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# Increasing CSUMB Staff's Knowledge of Healthy Sleep Habits

Jordan Berg
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## Introduction

Most people today practice poor sleep habits and follow common misconceptions of sleep that do not allow them to maintain the quality and quantity of sleep they need for optimal wellness and functioning. Being sleep deprived puts people at greater risk for serious physical and cognitive health issues. Therefore, I created a 1-day lesson concerning how sleep can affect health and how to practice better sleep hygiene strategies for staff members employed in offices at the Alumni and Visitor Center at California State University, Monterey Bay.

## Need Statement

Sleep is essential in promoting optimal health and well-being. However, most people are not getting sufficient sleep and remain sleep deprived (Centers for Disease Control and Prevention, 2016). Sleep deprivation has a negative effect on both physical and cognitive health. Sleep-deprived adults are at a much greater risk of chronic health diseases such as diabetes and obesity (Centers for Disease Control and Prevention, 2018). According to Knutson, Ryden, Mander, & Cauder (2006), there is a direct correlation between decreased sleep duration and/or quality and glucose regulation, the body's ability to control blood sugar. Adults who do not get sufficient sleep are at an increased risk for type 2 diabetes because there is a reduction in glucose regulation and insulin sensitivity, how well the cells in the body respond to insulin. (Knutson, Ryden, Mander, & Cauder, 2006). In addition, sleep deprivation may affect a person's weight and put them a greater chance for becoming obese. A meta-analysis showed that sleep loss, sleep duration of less than seven hours per night, is associated with increased food intake and appetite as well as an increase in ghrelin, an appetite-stimulating hormonal signal and a decrease in

leptin, an appetite-inhibiting hormonal signal (Knutson & Cuader, 2008). Therefore, when adults get less sleep, these hormones are not properly balanced and they are more likely to have a stronger appetite, resulting in more food intake. At the same time, sleep loss is also shown to reduce energy expenditure. With the disequilibrium between increased food intake and decreased energy expenditure, there is a much higher risk of obesity to those who are sleep-deprived because they are eating more yet performing less physical activity.

Sleep has an impact on a person's cognitive function. Sleep deprivation can have a negative effect on attention, working memory, long-term memory, and motivation (Alhola & Polo-Kantola, 2007). When sleep deprived, it is much harder to process and remember new information. Executive functioning is dependent on the prefrontal cortex in the brain, yet this area of the brain is negatively affected by sleep deprivation. One study showed that just one day of sleep deprivation can result in decreased executive functioning and makes it more difficult to work on cognitive tasks (Nilsson et al., 2005). Given that sleep can have a large negative impact on a person's cognitive and physical health, it is crucial that people start practicing healthy sleep habits to reduce the risks of negative health outcomes.

Another factor that affects individuals' sleep is that many do not practice good sleep hygiene by using strategies that can help to get better sleep. Some sleep hygiene strategies that can help adults have better sleep include reducing noise and light exposure at night, halting eating, smoking, and alcohol use at night, creating a cool temperature in the bedroom, avoiding stimulating activities before bed, and using the bedroom for the sole purpose of sleep (Homsey & O'Connell, 2012). Behavioral changes, such as maintaining a proper sleep hygiene, can produce the same results as pharmacological ones without the added side effects (Homsey & O'Connell,

2012). One of the most common and detrimental behaviors that affect sleep is the use of technology and blue-light emitting devices before bed. A study that compared adults responses to reading on a light-emitting ebook and a regular paperback book found that those who used the light-emitting technology had suppressed the secretion of melatonin, were more alert and awake at night, felt less sleepiness before bed, impaired the quality of their sleep, and were less alert the following morning (Chang, Aeschbach, Duffy, & Czeisler, 2014). When devices are used at night, they disrupt the body's circadian rhythm, the natural daily cycle that is affected by the light-dark cycle in the environment, telling the body to stay awake when it should be going to sleep (National Sleep Foundation, 2020). Without proper sleep hygiene, the practice of using beneficial strategies to improve sleep quality, people will not reap the full benefits of sleep.

In addition to poor sleep hygiene, many people have misconceptions about what helps them to sleep better. Many adults use alcohol before bed with the idea that it helps them sleep (National Sleep Foundation, 2019). In reality, though alcohol can produce drowsiness and help people fall asleep quicker, this practice negatively impacts sleep quality. According to the National Sleep Foundation (2019), alcohol can disrupt the natural chemical production in the body that promotes sleepiness and wakefulness. For instance, alcohol use increases the production of adenosine, a chemical in the brain that induces sleep. This increase can cause a quicker onset of sleep, as most people associate with alcohol use. However, the chemical subsides quicker than it naturally would, resulting in wakefulness during the night before the body is truly rested. In addition, alcohol use can disrupt the circadian rhythm as well as block rapid eye movement (REM) sleep, the most restorative type of sleep, which can cause a person to feel more groggy and unrested (National Sleep Foundation, 2019). Another common

misconception about sleep is that people can just catch up on sleep over the weekend. However, according to the National Sleep Foundation (2019), sleep deprivation has a cumulative effect, and there is no way to compensate for the sleep that was lost. One study had participants sleep an extra 10 hours of sleep to make up for sleeping 6 hours per night during a two week duration and found that there were cumulative adverse effects on performance (Cohen et al., 2010). Overall, adults tend to practice poor sleep habits, remain sleep deprived, and follow misconceptions of what helps them sleep.

There is a general lack of knowledge about better sleep habits, and many adults are not practicing proper sleep strategies, therefore exposing themselves to the various negative health consequences of sleep deprivation. In order to increase awareness of the importance of sleep and decrease the prevalence of these consequences, I intend to provide a 1-day lesson about sleep to staff members at CSUMB.

## Theory

The Theory of Planned Behavior asserts that a person's intention of performing a specific behavior is dependent on their intentions to engage in those behaviors. There are three main factors that influence one's intention of the behavior. First, the theory focuses on one's attitudes towards the behavior, and whether he or she believes it will make either a positive or negative impact on his or her life. Secondly, the theory focuses on subjective norms, how a person believes that the people around him or her will approve of the specific behavior. Lastly, the theory identifies perceived behavioral control, one's idea of how easy or difficult the behavior will be to perform. The Theory of Planned Behavior asserts that these three elements will

influence a person's intention to perform the behavior and in result, whether the behavior is actually performed (LaMorte, 2019).

