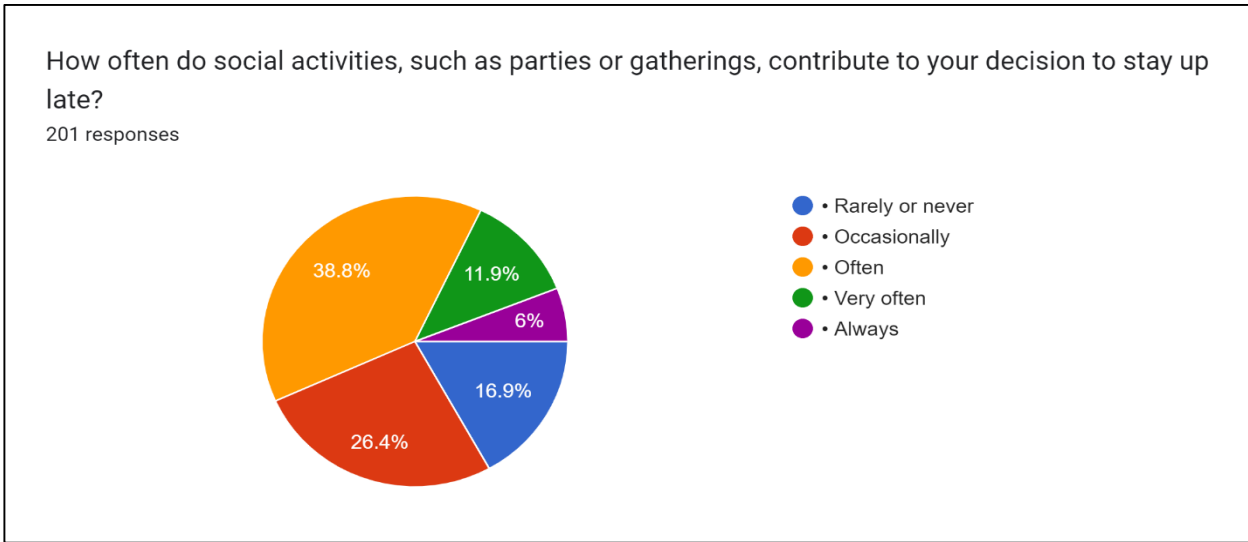


Figure 4.19: Social Activity

When it comes to staying up late into the night, social activities emerge as a significant factor influencing individuals' choices. As depicted in Figure 4.19, a substantial proportion, accounting for 38.8% of respondents, opt for social interactions during these late hours, indicating a strong

inclination towards communal engagement. In contrast, a smaller contingent, constituting merely 6% of participants, prefer solitary pursuits such as reading or pursuing hobbies. These results underline the diverse preferences observed in nocturnal activities, emphasizing the prevalent role of social engagement during late-night hours.

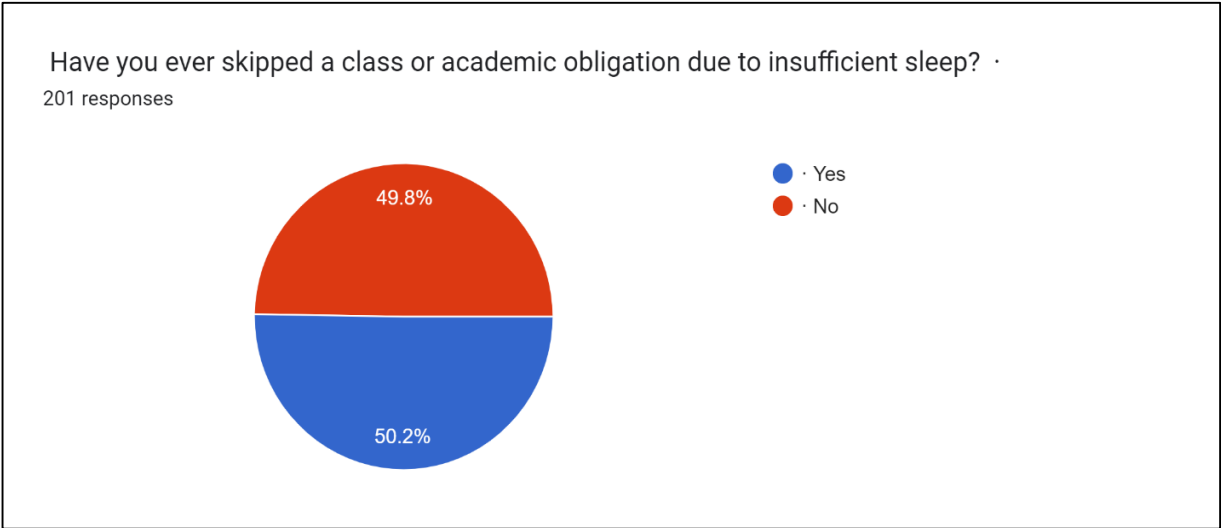


Figure 4.20: Skipped Class

Figure 4.20 indicates a concerning trend among students wherein a significant portion, accounting for 50.2%, admit to skipping classes due to inadequate sleep, consequently leading to tardiness or absence from their scheduled lectures. This data underscores the detrimental impact of sleep deprivation on academic attendance and punctuality. Such findings highlight the need for comprehensive strategies to address sleep-related issues among students, emphasizing the importance of prioritizing adequate rest to support academic success and overall well-being.

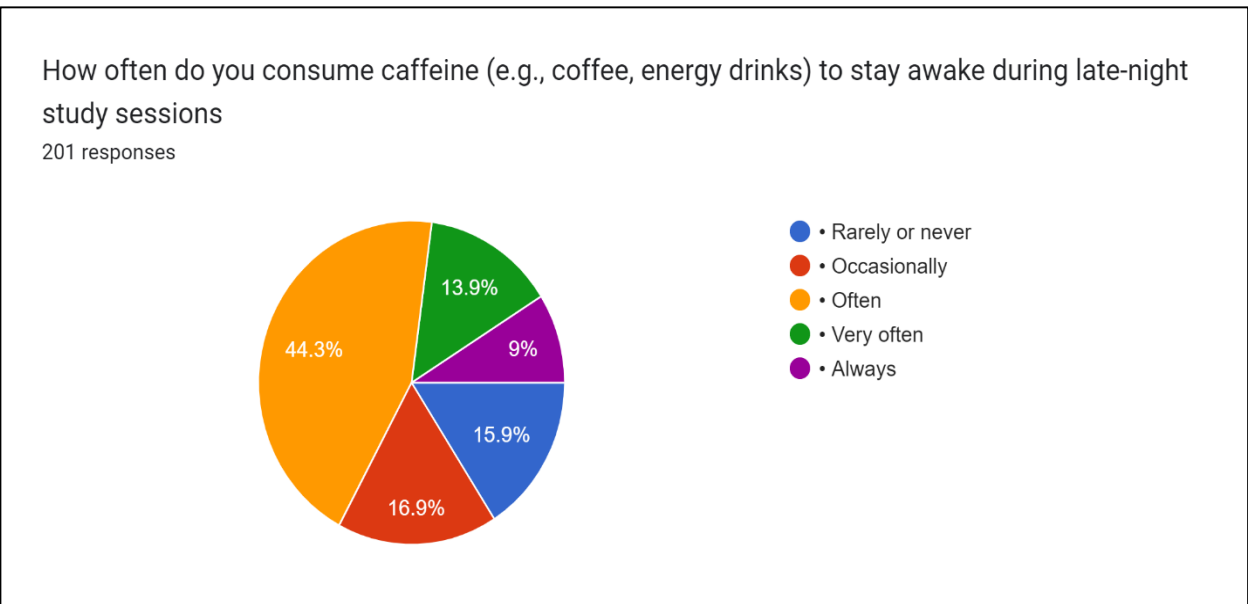


Figure 4.21: Consume Caffeine

Figure 4.21 reveals a prevalent reliance among students on caffeine consumption to combat late-

night drowsiness, with a notable 44.3% of respondents citing the primary reason as studying during those hours. Conversely, a smaller fraction, comprising 9% of participants, indicates using caffeine for waking purposes. These findings underscore the widespread practice of using stimulants to cope with academic demands, particularly during late-night study sessions. Such trends highlight the need for promoting healthier sleep habits and stress management strategies among student populations.

