**Date:** September 10, 2023

**Interviewer:** Interviewer (I)

**Interviewee:** Interviewee (Tommy)

**Duration:** Approximately 10 minutes

[00:00]

**I**: Hello, IE. Thank you for taking the time to chat with us today about your sleep habits. Let's start with your sleep routine. Could you please describe your typical sleep routine on both weekdays and weekends? How many hours of sleep do you aim for each night?

**TM**: Hi, I. Certainly, on weekdays, I try to go to bed around 11 PM and wake up at 6 AM, aiming for 7 hours of sleep. On weekends, I'm a bit more relaxed; I might stay up until midnight and sleep in until 8 or 9 AM, aiming for 8-9 hours.

[01:15]

**I**: That sounds like a balanced routine. Now, did you have any memorable sleep experiences last week, whether good or bad?

**TM**: Well, last week, I had one of those rare amazing nights. I slept like a log for a full 8 hours without any interruptions. I woke up feeling incredibly refreshed and ready to take on the day.

[02:30]

**I**: It's great to hear about a restful night's sleep. Let's talk about factors affecting your sleep quality. What are some factors you think impact your sleep quality?

**TM**: Stress is a big one for me. If I'm stressed about work or personal issues, it's much harder to fall asleep. Also, exposure to screens before bedtime tends to disrupt my sleep. And occasional noise from neighbors can be bothersome.

[03:45]

**I**: Those are common factors. Now, have you used any technology to assist your sleep quality? How do you think about it?

**TM**: Yes, I've used a sleep tracking app, and I find it helpful. It provides insights into my sleep patterns and helps me adjust my routine. I also use a white noise machine to drown out noise, which has been quite effective.

[05:15]

**I**: Technology can indeed be beneficial. Do you currently have any sleep issues? If so, could you share a story about it and how it affects your life or academic process?

**TM**: I did experience a period of insomnia recently due to academic stress. I'd lay awake, worrying about exams and assignments. It affected my concentration during the day, and I had to make some changes to my schedule to manage it better.

[06:45]

**I**: Academic stress can be tough. On a related note, do you live alone or with other people? If you live with others, how do they affect your sleep?

**TM**: I currently live with my partner. Luckily, our sleep schedules align well, so it's not much of an issue. Although, there have been occasions when their snoring has kept me up. We've worked on strategies to minimize disruptions, like using separate blankets.

[08:15]

**I**: It's good that you've found solutions to peacefully coexist. Lastly, do you have any special decorations in your bedroom that assist you in sleep?

**TM**: Yes, I have blackout curtains to keep the room dark, some calming artwork, and a Himalayan salt lamp that provides a warm glow. These elements create a soothing atmosphere that helps me relax before sleep.

[09:30]

**I**: That sounds like a cozy sleep environment. Thank you, IE, for sharing your sleep insights and experiences with us today. It's been valuable to hear about your routine and how you manage your sleep quality.

[10:00]

**TM**: You're welcome, I. Thank you for having me, and I hope my experiences can be helpful to others looking to improve their sleep.

**Date:** September 10, 2023

**Interviewer:** Interviewer (I)

**Interviewee:** University Student (KATE)

**Duration:** Approximately 10 minutes

[00:00]

**I**: Hello, US. Thank you for participating in this interview about your sleep habits as a university student. Let's begin. Can you please describe your typical sleep routine on both weekdays and weekends? How many hours of sleep do you aim for each night?

**K**: Hi, I. Sure, on weekdays, I aim to get around 7 hours of sleep, so I usually go to bed at around 11:30 PM and wake up at 6:30 AM. On weekends, I try to catch up a bit and aim for 8 hours, so I might stay up until midnight and sleep in until 8 AM.

[01:30]

**I**: Thank you for sharing that. Now, did you have any remarkable sleep experiences last week, whether positive or negative?

**K**: Last week was pretty rough. I had a couple of nights with terrible insomnia due to upcoming exams. On those nights, I barely got 3-4 hours of sleep, and it really affected my focus during the day.

[02:45]

**I**: It's unfortunate to hear about the sleep struggles during exam time. Moving on to factors affecting your sleep quality, what do you think are some significant factors that impact your sleep?

**K**: Well, stress is definitely a major factor. Exam stress, deadlines, and even the pressure to perform academically can keep me up at night. Also, my roommate occasionally brings friends over late, which disturbs my sleep.

[04:15]

**I**: Stress and external disturbances are common challenges for students. Have you used any technology to assist your sleep quality, and what is your opinion on it?