For adults participating in my capstone project, the Theory of Planned Behavior applies by affecting participants' intention of creating better sleep habits in their lives. My approach influences the three main factors of the theory in order to increase their likelihood of integrating healthy sleep habits. First, with the increased knowledge of how better sleep habits can have positive outcomes on their overall quality of life, including physical and cognitive health, the participants are likely to gain positive attitudes about the behavior of having good sleep habits in their lives. In addition, as the project aims to promote creating healthy sleep habits, the participants are expected to increase their belief that this behavior is socially accepted and encouraged by their peers, relating to the aspect of subjective norms in the theory. Lastly, though the project goes over many different sleep habits, the participants are given many helpful simple tips for the different habits that can be easily integrated right away in their lives. Therefore, it is anticipated that the participants will believe they have higher perceived behavioral control by creating healthy sleep habits that can be easily integrated in their lives. Given that the approach incorporates each of the main components of the Theory of Planned Behavior, it can be said that the participants will increase their intention of integrating healthy sleep habits and are more likely to actually perform these health-improving behaviors.

## Consideration of Diversity

My project was conducted for staff members in the University Development department of California State University, Monterey Bay in the Alumni and Visitor Center. According to 2019 census data of employees from the Office of the President, the ethnic composition of the

staff is 58.22% White, 22.87% Hispanic/Latino, 9.83% Asian, 6.43% Black or African American, 0.57% American Indian or Alaska Native, 0.38% Native Hawaiian or Other Pacific Islander, and 1.7% Two or more races. The ethnic composition of the participants is likely to reflect that of CSUMB staff as whole. It is likely that the participants will be within the age bracket of 25 to 54 years old, given that the 2019 census data from the Office of the President indicates that staff members in the age bracket of 25 to 54 collectively make up 68.92% of the total staff population. The majority of participants are also expected to be female, which is reflective of the staff at the Alumni and Visitor Center, as the majority of the staff in the University Development department are female.The 2019 census data also reports that 60.41% of CSUMB staff are female and 39.59% are male. Therefore, it is expected that the gender composition of participants will be reflective of the larger population of CSUMB staff on campus.

Since I conducted the lesson in English, the participants had to be English proficient enough to understand the content. This project was directed toward adults; however, most of the content is universal and could apply to other age groups. One difference is that adults have autonomy over themselves while children need adult supervision and may not have the full autonomy to control all of their sleep habits. The content of the project does not address the variety of sleeping environments. Those individuals who sleep with a partner versus sleeping alone may not have full authority or ease in creating a different sleep environment or habits without agreement of the partner. In addition, my content does not include other external demands that can influence one's sleeping habits and conditions. For example, those who may have a new baby or work late nights during the night shift will not have the same control over

their sleep habits. It is possible that I could have integrated more helpful habits that can apply to these conditions so that the content would be more inclusive.

## Learning Outcomes

By the end of the project, participants will be able to:

1. Identify two negative health effects of sleep deprivation
2. Correct one common misconception about sleep accurately
3. Specify one sleep habit strategy they will use themselves to get better sleep

## Method

First, I introduced myself and told the group why I was there. Then, I handed out a fill-in-the-blank worksheet that gave statistics about sleep in the United States for an introduction activity. See Appendix A. The participants worked together to fill in the answers. After they completed the worksheet, I read out the correct answers and led a quick discussion about what surprised them about the statistics. Next, I presented the negative physical and cognitive health effects of sleep deprivation. See Appendix B. I handed out a half piece of paper with two check-in questions, one on the front and one on the back. See Appendix C. I asked them to only answer the first question at that time to identify two negative health effects of sleep deprivation.

Next, I handed out a true/false sleep habits quiz. See Appendix D. After they filled in their answers, I presented each sleep habit discussed on the quiz and assigned a point value to the true/false statements. See Appendix B. The participants reported their total score. Next, I had the participants flip over the check-in question sheet to answer the second question to describe and correct one common misconception about sleep. See Appendix C.

Finally, I handed out a sleep habit pledge for the participants to choose one sleep strategy they will plan to integrate into their lives for the next two weeks. See Appendix E. I indicated that I would send out a google form survey in exactly two weeks to measure their progress and commitment to the chosen sleep habit goal. See Appendix F. As the participants left, I thanked them for coming and handed out homemade goodie bags that contained lavender leaves, orange and lavender bath salts, and a packet of chamomile tea.

## Results

Learning outcome 1 was that participants would identify two negative health effects of sleep deprivation. I believe this outcome was fully met. After handing out the check-in question, the participants each identified two or more negative health effects. The responses were specific and did not simply state that there were physical and cognitive health effects, but rather identified specific effects under the different domains of health. The most common answers for physical health effects were the increased risk of different chronic diseases, such as diabetes, obesity, and stroke. The most common responses for cognitive health effects were the impact of sleep deprivation on long term memory. See Table 1 for participants' responses. Because of their responses, I believe this learning outcome was met.

Learning outcome 2 was that participants would correct one common misconception about sleep accurately. After the presentation of sleep habits, which included sleep misconceptions, participants were asked to answer a check-in question for this learning outcome. Participants indicated one of two sleep misconceptions that were discussed in the presentation: alcohol helps you sleep and you can catch up on sleep over the weekend. The majority of participants provided a detailed response to correct the sleep misconception. A few responses

were deemed partially accurate if not enough explanation was given. Overall, the majority of responses showed that the participants were able to accurately correct a sleep misconception that had been discussed in the lesson. In this way, I believe this learning outcome was fully met. See Table 2 for the individual responses and level of accuracy.

Learning outcome 3 was for participants to specify one sleep habit strategy they will use themselves to get better sleep. Each participant filled out a sleep habit pledge where they chose one sleep habit they would use for the next two weeks. The participants noted sleep habits, such as better pillow habits, going to sleep between 9PM and 11PM everyday, getting thirty minutes of sunlight everyday, etc., which were all consistent with the content in this project. In this regard, I believe that this learning outcome was fully met. See Table 3 for the participants' chosen sleep habits. An additional Google form survey was emailed to the participants two weeks after the lesson to assess how the sleep habit they chose affected their sleep. Seven out of the 9 participants submitted a response to the google form. Overall participants indicated that the sleep habit was successful in improving their overall sleep. See Table 4. Additionally, the majority of participants concluded that they plan to continue using this sleep habit in the future. See Table 5.