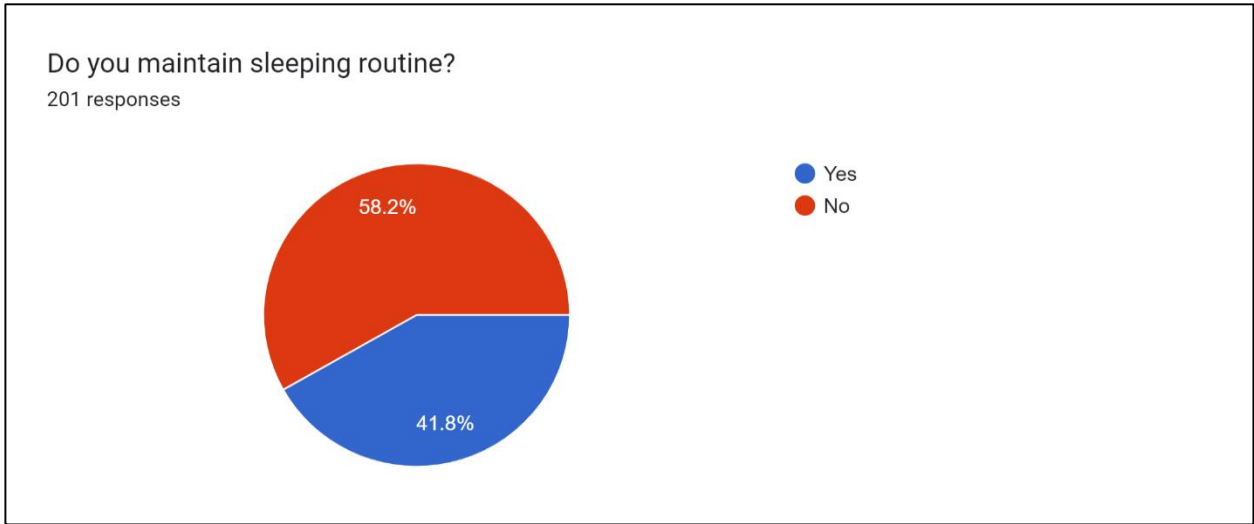


Figure 4.22: Sleeping Routine

In Figure 4.22, a predominant trend is the adherence to a regular sleep schedule among students, accounting for 58.2% of the surveyed population. Conversely, 41.8% of students deviate from maintaining a consistent sleeping routine. This data underscores the significance of structured sleep patterns among the student demographic, potentially indicative of their prioritization of health and well-being. Understanding these proportions sheds light on the diverse habits and behaviors prevalent within the student community regarding sleep management.

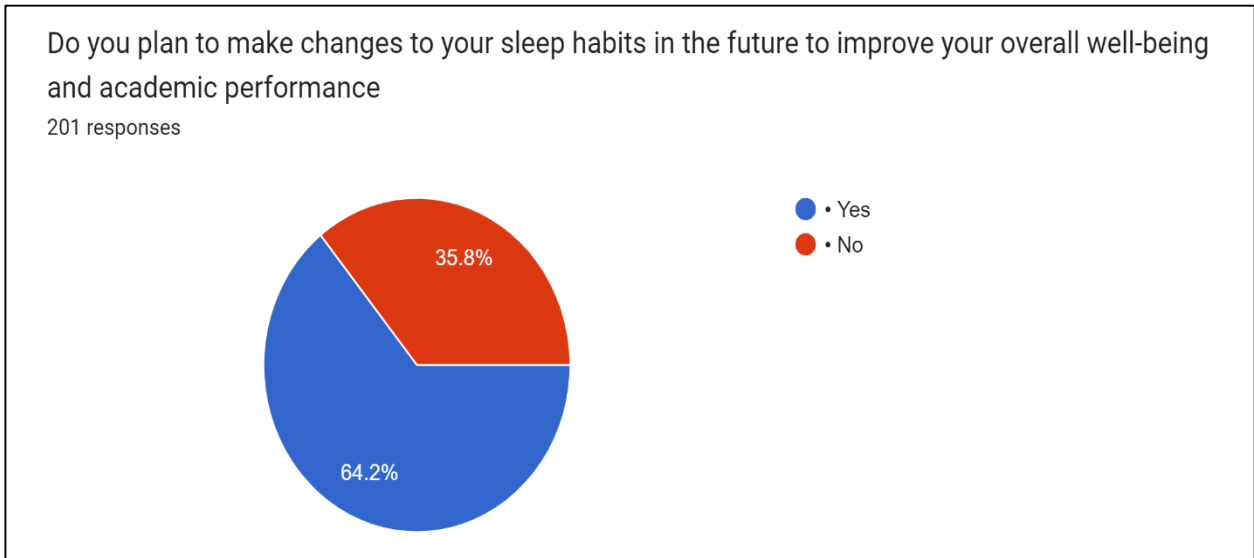


Figure 4.23: Future Improvement

Figure 4.23 illustrates a notable inclination among students to strategize for future improvements in sleep habits, with 64.2% expressing intent to do so. This proactive approach suggests a

recognition of the pivotal role sleep plays in enhancing both overall well-being and academic performance. By acknowledging the necessity for change and actively planning for it, students demonstrate a commitment to prioritizing their health and optimizing their educational outcomes. Such data underscores the significance of promoting healthy sleep behaviors within educational settings to foster student success.

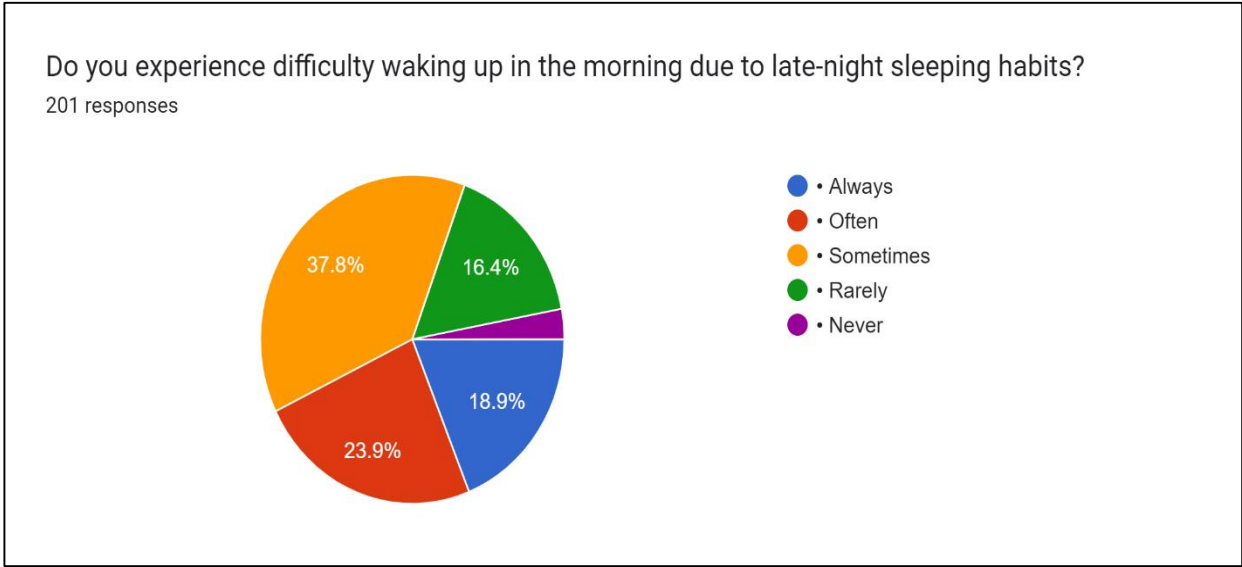


Figure 4.24: Sleeping Habit

Figure 4.24 indicates a correlation between waking up early and difficulty in maintaining late-night sleep patterns among students. Specifically, 37.8% of students who adhere to morning wake-up times struggle with late-night sleep, while the lowest percentage, 16.4%, faces similar challenges. This data underscores the complex relationship between sleep habits and schedules, suggesting that adherence to early mornings may disrupt nighttime rest for a significant portion of the student population.

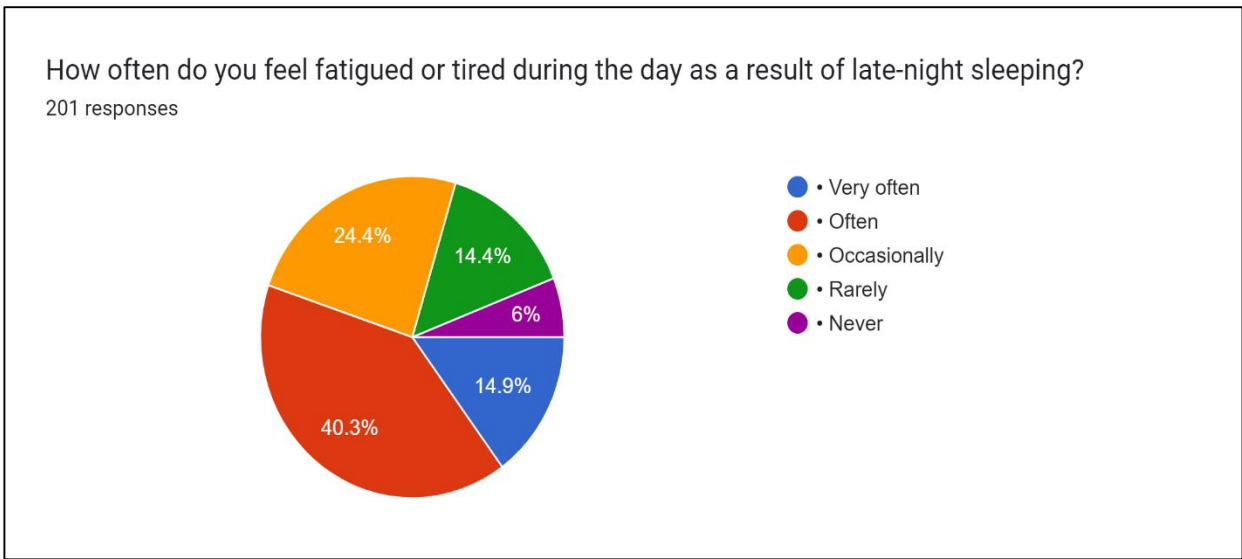


Figure 4.25: Tired for Late Night Sleep

In Figure 4.25, the prevalence of daytime fatigue due to late-night sleep is evident, with 40.3% of students reporting frequent exhaustion. Conversely, a mere 6% claim to never experience fatigue