**K**: I do use a sleep tracking app, and it's quite helpful. It provides insights into my sleep patterns and has motivated me to establish a more consistent sleep schedule. I've also tried using earplugs and a sleep mask to block out noise and light.

[05:45]

**I**: It's great that you're using technology to your advantage. Do you currently have any sleep issues? If so, could you share a specific story about it and how it affects your life or academic process?

**K**: Apart from the recent insomnia during exams, there have been times when I've struggled with maintaining a consistent sleep schedule due to my part-time job. This inconsistency made it challenging to stay alert during classes and focus on studying.

[07:15]

**I**: Balancing work and academics can indeed disrupt sleep patterns. Speaking of living situations, do you live alone or with other people? If you live with others, how do they affect your sleep?

**K**: I share a dorm with a roommate. Generally, we respect each other's sleep schedules, but there have been occasions when their friends visiting late at night caused noise that made it difficult for me to fall asleep.

[08:45]

**I**: Communication can help address such roommate situations. Lastly, do you have any special decorations or elements in your bedroom that assist you in sleep?

**K**: I've put up blackout curtains to keep the room dark, and I have some relaxing posters on the wall to create a calming atmosphere. I also use a white noise machine to mask any background noise.

[10:00]

**I**: It sounds like you've made efforts to optimize your sleep environment. Thank you, US, for sharing your sleep insights and experiences. Your perspective as a university student can be relatable and helpful to others in similar situations.

**K**: You're welcome, I. I hope my experiences shed light on the challenges that students face when it comes to sleep, and how we can work towards better sleep habits. Thank you for having me.

**Date:** September 10, 2023 **Interviewer:** Interviewer (I) **Interviewee:** Master's Degree Student (MS) **Duration:** Approximately 10 minutes

[00:00]

**I**: Hello, MS. Thank you for taking the time to discuss your sleep habits as a master's degree student. Let's begin. Can you please describe your typical sleep routine on both weekdays and weekends? How many hours of sleep do you aim for each night?

**MS**: Hi, I. Certainly, on weekdays, I aim for around 7-8 hours of sleep. I usually go to bed at midnight and wake up at 7 or 8 AM. On weekends, I give myself a bit more flexibility and might stay up until 1 AM but still aim for 8 hours by waking up around 9 AM.

[01:30]

**I**: Thank you for sharing your routine. Now, did you have any noteworthy sleep experiences last week, whether positive or negative?

**MS**: Last week, I experienced a night of exceptionally deep sleep. I slept for a full 8 hours without any interruptions. When I woke up, I felt incredibly refreshed and ready to tackle my research. It was a rare and welcome occurrence.

[02:45]

**I**: Those moments of deep sleep can be rejuvenating. Moving on to factors affecting your sleep quality, what do you believe are some significant factors that impact your sleep?

**MS**: Stress, particularly related to academic deadlines and research pressures, is a major factor. Also, my tendency to work on my laptop late at night can disrupt my sleep patterns. Furthermore, living in a noisy neighborhood has its challenges.

[04:15]

**I**: Academic stress and external factors can indeed impact sleep. Have you used any technology to assist your sleep quality, and what are your thoughts on it?

**MS**: Yes, I use a sleep tracking app to monitor my sleep patterns. It's been quite helpful in identifying trends and areas for improvement. Additionally, I've experimented with blue light-blocking glasses to reduce the impact of late-night screen time.

[05:45]

**I**: Technology can offer valuable insights. Do you currently have any sleep issues? If so, could you share a specific story about it and how it affects your academic life?

**MS**: There was a period when my research workload was particularly heavy, and I was staying up until the early hours of the morning to meet deadlines. This disrupted my sleep schedule and left me feeling fatigued during the day, which affected my productivity and ability to focus on my studies.

[07:15]

**I**: Research-related sleep disruptions can be challenging. Speaking of living situations, do you live alone or with other people? If you live with others, how do they affect your sleep?

**MS**: I share an apartment with roommates. While we try to be considerate, sometimes their late-night discussions or activities in common areas can be disruptive. We've had conversations about noise levels to strike a balance.

[08:45]

**I**: Communication can help maintain a harmonious living environment. Lastly, do you have any special decorations or elements in your bedroom that assist you in sleep?

**MS**: Yes, I've added blackout curtains to keep the room dark and reduce external light. I also have some calming artwork on the walls, and I use a white noise machine to mask noise from outside.