## Discussion

I believe this project was successful. The participants met each learning outcome. The participants also were very interested in the topic and had a high level of engagement during the presentation. After the completion of the project, many participants indicated to me that they learned something new about sleep habits and were excited to incorporate new habits into their own lives. I believe that the results of the project were consistent with the Theory of Planned

Behavior. Given that my approach influenced the attitudes, subjective norms, and perceived behavioral control of the participants, I believe that they will create better sleep habits. Each participant set an intention to incorporate at least one sleep habit in his or her life, and, from the responses received on the google form, each participant was successful in doing this in his or her life. Moreover, the majority of participants also indicated that by incorporating better sleep habits, they were able to improve their sleep quality and quantity over a two-week period.

If I had to complete this project again, I would make my presentation for the participants more interactive. While that was my intention going into it, I found that I was talking and presenting much more than my participants were interacting and discussing with one another. I think it would have been useful to include more interactive worksheets where the participants could share more with each other and the larger group rather than complete the worksheets on their own. However, I do believe that the project was successful in itself, and the participants all learned something new and were able to apply the content in their own lives.

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Table 1

Responses to naming two negative health effects of sleep deprivation

| **Participants' responses** | **Number of times mentioned** |
|---|---|
| Problems with long term memory | 3 |
| Produces hormone to increase appetite | 3 |
| Increased risk of heart attack and stroke | 4 |
| Lack of motivation | 1 |
| Increased risk of diabetes | 4 |
| Increased risk of obesity | 4 |

Note: All participants' responses reflect content in the presentation.

Table 2

Participants' responses to correcting one common sleep misconception accurately

| **Participant** | **Participant's response** | **Accuracy** |
|---|---|---|
| Participant 1 | Alcohol helps you sleep- Don't drink right before bed. | Partially accurate |
| Participant 2 | Catching up on sleep over the weekend- getting constant sleep will in the long run help you get the most regular sleep daily | Accurate |
| Participant 3 | Catching up on sleep over the weekend- Going to sleep when you normally would everyday will keep your sleep schedule regulated | Accurate |
| Participant 4 | Alcohol helps you sleep- when there's alcohol in your body it releases a hormone to induce sleep but the quality of sleep is not better, you tend to wake up more frequently during the night. | Accurate |
| Participant 5 | Catching up on sleep over the weekend- Getting decent sleep throughout the week will solve the need of feeling that you need to "catch up" | Accurate |
| Participant 6 | Alcohol helps you sleep- alcohol actually disturbs sleep, so don't drink before bed | Partially accurate |
| Participant 7 | Catching up on sleep over the weekend- Go to bed and wake up at the same time every day, maybe only waking up 30 minutes later max. | Accurate |
| Participant 8 | Alcohol helps you sleep- alcohol helps you fall asleep, but it's not good quality sleep | Accurate |
| Participant 9 | No response. | N/A |

Table 3

Participants' chosen sleep habit for the sleep habit pledge

| **Participants' Chosen Sleep Habit** | **Number of times mentioned** |
|---|---|
| Pillow Habits | 1 |
| Go to sleep between 9PM & 11PM | 3 |
| Get 30 min of sunlight everyday | 1 |
| Wake up and go to bed at same time everyday | 1 |
| Keep bedroom completely dark | 2 |
| Sleep on back | 2 |

Table 4

Google form responses for how helpful the chosen sleep habit was in improving participants' sleep

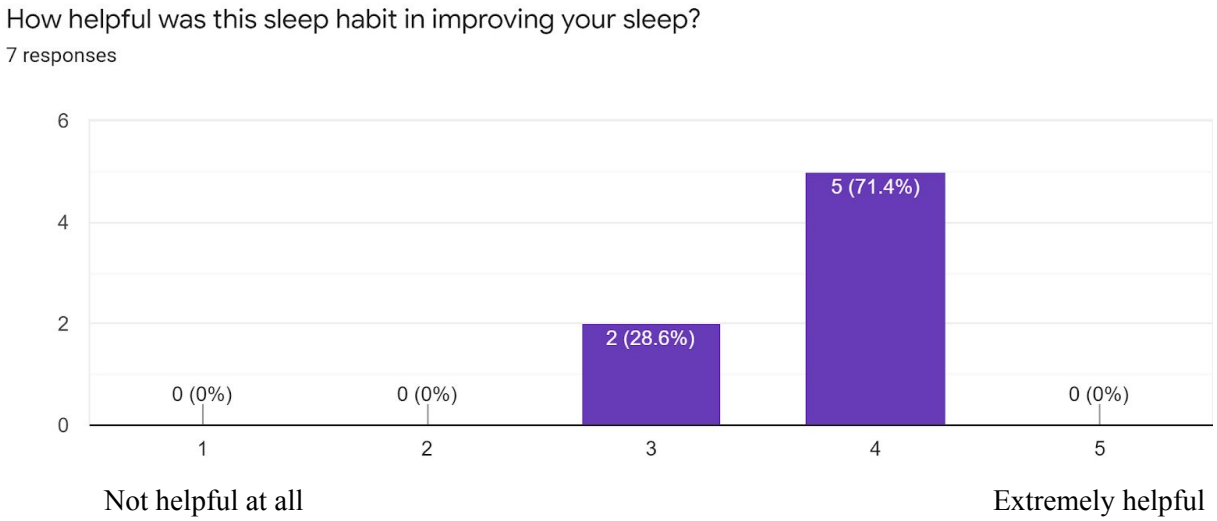
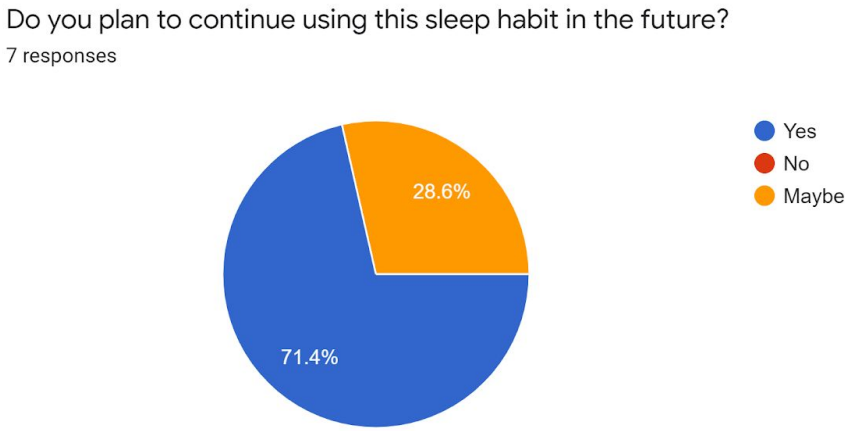