from late-night sleeping habits. This data highlights the substantial impact of nocturnal sleep patterns on daytime well-being, emphasizing the need for improved sleep hygiene to mitigate fatigue and enhance overall student vitality.

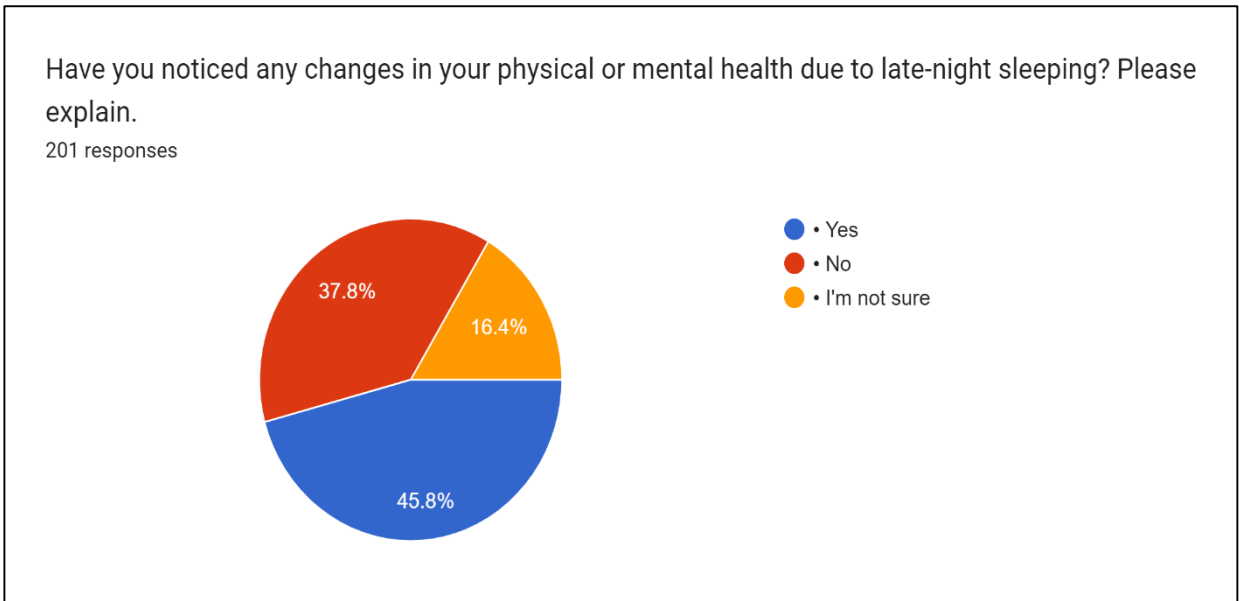


Figure 4.26: Physical Health Issue

In Figure 4.26, a significant portion of student’s report experiencing physical issues associated with late-night sleep, with the highest percentage, 45.8%, answering affirmatively. Conversely, some students, though not as many, indicate not suffering from such problems. This data underscores the widespread impact of late-night sleep on physical well-being among students, highlighting the need for interventions to address these issues effectively.

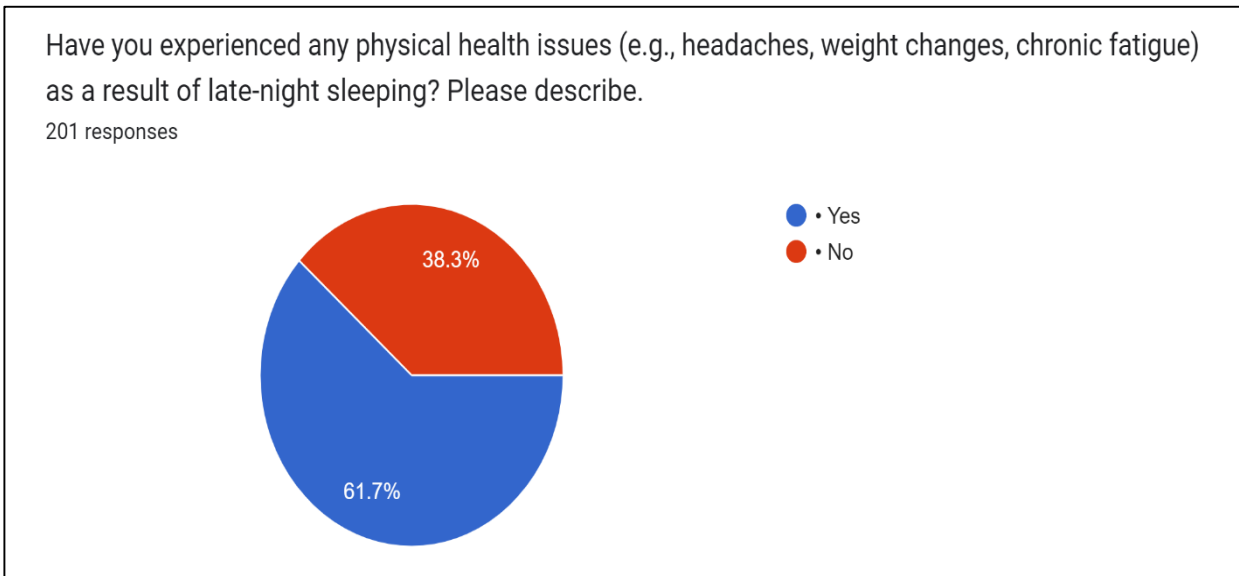


Figure 4.27: Experience of Physical Health Issue

Figure 4.27 unveils that a significant proportion of students, constituting 61.7%, have encountered health complications resulting from their late-night sleep routines. In contrast, 38.3% assert they

have never faced such health challenges. These statistics underscore the profound influence of nocturnal sleep behaviors on the well-being of students, accentuating the imperative for targeted interventions aimed at mitigating adverse health outcomes.

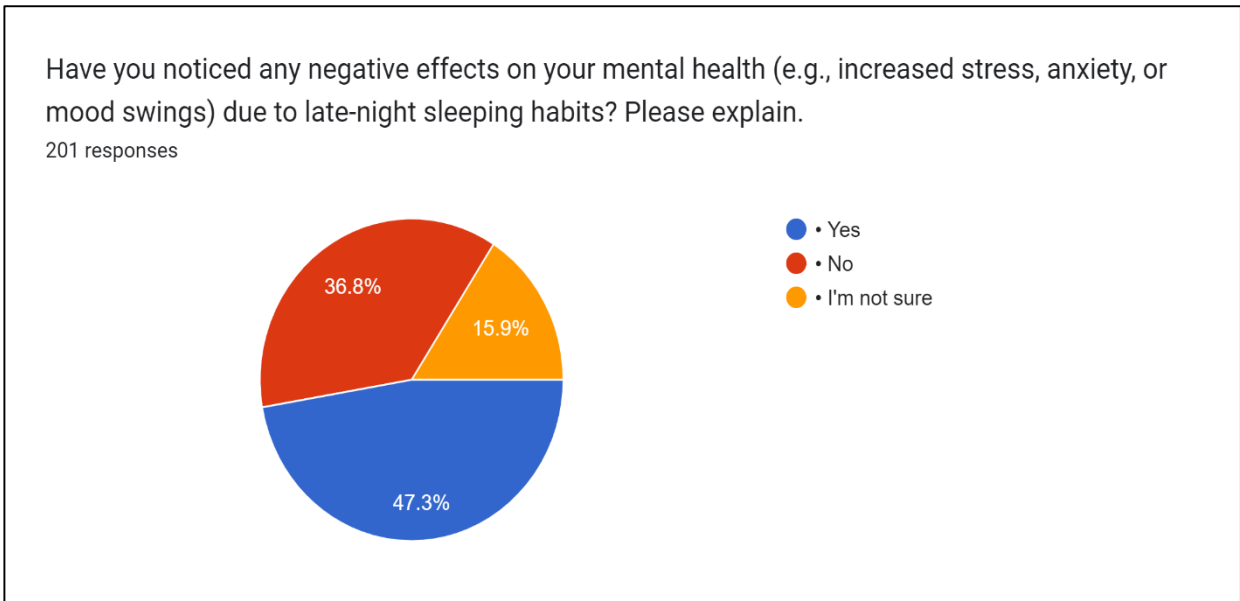


Figure 4.28: Negative of Mental Health

In figure 4.28 shows some students have recognized adverse effects on their mental health linked to late-night sleep habits. Notably, 47.3% report experiencing issues like heightened stress, anxiety, and mood swings. This observation underscores the significant impact of nighttime sleep behaviors on mental well-being. Urgent attention is warranted to implement interventions aimed at mitigating these detrimental effects and promoting better sleep hygiene practices among students.