[10:00]

**I**: It sounds like you've made thoughtful changes to your sleep environment. Thank you, MS, for sharing your sleep insights and experiences as a master's degree student. Your perspective is relatable and offers valuable insights into balancing academics and sleep.

**MS**: You're welcome, I. I hope that sharing my experiences can resonate with other students and serve as a reminder of the importance of good sleep habits, even in the midst of academic

**Main Problems Identified:**

* **Academic Stress:** The student frequently experiences stress related to academic deadlines and research pressures, which can disrupt their sleep patterns and lead to reduced sleep quality.
* **Late-Night Laptop Usage:** The habit of working on a laptop late at night is affecting their sleep. Exposure to the blue light emitted from screens can interfere with their ability to fall asleep easily.
* **Noisy Neighborhood:** Living in a noisy neighborhood makes it challenging for the student to achieve a quiet and peaceful sleep environment.
* **Roommate Disturbances:** Sharing an apartment with roommates occasionally leads to sleep disruptions due to their late-night discussions and activities in common areas.

**Design Opportunities:**

* **Stress Management Support:** Develop a mobile application or online platform specifically designed to help students manage academic stress. This could include relaxation techniques, time management tools, and access to resources for handling pressure effectively.
* **Blue Light Filtering Glasses Improvement:** Innovate on blue light-filtering glasses to make them more comfortable and effective. This could involve improving the aesthetics, comfort, and durability to encourage consistent usage.
* **Noise-Canceling Solutions:** Develop or promote noise-canceling technologies or devices that are effective in reducing noise disturbances, particularly in urban environments. This could range from improved noise-cancelling headphones to soundproofing solutions for bedrooms.
* **Roommate Communication Tools:** Create a communication platform or guidelines specifically for roommates to coordinate quiet hours and minimize disruptions during crucial study and sleep times. This could facilitate better understanding and cooperation among cohabitants.
* **Sleep Environment Enhancement:** Design products or services that enhance the sleep environment, such as smart curtains that automatically adjust to block out light and soundproofing solutions for apartments. This could help students create a more conducive environment for restorative sleep.
* **Sleep Tracking Integration:** Integrate sleep tracking features directly into existing academic productivity tools or apps that students commonly use. This would allow students to monitor their sleep patterns and receive tailored suggestions for improving sleep within their existing workflow.
* **Academic Calendar Optimization:** Explore the possibility of optimizing the academic calendar to reduce the frequency and intensity of academic stress peaks. This could involve adjusting exam schedules, assignments, or research deadlines to promote a healthier work-life balance.

By addressing these issues and designing solutions that cater to the unique challenges faced by master's degree students, we can significantly improve their sleep quality and overall well-being while pursuing their academic goals.

**Main Problem Identified:**

**Academic Stress and Sleep Disruption:** The university student faces significant sleep disruptions primarily due to academic stress, including upcoming exams and deadlines. This leads to episodes of insomnia, which in turn affects their daytime focus and productivity.

**Tech Solutions and Design Opportunities:**

**AI-Powered Sleep Coach App:** Develop an AI-driven sleep coaching app tailored to students' schedules. The app could provide personalized sleep recommendations and relaxation techniques to combat stress-induced insomnia. It might also offer reminders for establishing a consistent sleep schedule.

**Smart Sleep Mask:** Create a smart sleep mask that not only blocks out light but also monitors sleep patterns. The mask could be integrated with an app to provide real-time feedback on sleep quality and suggestions for improvement.

**Noise-Canceling Earbuds:** Design noise-canceling earbuds optimized for sleep. These earbuds could actively filter out disruptive noise, ensuring a quieter sleep environment, even in shared living spaces.

**Academic Planner Integration:** Integrate sleep tracking features into popular academic planning apps. This would allow students to better align their study schedules with their sleep patterns, reducing the impact of irregular work hours on their rest.

**Smart Dorm Room Devices:** Develop dorm room devices equipped with AI and machine learning algorithms to monitor and optimize the sleep environment. This could include automated blackout curtains, temperature control, and white noise generation based on individual preferences.

**Student Sleep Communities:** Establish online communities or forums for students to share their sleep-related challenges and solutions. Encourage peer support and knowledge sharing on how to manage stress and sleep disruptions.

**Institutional Support:** Universities could provide resources such as counseling services, stress management workshops, and study techniques that focus on balancing academic demands with maintaining a healthy sleep routine.

By leveraging technology and design thinking, these solutions can address the main problem of academic stress-induced sleep disruption and help university students achieve better sleep quality and overall well-being.