Table 5

Google form responses for continuing use of chosen sleep habit



Appendix A

Fill-in-the-blank statistics worksheet

# How much do you know?

1. Adults need _____ hours or more of sleep every night. 7

2. ____/____ of our lives are spent sleeping. 1/3

3. _____ percent of adults are sleep deprived. 35

4. Lack of sleep costs the United States _____ dollars annually. 411 billion

5. Almost _____ percent of all car crash accidents and injuries are associated with sleepiness. 20

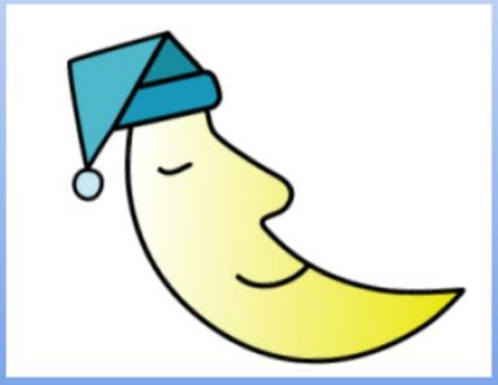
6. Approximately _____ adults in the United States have one or more sleep disorders. 50-70 million

7. Approximately _____ Americans take prescription sleeping pills. 9 million

Appendix B

Powerpoint on sleep

# SLEEP



## Statistics- How much do you know?

1. Adults need _____ hours or more of sleep every night.
2. ____/____ of our lives are spent sleeping.
3. _____ percent of adults are sleep deprived.
4. Lack of sleep costs the United States _____ dollars annually.
5. Almost _____ percent of all car crash accidents and injuries are associated with sleepiness.
6. Approximately _____ adults in the United States have one or more sleep disorders.
7. Approximately _____ Americans take prescription sleeping pills.

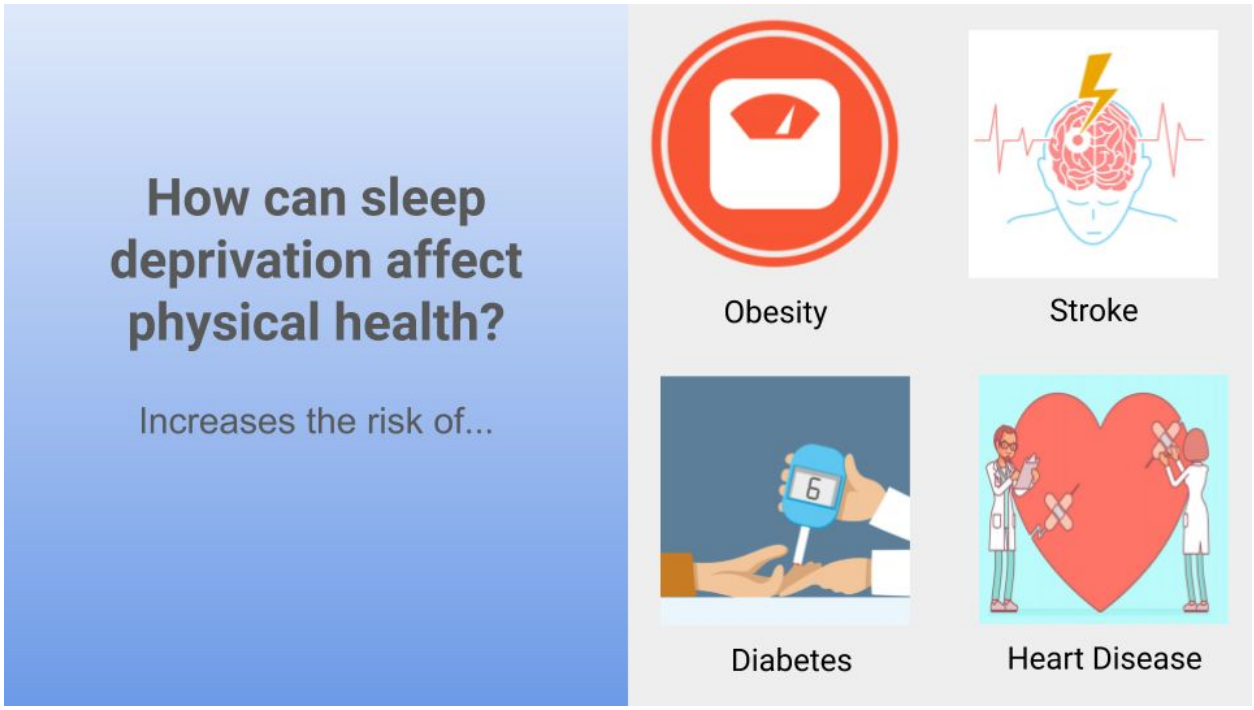
## Statistics- How much do you know?

1. Adults need _____ hours or more of sleep every night. **(7)**
2. ____/____ of our lives are spent sleeping. **(⅓)**
3. _____ percent of adults are sleep deprived. **(35)**
4. Lack of sleep costs the United States _____ dollars annually. **(411 billion)**
5. Almost _____ percent of all car crash accidents and injuries are associated with sleepiness. **(20)**
6. Approximately _____ adults in the United States have one or more sleep disorders. **(50-70 million)**
7. Approximately _____ Americans take prescription sleeping pills. **(9 million)**

## Today's Takeaways

- Identify how sleep deprivation can affect physical and cognitive health.
- Identify common misconceptions about sleep.
- Identify healthy sleep habits to improve quantity and quality of sleep.


How does sleep deprivation affect our health?


How can sleep deprivation affect physical health?
Increases the risk of...
Obesity
Stroke
Diabetes
Heart Disease

## How can sleep affect cognitive health?

Impairs Executive Functioning

- Problem solving
- Adaptable thinking
- Planning
- Self control
- Working memory
- Time management
- Organization

- Attention
- Long term memory
- Motivation

## Check-in!

Can you name 2 different negative health effects of sleep deprivation?

# What are Your Sleep Habits?

I sleep on my back for the most part of the night.

**True: 1 point**

**False: 0 points**

True: 0 points
False: 1 point

I eat food in my bed.

True: 0 points
False: 1 point

There is a television in my bedroom.

I keep my phone next to my bed while I sleep.

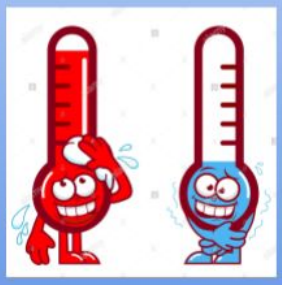
True: 0 points
False: 1 point

I do some sort of activity in the morning 30 minutes within waking up.