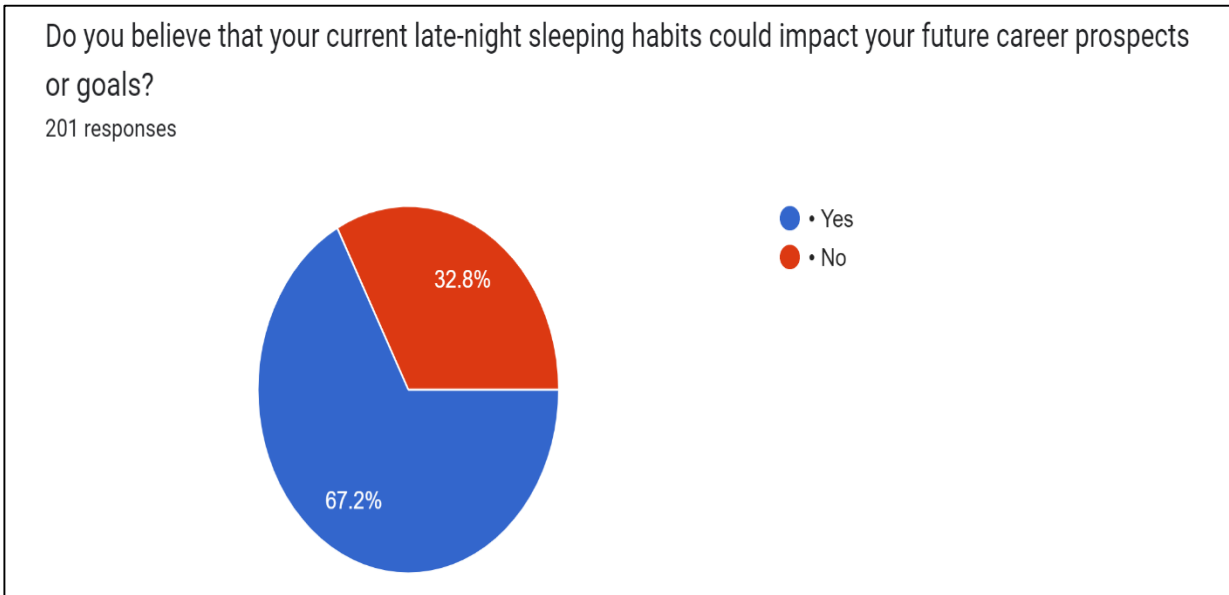


Figure 4.29: Future Career

According to Figure 4.29, the majority of students, at 67.8%, believe that late-night sleeping habits

may affect their future career prospects or goals. Conversely, 32.8% of respondents disagree, indicating a perception that such habits might not have a significant impact on their professional aspirations. This data highlights the awareness among students regarding the potential influence of sleep behaviors on their future careers, suggesting a need for attention to sleep management practices to optimize long-term career success.

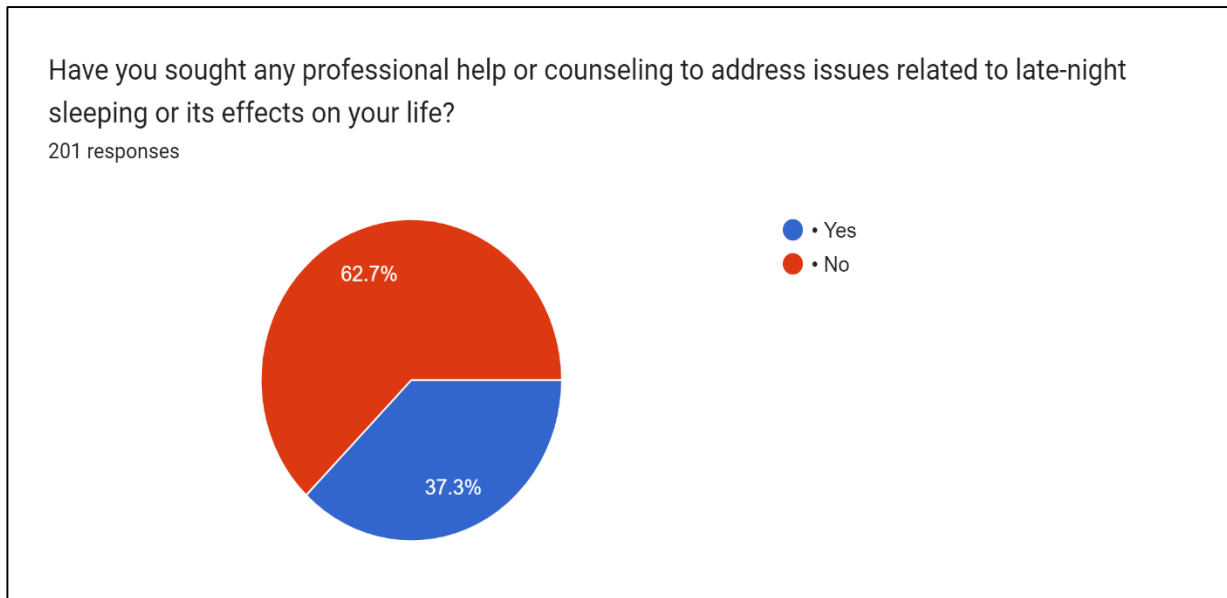


Figure 4.30: Counseling

Figure 4.30 reveals that a significant majority of students, comprising 62.7%, have actively sought professional help or counseling to manage issues related to late-night sleeping habits or their consequences. In contrast, 37.3% of students have not pursued such assistance. This data underscores the proactive approach of a considerable portion of students in addressing sleep-related challenges through professional support, indicating a recognition of the importance of seeking help to improve their well-being.

### 4.3 Factors Contributing to Late Night Sleeping

Late-night sleeping patterns among Daffodil International University students stem from various intertwined factors unique to the university environment. Firstly, the demanding academic workload often compels students to sacrifice sleep in pursuit of academic excellence. Pressures from looming deadlines, exams, and the desire to maintain high grades drive students to burn the midnight oil. Secondly, the university's vibrant social scene and plethora of extracurricular activities provide ample opportunities for socializing that extend late into the night. Peer influence and the fear of missing out on social gatherings contribute significantly to students' reluctance to retire early. Thirdly, the pervasive presence of technology, including smartphones, laptops, and social media platforms, serves as a major distraction, enticing students to stay engaged late into the night. Binge-watching shows, scrolling through social media feeds, and gaming further disrupt students' sleep schedules. Additionally, irregular class timings, part-time jobs and long commutes to campus disrupt students' natural sleep-wake cycles, making it challenging to establish a consistent bedtime routine. Lastly, factors such as stress, anxiety, and poor time management skills exacerbate late-night sleeping patterns, as students struggle to unwind and prioritize sleep amidst

various responsibilities. Understanding the complex interplay of these factors is crucial for developing tailored interventions aimed at fostering healthier sleep habits among Daffodil International University students.

#### **4.4 Correlation Analysis**

Correlation analysis plays a pivotal role in uncovering the relationship between late-night sleeping patterns and various factors among Daffodil International University students. Through statistical examination, researchers can gain insights into the strength and direction of associations between late-night sleeping habits and factors such as academic workload, social activities, technology usage, and psychological well-being. For instance, correlation analysis may reveal a positive correlation between late-night sleeping and academic workload, indicating that as academic demands escalate, students are more inclined to sleep later. Similarly, a positive correlation may surface between late-night sleeping and social activities, suggesting that students who engage in more social events tend to have delayed sleep schedules. Furthermore, correlation analysis can shed light on the influence of technology on sleep patterns, unveiling a positive correlation between screen time and late-night sleeping. This implies that as students spend more time on electronic devices, their sleep routines may be pushed back. Moreover, correlation analysis can elucidate the connection between late-night sleeping and psychological factors such as stress and anxiety. A positive correlation may imply that students experiencing higher levels of stress or anxiety are more susceptible to sleeping late. By employing correlation analysis, researchers can pinpoint significant associations between late-night sleeping patterns and various factors, offering valuable insights for tailored interventions aimed at fostering healthier sleep habits among Daffodil International University students. Understanding these correlations facilitates the development of strategies to address the underlying factors contributing to late-night sleeping, thereby enhancing student well-being and academic performance.

#### **4.5 Additional Findings**

Additional insights gleaned from the research underscore the intricate interplay between students' sleep patterns, academic performance, and overall well-being. Notably, a significant portion of students (44.3%) rely on caffeine consumption to alleviate late-night drowsiness, primarily for academic pursuits. The prevalence of daytime fatigue attributed to late-night sleep habits stands at 40.3%, suggesting a notable impact on students' daily functioning. Concurrently, 45.8% report physical discomfort linked to late-night sleep, indicating a tangible effect on physical well-being. Mental health also bears a considerable burden, with 47.3% experiencing heightened stress, anxiety, and mood disturbances. Furthermore, 61.7% contend with health complications arising from nocturnal sleep practices, reflecting broader implications for overall health. Despite these challenges, a significant proportion (64.2%) express a proactive intent to improve their sleep routines, highlighting a growing awareness of the importance of sleep hygiene. Moreover, 67.8% acknowledge the potential influence of late-night sleep habits on future career trajectories, demonstrating a recognition of the long-term implications. Encouragingly, 62.7% actively seek professional assistance or counseling for sleep-related concerns, indicative of a proactive approach to addressing sleep challenges and prioritizing well-being within educational settings.

## **Chapter 5**

### **Discussion**

#### **5.1 Comparison with Previous Studies**

Previous research extensively explores the impact of sleep patterns on student well-being, highlighting the detrimental effects on academic performance and mental and physical health. Studies consistently identify factors like noise disturbances and social interactions affecting sleep quality in hostel settings. While aligning with these findings, this study uniquely focuses on Daffodil International University's context. By tailoring interventions to its specific cultural and academic landscape, this research offers nuanced recommendations. Thus, while building on existing literature, it underscores the importance of context-specific approaches to address sleep-related challenges in academic environments.

#### **5.2 Implications of Late-Night Sleeping on Hostel Residents**

Late-night sleeping habits among hostel residents, particularly those at Daffodil International University, can significantly impact their health, academic performance, and overall well-being. Disrupted circadian rhythms resulting from irregular sleep patterns can lead to difficulties falling asleep at night and waking up in the morning, contributing to feelings of grogginess and fatigue throughout the day. This, in turn, can impair cognitive function, memory retention, and concentration, ultimately affecting academic performance as residents may struggle to focus during lectures, complete assignments, or study effectively. Moreover, chronic sleep deprivation associated with late-night sleeping has been linked to various health issues, including obesity, diabetes, cardiovascular disease, and weakened immune function. Psychologically, late-night sleeping may lead to feelings of isolation or loneliness if residents are awake while others are asleep, and it can contribute to stress, anxiety, and mood disturbances. Safety concerns also arise, as sleep-deprived individuals are more prone to accidents and injuries due to impaired judgment and slower reaction times. Furthermore, late-night sleeping can disrupt social interactions and participation in hostel activities, as residents who are asleep during the day may miss out on opportunities to socialize or engage in group events. Thus, it is imperative for Daffodil International University hostel administrators to promote healthy sleep habits and create environments conducive to regular sleep-wake cycles to enhance residents' overall health, academic success, and quality of life.

#### **5.3 Factors Affecting Sleep Quality in Hostel Environments**

Factors influencing sleep quality in Daffodil International University hostel environments encompass various elements that significantly impact residents' rest and well-being. Firstly, the communal living nature of Daffodil International University hostels introduces noise disturbances, as students may engage in activities or socialize during late hours, disrupting others' sleep.

Additionally, shared sleeping spaces may lack privacy, leading to discomfort or disturbances from roommates' movements. Secondly, the hostel's physical environment, including room layout, bedding quality, and temperature control, plays a crucial role in sleep quality. Uncomfortable sleeping arrangements or inadequate bedding can hinder students' ability to achieve restful sleep. Furthermore, insufficient ventilation or temperature regulation may contribute to discomfort and affect sleep quality negatively. Thirdly, social factors such as peer interactions, academic stress, and lifestyle choices can influence sleep patterns. Late-night study sessions, social gatherings, or digital device use before bedtime can disrupt sleep-wake cycles and impair sleep quality. Lastly, psychological factors like stress, anxiety, or homesickness can exacerbate sleep disturbances among Daffodil International University hostel students, impacting their overall sleep quality and well-being. Addressing these multifaceted factors through noise reduction measures, improved sleeping facilities, promoting healthy sleep habits, and providing psychological support can contribute to enhancing sleep quality in Daffodil International University hostel environments.

#### **5.4 Recommendations for Hostel Management**

Recommendations for Daffodil International University Hostel management to improve residents' sleep quality and well-being involve several strategies. Firstly, implementing noise reduction measures, such as soundproofing walls and establishing quiet hours, can minimize disturbances during rest times. Providing amenities like earplugs or white noise machines can also help residents manage noise disruptions. Secondly, enhancing the physical environment by ensuring comfortable bedding, proper ventilation, and appropriate room temperatures can promote better sleep conditions. Educational initiatives on sleep hygiene practices through workshops or informational materials can raise awareness and empower residents to adopt healthier sleep habits. Encouraging regular exercise, balanced nutrition, and stress management techniques can further support residents' overall well-being and contribute to better sleep quality. Moreover, fostering a supportive community atmosphere through peer support groups and social activities can address psychological factors affecting sleep. Collaborating with university health services and mental health professionals can also provide residents with additional resources and support. By implementing these recommendations, Daffodil International University Hostel management can create a conducive environment that prioritizes residents' sleep health and enhances their overall quality of life.

#### **5.5 Suggestions for Future Research**

Moving forward, there are several avenues for further exploration and action based on the insights garnered from the analysis of students' sleep patterns, academic performance, and well-being:

- **Longitudinal Studies:** Future research could delve into longitudinal studies to track changes in students' sleep habits, academic performance, and overall well-being over time. This approach would offer deeper insights into the lasting effects of sleep patterns on academic and personal outcomes.

- **Intervention Development:** Efforts could be directed towards designing and implementing targeted interventions aimed at fostering healthier sleep habits among students. These interventions might encompass educational programs, workshops on sleep hygiene, stress management training, and access to counseling services.
- **Technology Use and Sleep:** There's a need to investigate the impact of technology use on students' sleep patterns and well-being. Strategies should be explored to encourage responsible technology use and mitigate its negative effects on sleep quality.
- **Community Engagement:** Collaboration among students, educators, parents, and health professionals could be fostered to promote sleep health and well-being within educational environments. Building a supportive community that prioritizes and supports healthy sleep habits is crucial.
- **Policy Development:** Advocacy for policy changes within educational institutions is essential to prioritize sleep health and well-being. This might involve implementing flexible class schedules, establishing quiet spaces for relaxation, and setting guidelines for homework assignments.
- **Cultural Considerations:** Cultural factors influencing students' sleep patterns and attitudes towards sleep should be taken into account. Interventions and support services should be tailored to respect and accommodate diverse cultural perspectives on sleep and well-being.
- **Evaluation and Assessment:** Ongoing evaluation of the effectiveness of interventions and support services is necessary. Gathering feedback from students and stakeholders can inform the refinement and enhancement of program offerings.

By pursuing these avenues, researchers and educators can contribute to creating environments that prioritize sleep health and overall well-being, thereby enhancing students' academic success and quality of life.

## **Chapter 6**

### **CONCLUSION**

#### **6.1 Summary of Findings**

This study examines the profound impact of late-night sleeping patterns on student well-being, particularly within Daffodil International University's hostel environment. Consistent with prior research, it underscores the adverse effects of irregular sleep schedules on academic performance, mental health, and physical vitality. Noise disturbances and social interactions emerge as key factors influencing sleep quality among hostel residents, aligning with findings from previous studies. However, the study emphasizes the necessity of context-specific interventions tailored to the university's unique cultural and academic context. By addressing these challenges, educators and administrators can create environments conducive to healthy sleep habits, ultimately enhancing students' overall quality of life and academic success. This research provides valuable insights into the complex relationship between sleep patterns and student well-being, offering actionable recommendations for fostering supportive environments within academic settings. Prioritizing sleep health and implementing targeted interventions can empower students to thrive academically while nurturing their holistic well-being.