True: 1 point
False: 0 points

I keep the temperature in my bedroom between 60 degrees and 68 degrees.

True: 1 point
False: 0 points



I spend at least 30 minutes outside in the sunlight everyday.

True: 1 point
False: 0 points

My bedroom is completely dark when I go to sleep.

True: 1 point

False: 0 points

I use technology (e.g. phone, laptop, tablet, television) before bed.

True: 0 points

False: 1 point

I generally go to sleep between 9:00pm and 11:00pm.

True: 1 point
False: 0 points

I wake up and go to sleep around the same time everyday.

True: 1 point
False: 0 points

I normally drink caffeine after 2:00pm.

True: 0 points
False: 1 point


I sometimes use alcohol to help myself fall asleep.

True: 0 points
False: 1 point

True: 0 points

False: 1 point

I tend to sleep in during the weekends.

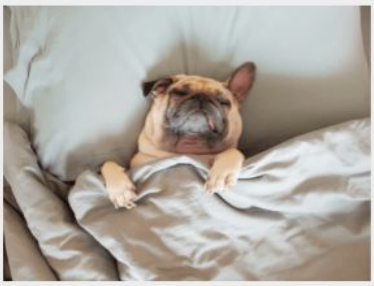
# Check-in!

Can you describe 1 common misconception about sleep?

## Sleep Habit Pledge

Choose one sleep habit strategy you will try to incorporate into your life for the next two weeks.

## Thank you and sleep well!



Appendix C

Check-in questions for Learning outcomes 1 and 2

Can you name 2 different negative health effects of sleep deprivation?

Can you name 1 common misconception about sleep? How would you correct this misconception?

Appendix D

True/false sleep habits quiz

## What are Your Sleep Habits?

| True | False | Sleep Habit | Points |
|---|---|---|---|
| | | I sleep on my back for the most part of the night. | |
| | | I eat food in my bed. | |
| | | There is a television in my bedroom. | |
| | | I keep my phone next to my bed while I sleep. | |
| | | I do some sort of activity in the morning within 30 minutes of waking up. | |
| | | I keep the temperature in my bedroom between 60 degrees and 68 degrees. | |
| | | I spend at least 30 minutes outside in the sunlight everyday. | |
| | | My bedroom is completely dark when I go to sleep. | |
| | | I use technology (e.g. phone, laptop, tablet, television) before bed. | |
| | | I generally go to sleep between 9:00pm and 11:00pm. | |
| | | I wake up and go to sleep around the same time everyday. | |
| | | I normally drink caffeine after 2:00pm. | |
| | | I sometimes use alcohol to help myself fall asleep. | |

| | | | |
|---|---|---|---|
| | | I tend to sleep in during the weekends. | |

Appendix E

Sleep Habit Pledge for Learning outcome 3

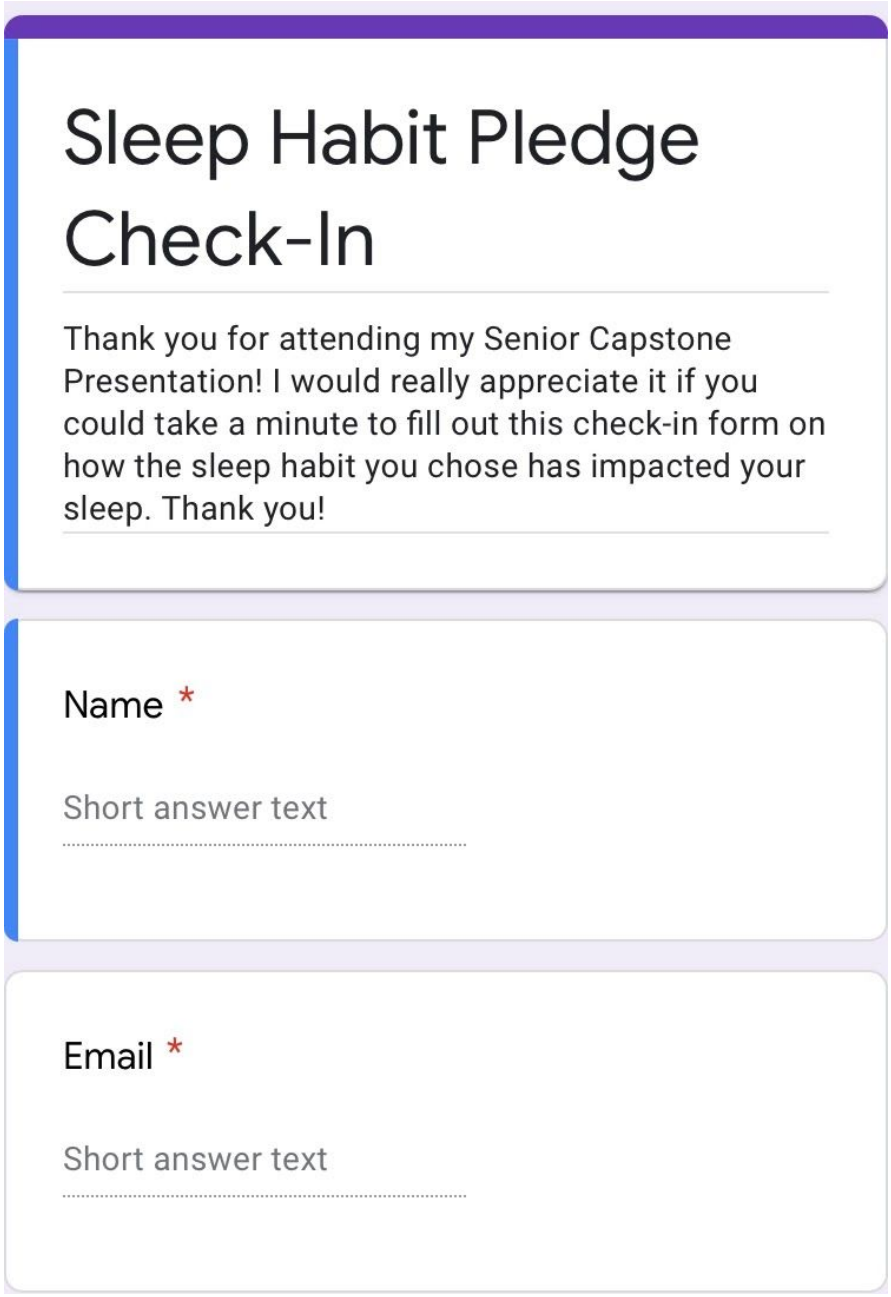
## Sleep Habit Pledge

I _____, will incorporate the following sleep habit strategy: _____ into my life for the next two weeks in an attempt to improve my overall sleep quality.