#### **6.2 Contributions to Existing Knowledge**

On this research significantly advances current understanding by delving into the ramifications of late-night sleeping patterns on student well-being, especially within Daffodil International University's hostel environment. Firstly, it reinforces prior research by affirming the adverse effects of irregular sleep schedules on academic performance, mental health, and physical vigor. By elucidating specific challenges encountered by hostel residents, like noise disruptions and social interactions, the study enriches our comprehension of the determinants of sleep quality among students. Additionally, this research expands existing knowledge by stressing the necessity of context-specific interventions tailored to Daffodil International University's distinct cultural and academic context. By acknowledging the multifaceted nature of sleep patterns and their implications for student well-being, educators and administrators gain critical insights into addressing sleep-related issues within academic settings. Furthermore, this study provides actionable recommendations for creating environments conducive to healthy sleep habits, thus bridging the divide between research insights and practical implementation strategies. By prioritizing sleep health and offering targeted interventions, educational institutions can establish supportive environments empowering students to excel academically while nurturing their overall well-being. In essence, this research enriches our understanding of the intricate interplay between sleep patterns and student well-being, while also furnishing pragmatic guidance for improving sleep quality and fostering student success within academic contexts.

#### **6.3 Limitations of the Study**

This research, while valuable, is subject to certain limitations that necessitate acknowledgment.

Firstly, reliance on self-reported data introduces potential response biases, as participants may not always accurately represent their sleep behaviors. This could undermine the reliability of the findings by introducing discrepancies between reported and actual practices. Additionally, the study's cross-sectional design prevents establishing causal relationships between late-night sleeping patterns and outcomes such as academic performance and mental health. Longitudinal studies are needed to track changes over time and elucidate the dynamic interplay between sleep habits and well-being. Moreover, the study's focus solely on Daffodil International University's hostel environment may limit the generalizability of findings to other academic settings or student demographics with diverse cultural and social contexts. Future research should aim for broader representation to enhance the external validity of results. Lastly, despite efforts to consider various factors influencing sleep quality, there might be unaccounted variables such as individual sleep preferences or specific hostel-related environmental factors. Addressing these limitations in future studies will contribute to a more comprehensive understanding of late-night sleeping patterns and student well-being.

#### **6.4 Concluding Remarks**

In closing, this study delves into the intricate dynamics of late-night sleeping habits and their impact on student well-being at Daffodil International University. By exploring the multifaceted consequences on academic performance, mental health, and physical vitality, it offers invaluable insights for educational stakeholders. The findings emphasize the necessity for tailored interventions and support mechanisms to cultivate healthy sleep behaviors and bolster student achievement. Moving forward, prioritizing sleep health within academic institutions becomes paramount, fostering environments conducive to holistic student growth. By addressing the identified challenges and implementing evidence-backed strategies, universities can foster nurturing communities where students excel academically and thrive personally. This research enriches our comprehension of the complexities surrounding sleep patterns in higher education and furnishes actionable guidelines to nurture supportive academic environments.

## References

- [1] Almeida, D. A., Dias, F. M., Toledo, M. A. F., Cardenas, D. A. C., Oliveira, F. A. C., Ribeiro, E., Krieger, J. E., & Gutierrez, M. A. (2023). *A machine-learning sleep-wake classification model using a reduced number of features derived from photoplethysmography and activity signals.*
- [2] Alvaro, P. K., Roberts, R. M., & Harris, J. K. (2013). A Systematic Review Assessing Bidirectionality between Sleep Disturbances, Anxiety, and Depression. *Sleep*, 36(7), 1059–1068. <https://doi.org/10.5665/sleep.2810>
- [3] Baldassini Rodriguez, S., Bardacci, Y., El Aoufy, K., Bazzini, M., Caruso, C., Giusti, G. D., Mezzetti, A., Lucchini, A., Iozzo, P., Guazzini, A., Magi, C. E., Iovino, P., Longobucco, Y., Rasero, L., & Bambi, S. (2023). Sleep Quality and Its Relationship to Anxiety and Hardiness in a Cohort of Frontline Italian Nurses during the First Wave of the COVID-19 Pandemic. *Nursing Reports*, 13(3), 1203–1215. <https://doi.org/10.3390/nursrep13030103>
- [4] Kemp, B., & Olivan, J. (2003). European data format ‘plus’ (EDF+), an EDF alike standard format for the exchange of physiological data. *Clinical Neurophysiology*, 114(9), 1755–1761. [https://doi.org/10.1016/S1388-2457\(03\)00123-8](https://doi.org/10.1016/S1388-2457(03)00123-8)
- [5] Khan, W. A. A., Jackson, M. L., Kennedy, G. A., & Conduit, R. (2021). A field investigation of the relationship between rotating shifts, sleep, mental health and physical activity of Australian paramedics. *Scientific Reports*, 11(1), 866. <https://doi.org/10.1038/s41598-020-79093-5>
- [6] Mourtazaev, M. S., Kemp, B., Zwinderman, A. H., & Kamphuisen, H. A. C. (1995). Age and Gender Affect Different Characteristics of Slow Waves in the Sleep EEG. *Sleep*, 18(7), 557–564. <https://doi.org/10.1093/sleep/18.7.557>
- [7] Orchard, F., Gregory, A. M., Gradisar, M., & Reynolds, S. (2020). Self-reported sleep patterns and quality amongst adolescents: cross-sectional and prospective associations with anxiety and depression. *Journal of Child Psychology and Psychiatry*, 61(10), 1126–1137. <https://doi.org/10.1111/jcpp.13288>
- [8] Scott, A. J., Webb, T. L., Martyn-St James, M., Rowse, G., & Weich, S. (2021). Improving sleep quality leads to better mental health: A meta-analysis of randomised controlled trials. *Sleep Medicine Reviews*, 60, 101556. <https://doi.org/10.1016/j.smrv.2021.101556>
- [9] Steiger, A., & Pawlowski, M. (2019). Depression and Sleep. *International Journal of Molecular Sciences*, 20(3), 607. <https://doi.org/10.3390/ijms20030607>
- [10] Supratak, A., Dong, H., Wu, C., & Guo, Y. (2017). DeepSleepNet: A Model for Automatic Sleep Stage Scoring Based on Raw Single-Channel EEG. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 25(11), 1998–2008. <https://doi.org/10.1109/TNSRE.2017.2721116>
- [11] Wynchank, D., ten Have, M., Bijlenga, D., Penninx, B. W., Beekman, A. T., Lamers, F., de Graaf, R., & Kooij, J. J. S. (2018). The Association Between Insomnia and Sleep Duration in Adults With Attention-Deficit Hyperactivity Disorder: Results From a General Population Study. *Journal of Clinical Sleep Medicine*, 14(03), 349–357. <https://doi.org/10.5664/jcsm.6976>
- [12] Zou, P., Wang, X., Sun, L., Liu, K., Hou, G., Yang, W., Liu, C., Yang, H., Zhou, N., Zhang, G., Ling, X., Liu, J., Cao, J., Ao, L., & Chen, Q. (2020). Poorer sleep quality correlated with mental health problems in college students: A longitudinal observational study among 686 males. *Journal of Psychosomatic Research*, 136, 110177. <https://doi.org/10.1016/j.jpsychores.2020.110177>
- [13] P. Jadhav and S. Mukhopadhyay, "Automated Sleep Stage Scoring Using Time-Frequency Spectra Convolution Neural Network," in *IEEE Transactions on Instrumentation and Measurement*, vol. 71, pp. 1-9, 2022, Art no. 2510309 <https://doi.org/10.1109/TIM.2022.3177747>.
- [14] Z. Wang, J. Zhang, Y. Xia, P. Chen and B. Wang, "A General and Scalable Vision Framework for Functional Near-Infrared Spectroscopy Classification," in *IEEE Transactions on Neural Systems and Rehabilitation Engineering*,

vol. 30, pp. 1982-1991, 2022, <https://doi.org/10.1109/TNSRE.2022.3190431>.

[15] M. Choi and S. -J. Lee, "Oscillometry-Based Blood Pressure Estimation Using Convolutional Neural Networks," in IEEE Access, vol. 10, pp. 56813-56822, 2022, <https://doi.org/10.1109/ACCESS.2022.3177539>.

[16] Z. Jia et al., "Multi-View Spatial-Temporal Graph Convolutional Networks With Domain Generalization for Sleep Stage Classification," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 29, pp. 1977-1986, 2021, <https://doi.org/10.1109/TNSRE.2021.3110665>.

[16] E. Eldele et al., "An Attention-Based Deep Learning Approach for Sleep Stage Classification With Single-Channel EEG," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 29, pp. 809-818, 2021, <https://doi.org/10.1109/TNSRE.2021.3076234>.

[17] A. Supratak, H. Dong, C. Wu and Y. Guo, "DeepSleepNet: A Model for Automatic Sleep Stage Scoring Based on Raw Single-Channel EEG," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 25, no. 11, pp. 1998-2008, Nov. 2017, <https://doi.org/10.1109/TNSRE.2017.2721116>.

[18] Y. Sun, B. Wang, J. Jin and X. Wang, "Deep Convolutional Network Method for Automatic Sleep Stage Classification Based on Neurophysiological Signals," 2018 11th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI), Beijing, China, 2018, pp. 1-5, <https://doi.org/10.1109/CISP-BMEI.2018.8633058>

[19] H. Phan, F. Andreotti, N. Cooray, O. Y. Chén and M. De Vos, "SeqSleepNet: End-to-End Hierarchical Recurrent Neural Network for Sequence-to-Sequence Automatic Sleep Staging," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 27, no. 3, pp. 400-410, March 2019, <https://doi.org/10.1109/TNSRE.2019.2896659>.

[20] H. Phan, F. Andreotti, N. Cooray, O. Y. Chén and M. De Vos, "Joint Classification and Prediction CNN Framework for Automatic Sleep Stage Classification," in IEEE Transactions on Biomedical Engineering, vol. 66, no. 5, pp. 1285-1296, May 2019, <https://doi.org/10.1109/TBME.2018.2872652>.

[21] P. Memar and F. Faradji, "A Novel Multi-Class EEG-Based Sleep Stage Classification System," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 26, no. 1, pp. 84-95, Jan. 2018, <https://doi.org/10.1109/TNSRE.2017.2776149>.

[22] E. Alickovic and A. Subasi, "Ensemble SVM Method for Automatic Sleep Stage Classification," in IEEE Transactions on Instrumentation and Measurement, vol. 67, no. 6, pp. 1258-1265, June 2018, <https://doi.org/10.1109/TIM.2018.2799059>.

[23] C. Zhang, C. -H. Yeh and W. Shi, "Variational Phase-Amplitude Coupling Characterizes Signatures of Anterior Cortex Under Emotional Processing," in IEEE Journal of Biomedical and Health Informatics, vol. 27, no. 4, pp. 1935-1945, April 2023, <https://doi.org/10.1109/JBHI.2023.3243275>.

[24] J. Gilles, "Empirical Wavelet Transform," in IEEE Transactions on Signal Processing, vol. 61, no. 16, pp. 3999-4010, Aug.15, 2013, <https://doi.org/10.1109/TSP.2013.2265222>.

[25] Hanchuan Peng, Fuhui Long and C. Ding, "Feature selection based on mutual information criteria of max-dependency, max-relevance, and min-redundancy," in IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 27, no. 8, pp. 1226-1238, Aug. 2005, <https://doi.org/10.1109/TPAMI.2005.159>.

[26] C. Lin et al., "Robust Fetal Heart Beat Detection via R-Peak Intervals Distribution," in IEEE Transactions on Biomedical Engineering, vol. 66, no. 12, pp. 3310-3319, Dec. 2019, <https://doi.org/10.1109/TBME.2019.2904014>.

[27] Y. Tang, Y. -Q. Zhang, N. V. Chawla and S. Krasser, "SVMs Modeling for Highly Imbalanced Classification," in IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics), vol. 39, no. 1, pp. 281-288, Feb. 2009, <https://doi.org/10.1109/TSMCB.2008.2002909>.

[28] H. Dong, A. Supratak, W. Pan, C. Wu, P. M. Matthews and Y. Guo, "Mixed Neural Network Approach for Temporal Sleep Stage Classification," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol.

26, no. 2, pp. 324-333, Feb. 2018, <https://doi.org/10.1109/TNSRE.2017.2733220>.

[29] S. Chambon, M. N. Galtier, P. J. Arnal, G. Wainrib and A. Gramfort, "A Deep Learning Architecture for Temporal Sleep Stage Classification Using Multivariate and Multimodal Time Series," in IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 26, no. 4, pp. 758-769, April 2018, <https://doi.org/10.1109/TNSRE.2018.2813138>.

[30] P. Flandrin, G. Rilling and P. Goncalves, "Empirical mode decomposition as a filter bank," in IEEE Signal Processing Letters, vol. 11, no. 2, pp. 112-114, Feb. 2004, <https://doi.org/10.1109/LSP.2003.821662>

## APPENDICES

### Appendix 1: Questionnaires

| Number | Questions                                                              | Options                                                                                                                                                                                                                                                                 | Code Categories      |
|--------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1.     | Name (Optional)                                                        | .....                                                                                                                                                                                                                                                                   | <input type="text"/> |
| 2.     | Age:                                                                   | .....                                                                                                                                                                                                                                                                   | <input type="text"/> |
| 3.     | Gender:                                                                | 1. Male.....1<br>2. Female.....2                                                                                                                                                                                                                                        | <input type="text"/> |
| 4.     | Where are you Living?                                                  | 1. Hostel.....1<br>2. Home.....2<br>3. Rental Home.....3                                                                                                                                                                                                                | <input type="text"/> |
| 5.     | Year of Study:                                                         | 1. 1 <sup>st</sup> .....1<br>2. 2 <sup>nd</sup> .....2<br>3. 3 <sup>rd</sup> .....3<br>4. 4 <sup>th</sup> .....4                                                                                                                                                        | <input type="text"/> |
| 6.     | Department:                                                            | .....                                                                                                                                                                                                                                                                   | <input type="text"/> |
| 7.     | On average, how many hours of sleep do you get on daily?               | 1. Less than 5 hours....1<br>2. 5-6 hours.....2<br>3. 6-7 hours.....3<br>4. 7-8 hours.....4<br>5. More than 8 hours.....6                                                                                                                                               | <input type="text"/> |
| 8.     | How often do you sleep 'late night' during the week?                   | 1. Rarely or never....1<br>2. Once a week.....2<br>3. 2-3 times a week....3<br>4. 4-5 times a week....4<br>5. Almost every night.....5                                                                                                                                  | <input type="text"/> |
| 9.     | What are the main reasons for staying up late? (Select all that apply) | 1. Academic work (assignments, studying)...1<br>2. Socializing with friends.....2<br>3. Watching TV or streaming....3<br>4. Browsing the internet or social media....4<br>5. Playing Games.....5<br>6. Watching Sports(Football, Cricket)....6<br>7. Relationship.....7 | <input type="text"/> |

|     |                                                                                                                                         |                                                                                                               |                      |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------|
| 10. | How would you rate your overall academic performance in the past semester/year?                                                         | 1. Excellent.....1<br>2. Good.....2<br>3. Average.....3<br>4. Below Average.....4<br>5. Poor.....5            | <input type="text"/> |
| 11. | Have you ever experienced your academic result is associated with late night sleeping?                                                  | 1. Yes.....1<br>2. No.....2<br>3. Not Sure.....3                                                              | <input type="text"/> |
| 12. | How often do you experience physical fatigue or exhaustion during the day?                                                              | 1. Rarely or never....1<br>2. Occasionally.....2<br>3. Often....3<br>4. Very often.....4<br>5. Always.....5   | <input type="text"/> |
| 13. | Do you often feel stressed, anxious, or overwhelmed due to your academic workload or other factors?                                     | 1. Rarely or never.....1<br>2. Occasionally....2<br>3. Often....3<br>4. Very often....4<br>5. Always.....5    | <input type="text"/> |
| 14. | Have you ever been diagnosed with a sleep-related disorder (e.g., insomnia, sleep apnea)?                                               | 1. Yes....1<br>2. No.....2                                                                                    | <input type="text"/> |
| 15. | Do you feel that your sleep patterns have a significant impact on your mental well-being?                                               | 1. Yes.....1<br>2. No.....2<br>3. Not Sure.....3                                                              | <input type="text"/> |
| 16. | How often do you use electronic devices (smartphone, computer, tablet) right before bedtime?                                            | 1. Rarely or never.....1<br>2. Occasionally.....2<br>3. Often.....3<br>4. Very often.....4<br>5. Always.....5 | <input type="text"/> |
| 17. | Do you believe that late-night use of technology (e.g., social media, streaming) affects your sleep quality?                            | 1. Yes.....1<br>2. No.....2<br>3. Not Sure.....3                                                              | <input type="text"/> |
| 18. | Have you ever tried any strategies or techniques to improve your sleep patterns? (e.g., setting a sleep schedule, reducing screen time) | 1. Yes.....1<br>2. No....2                                                                                    | <input type="text"/> |
| 19. | How often do social activities, such as parties or gatherings, contribute to your decision to stay up late?                             | 1. Rarely or never....1<br>2. Occasionally.....2<br>3. Often.....3<br>4. Very often....4<br>5. Always.....5   | <input type="text"/> |