Signature: _____ Date: _____

Appendix F

Google form survey for sleep habit pledge



Which sleep habit did you try for the last two weeks? *

Short answer text

Approximately how many days in total did you use this sleep habit in the past two weeks? *

- 0 days
- 1-4 days
- 5-9 days
- 10-14 days

How helpful was this sleep habit in improving your sleep? *

1 2 3 4 5

Not helpful at all ○○○○○ Extremely helpful

Explain how this sleep habit affected your sleep. *

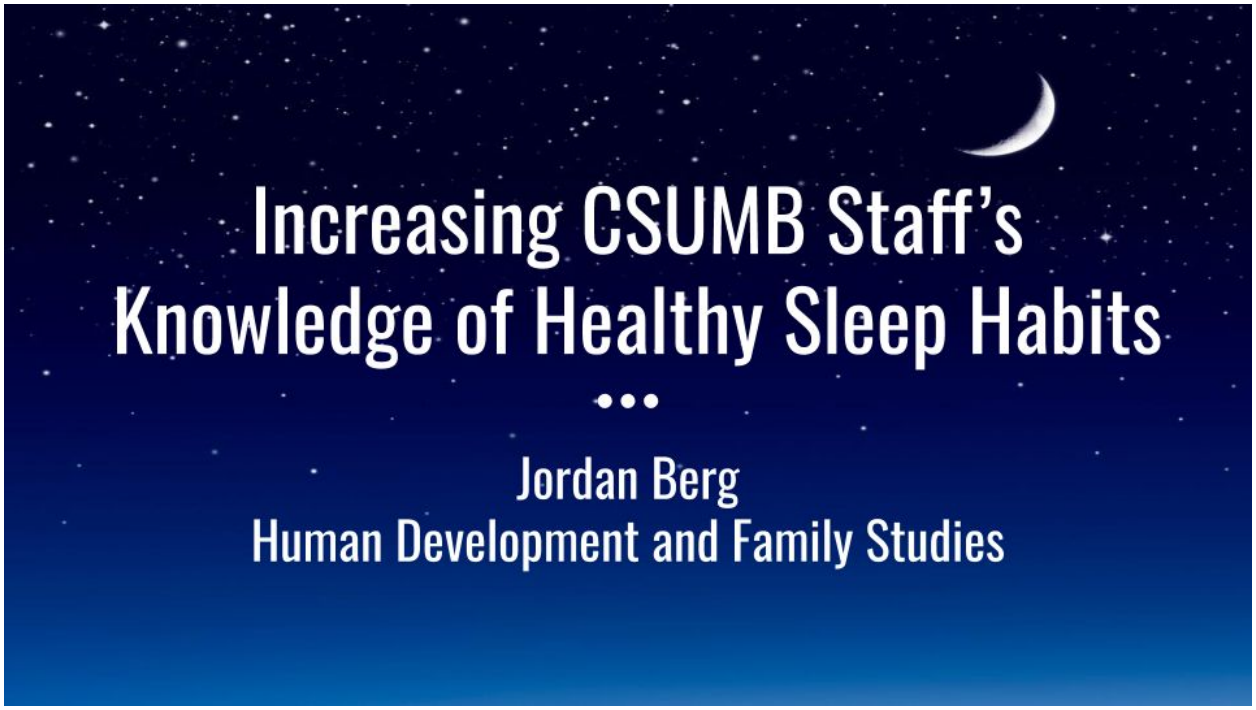
Long answer text

Do you plan to continue using this sleep habit in the future? *

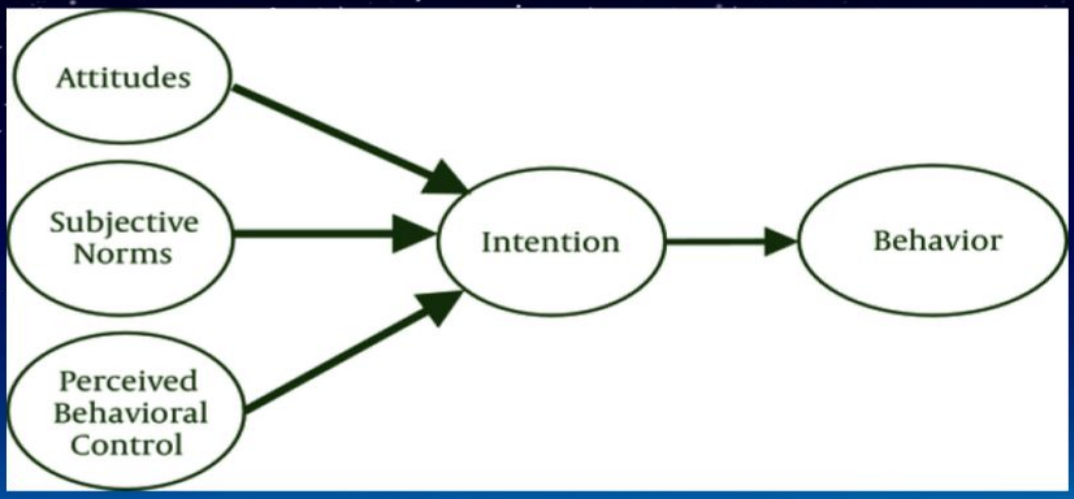
- ○ Yes
- ○ No

Appendix G

Final Capstone Presentation




## Theory: Theory of Planned Behavior

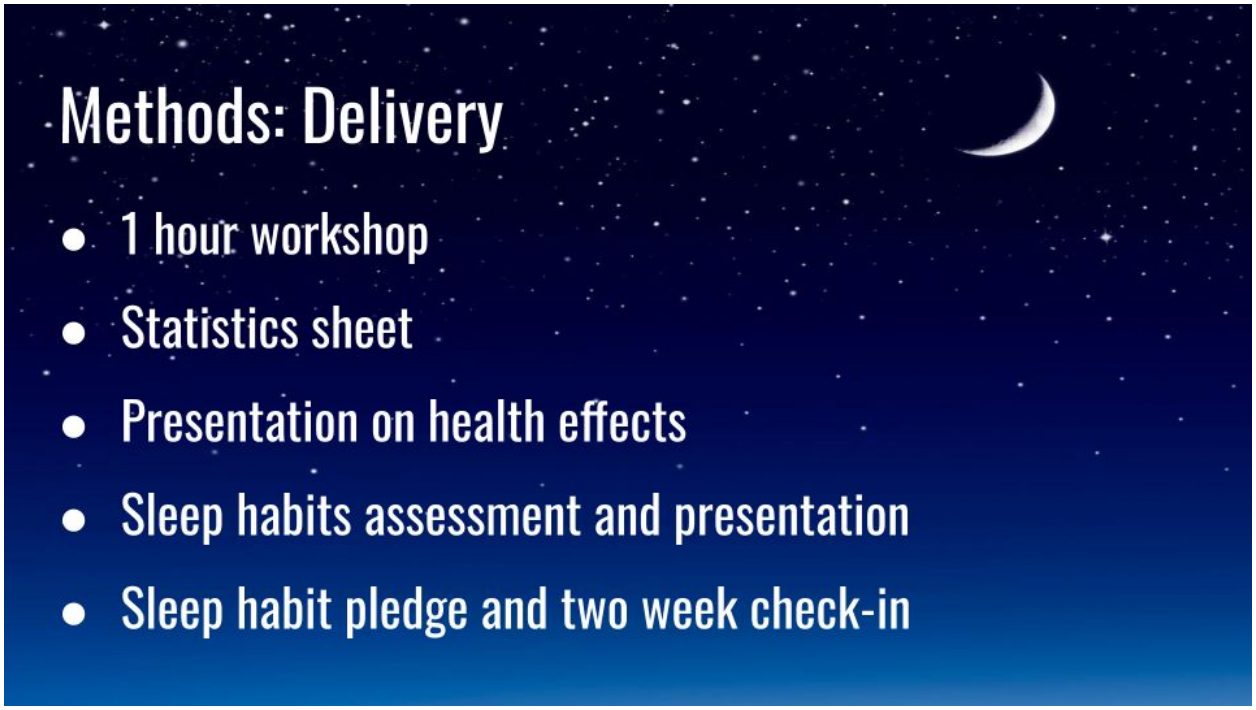



## Learning Outcomes

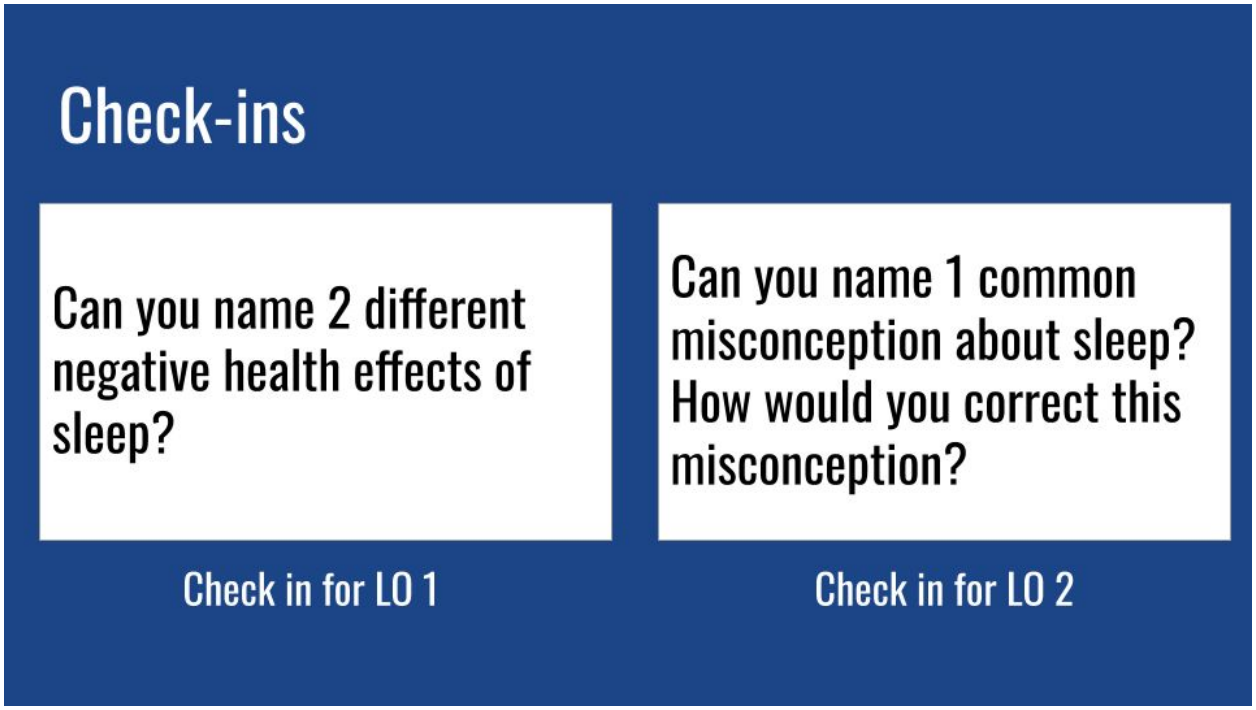
By the end of the project, participants will be able to:

1. Identify two negative health effects of sleep deprivation
2. Correct one common misconception about sleep accurately
3. Specify one strategy they will use themselves to get better sleep


Methods: Audience
Location: Alumni and Visitor Center at CSUMB
Participants: Nine CSUMB staff members of the University Development department
California State University
MONTEREY BAY


Methods: Delivery
1 hour workshop
Statistics sheet
Presentation on health effects
Sleep habits assessment and presentation
Sleep habit pledge and two week check-in


How much do you know?
1. Adults need ____ hours or more of sleep every night. 7
2. ___/___ of our lives are spent sleeping. 1/3
3. _____ percent of adults are sleep deprived. 35
4. Lack of sleep costs the United States _____ dollars annually. 411 billion


Check-ins
Can you name 2 different negative health effects of sleep?
Can you name 1 common misconception about sleep? How would you correct this misconception?
Check in for LO 1
Check in for LO 2

## What are Your Sleep Habits?

| True | False | Sleep Habit | Points |
|---|---|---|---|
| | | I sleep on my back for the most part of the night. | |
| | | I eat food in my bed. | |
| | | There is a television in my bedroom. | |
| | | I keep my phone next to my bed while I sleep. | |
| | | I do some sort of activity in the morning within 30 minutes of waking up. | |

## Sleep Habit Pledge

I _____, will incorporate the following sleep habit strategy: _____ into my life for the next two weeks in an attempt to improve my overall sleep quality.