|     |                                                                                                                                                         |                                                                                                              |                      |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------|
| 20. | Have you ever skipped a class or academic obligation due to insufficient sleep?<br>.                                                                    | 1. Yes.....1<br>2. No....2                                                                                   | <input type="text"/> |
| 21. | How often do you consume caffeine (e.g., coffee, energy drinks) to stay awake during late-night study sessions                                          | 1. Rarely or never....1<br>2. Occasionally.....2<br>3. Often.....3<br>4. Very often....4<br>5. Always.....5  | <input type="text"/> |
| 22. | Do you maintain sleeping routine?                                                                                                                       | 1. Yes.....1<br>2. No.....2                                                                                  | <input type="text"/> |
| 23. | Do you plan to make changes to your sleep habits in the future to improve your overall well-being and academic performance                              | 1. Yes.....1<br>2. No.....2                                                                                  | <input type="text"/> |
| 24. | How often do you consume caffeine (e.g., coffee, energy drinks, sodas) in the evening or at night to stay awake?                                        | 1. Rarely or never.....1<br>2. Occasionally.....2<br>3. Often.....3<br>4. Very often....4<br>5. Always.....4 | <input type="text"/> |
| 25. | Do you experience difficulty waking up in the morning due to late-night sleeping habits?                                                                | 1. Always.....1<br>2. Often....2<br>3. Sometimes.....3<br>4. Rarely.....4<br>5. Never....5                   | <input type="text"/> |
| 26. | How often do you feel fatigued or tired during the day as a result of late-night sleeping?                                                              | 1. Rarely.....1<br>2. Occasionally.....2<br>3. Often.....3<br>4. Very often....4<br>5. Never....5            | <input type="text"/> |
| 27. | Have you noticed any changes in your physical or mental health due to late-night sleeping? Please explain.                                              | 1. Yes.....1<br>2. No.....2<br>3. I'm not sure.....3                                                         | <input type="text"/> |
| 28. | Have you experienced any physical health issues (e.g., headaches, weight changes, chronic fatigue) as a result of late-night sleeping? Please describe. | 1. Yes.....1<br>2. No.....2                                                                                  | <input type="text"/> |

|     |                                                                                                                                                                  |                                                      |                      |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------|
| 29. | Have you noticed any negative effects on your mental health (e.g., increased stress, anxiety, or mood swings) due to late-night sleeping habits? Please explain. | 1. Yes.....1<br>2. No.....2<br>3. I'm not sure.....3 | <input type="text"/> |
| 30. | Do you believe that your current late-night sleeping habits could impact your future career prospects or goals?                                                  | 1. Yes.....1<br>2. No.....2                          | <input type="text"/> |
| 31. | Have you sought any professional help or counseling to address issues related to late-night sleeping or its effects on your life?                                | 1. Yes.....1<br>2. No.....2                          | <input type="text"/> |

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**ID:**193-34-214

**Section:**201(D)

**Title:** Impact of Late-Night sleeping effect on Daffodil International University Students, Savar, Ashulia

**Introduction:**

The present report aims to investigate the effects of late-night sleeping patterns on hall students at Daffodil International University. As a student myself, I am cognizant of the prevalent trend of late-night activities among hall residents, which often leads to altered sleep schedules and potential academic, physical, and psychological consequences. This report combines both quantitative and qualitative research methods to offer a comprehensive understanding of the issue.

**Background:**

The significance of sleep in maintaining optimal cognitive function and overall health is well-documented. However, the unique challenges faced by university students, particularly pertaining to erratic sleep schedules, have garnered increasing attention in recent years. The transition to university life often coincides with newfound freedoms and responsibilities, leading many students to adopt habits that disrupt their natural sleep-wake cycles. The transition to university life often coincides with significant changes in sleep patterns for students. Factors such as increased academic workload, social activities, part-time employment, and technological distractions contribute to irregular sleep schedules.

**Rationale:**

Understanding the impact of late-night sleeping habits on university students is essential for several reasons. Firstly, academic performance is a primary concern for both students and educational institutions. Research suggests a link between inadequate sleep and decreased cognitive function,

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memory consolidation, and academic achievement. By investigating the effects of late-night sleeping on students' academic performance, educators can tailor interventions to optimize learning environments and support student success.

**Hypothesis:**

It is hypothesized that prolonged engagement in late-night sleeping patterns among university students negatively impacts academic performance, cognitive function, mental health, and overall well-being. Additionally, it is anticipated that there will be correlations between late-night sleeping habits and variables such as GPA, frequency of daytime sleepiness, mood disturbances, and quality of life indicators. This study aims to investigate the extent of these associations and explore potential interventions to mitigate the adverse effects of late-night sleeping on university students.

**Objectives:**

1. To investigate the prevalence of late-night sleeping habits among Diu university students.
2. To examine the factors contributing to late-night sleeping among Diu university students, including academic workload, social activities, and technology usage.
3. To assess the impact of late-night sleeping on academic performance, cognitive functioning, and mental health among Diu university students.
4. To explore potential interventions and strategies aimed at promoting healthier sleep habits and addressing the consequences of late-night sleeping among Diu university students.
5. To provide recommendations for Diu universities and stakeholders to support students in maintaining optimal sleep hygiene and well-being.

**Methodology:**

- Research Design: Choose a descriptive or correlational research design to analyze the relationship between late night sleeping and its impact on university students. This could involve surveys, questionnaires, or interviews.
- Sampling: Select a representative sample of university students from various disciplines and backgrounds to ensure your findings are applicable to a broader student population.
- Data Collection: Use surveys or questionnaires to gather data on students' sleep patterns, late-night activities, academic performance, physical and mental health, and any other relevant variables.
- Variables: Identify the independent variable (late night sleeping) and dependent variables (academic performance, physical and mental health) that we will measure and analyze.
- Data Analysis: Utilize statistical tools such as regression analysis or correlation analysis to assess the relationship between late night sleeping and its impact on academic performance and health.

**Expected Outcome:**

Could include insights into how late-night sleeping habits affect students' academic performance,

mental and physical health, daily routines, and overall well-being. It might also explore potential strategies to improve sleep hygiene and manage schedules to mitigate the negative impacts of late-night sleep.

### **Socio-economic Impact:**

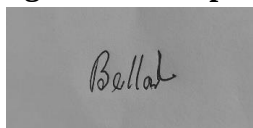
The socio-economic impact of late-night sleeping habits among Diu university students cannot be overstated. Firstly, there are direct financial implications associated with poor academic performance resulting from inadequate sleep. Students who struggle to maintain regular sleep schedules may experience lower grades, delayed graduation times, and reduced opportunities for scholarships or employment prospects upon graduation. Moreover, the effects of late-night sleeping extend beyond individual students to broader societal implications. As Diu universities strive to produce competitive graduates capable of contributing to the workforce, the prevalence of sleep deprivation among students poses a challenge to achieving this goal.

### **References:**

1. Carskadon, M. A. (2011). Sleep in adolescents: The perfect storm. *Pediatric Clinics of North America*, 58(3), 637-647.
2. Gaultney, J. F. (2010). The prevalence of sleep disorders in college students: Impact on academic performance. *Journal of American College Health*, 59(2), 91-97.
3. Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of Adolescent Health*, 46(2), 124-132.
4. Owens, J., & Adolescent Sleep Working Group, A. S. L. S. A. P. (2014). Insufficient sleep in adolescents and young adults: An update on causes and consequences. *Pediatrics*, 134(3), e921-e932.
5. Pilcher, J. J., & Walters, A. S. (1997). How sleep deprivation affects psychological variables related to college students' cognitive performance. *Journal of American College Health*, 46(3), 121-126.
6. Trockel, M. T., Barnes, M. D., & Egget, D. L. (2000). Health-related variables and academic performance among first-year college students: Implications for sleep and other behaviors. *Journal of American College Health*, 49(3), 125-131.
7. Wolfson, A. R., & Carskadon, M. A. (1998). Sleep schedules and daytime functioning in adolescents. *Child Development*, 69(4), 875-887.
8. Zhai, L., Zhang, H., & Zhang, D. (2015). Sleep duration and depression among adults: A meta-analysis of prospective studies. *Depression and Anxiety*, 32(9), 664-670.
9. Roane, B. M., & Taylor, D. J. (2008). Adolescent insomnia as a risk factor for early adult depression and substance abuse. *Sleep*, 31(10), 1351-1356.
10. Troxel, W. M., Roblyer, M. I., & Hall, M. (2017). Buysse DJ. Marital satisfaction and sleep disturbances in a multi-ethnic sample of middle-aged women. *Behavioral Sleep Medicine*, 15(2), 110-123.

**Time Schedule Activities:**

| Task                      | September | October   | November | December | January | February  |
|---------------------------|-----------|-----------|----------|----------|---------|-----------|
| Literature research       | 20 Sep,23 |           |          |          |         |           |
| Questionnaire Development | 25 Sep,23 |           |          |          |         |           |
| Training                  |           | 2 Oct,23  |          |          |         |           |
| Data sample collection    |           | 10 Oct,23 |          |          |         |           |
| Report writing            |           |           |          |          |         | 3 Feb,24  |
| Report Submission         |           |           |          |          |         | 28 Feb,24 |

**Signature of Supervisor**A rectangular box containing a handwritten signature in black ink. The signature appears to be 'Bellal'.

Professor Dr. Md. Bellal Hossain.  
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