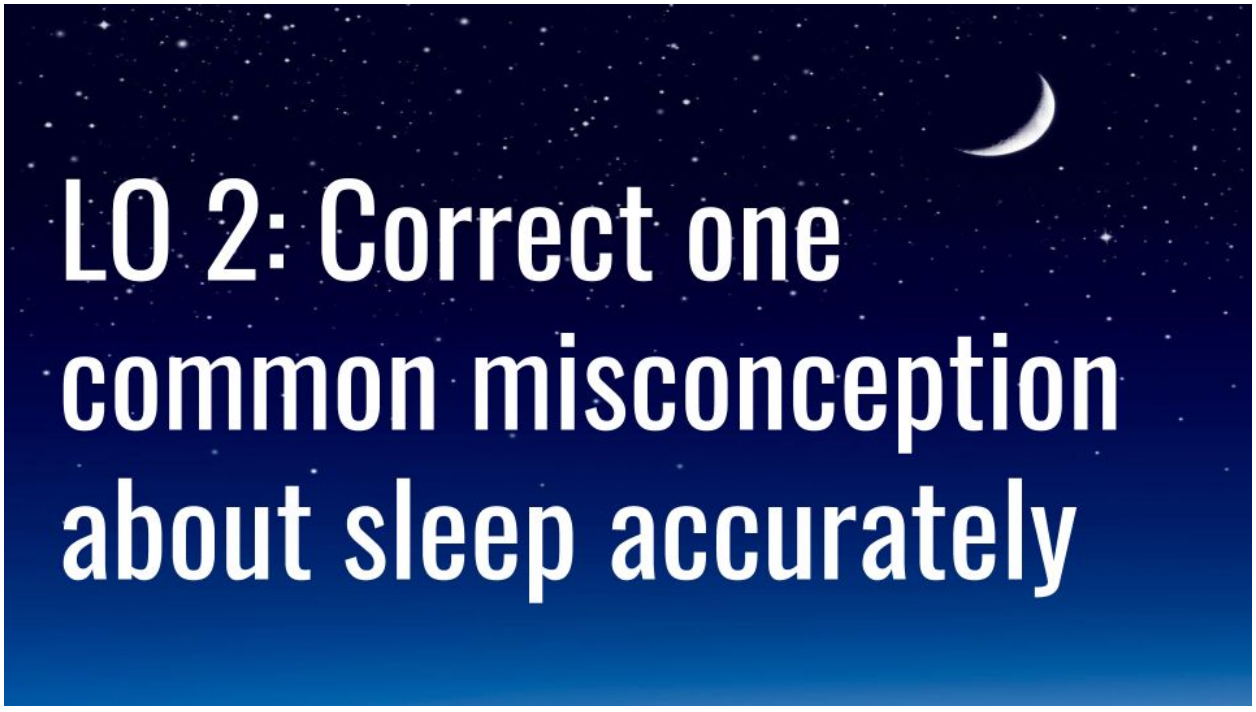
Signature: _____ Date: _____

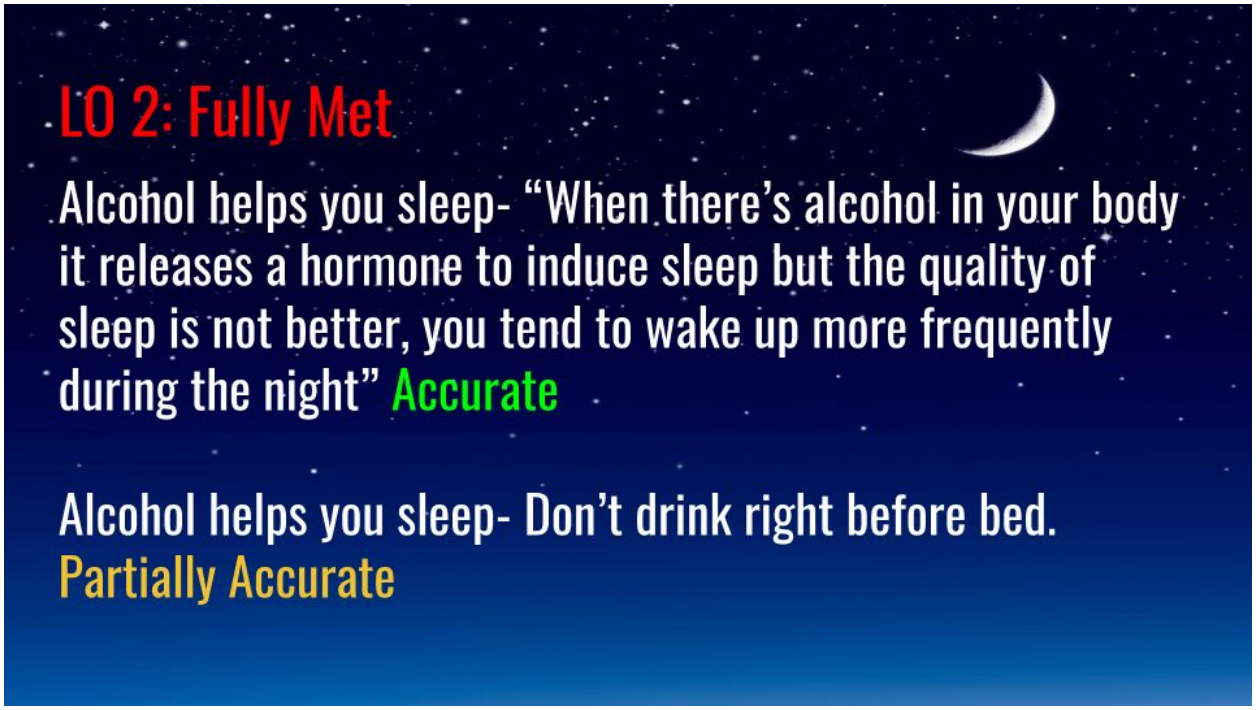

Results


LO 1: Identify two negative health effects of sleep deprivation

## LO 1: Fully Met

| Participants' responses | Number of times mentioned |
|---|---|
| Problems with long term memory | 3 |
| Produces hormone to increase appetite | 3 |
| Increased risk of heart attack and stroke | 4 |
| Lack of motivation | 1 |
| Increased risk of diabetes | 4 |
| Increased risk of obesity | 4 |

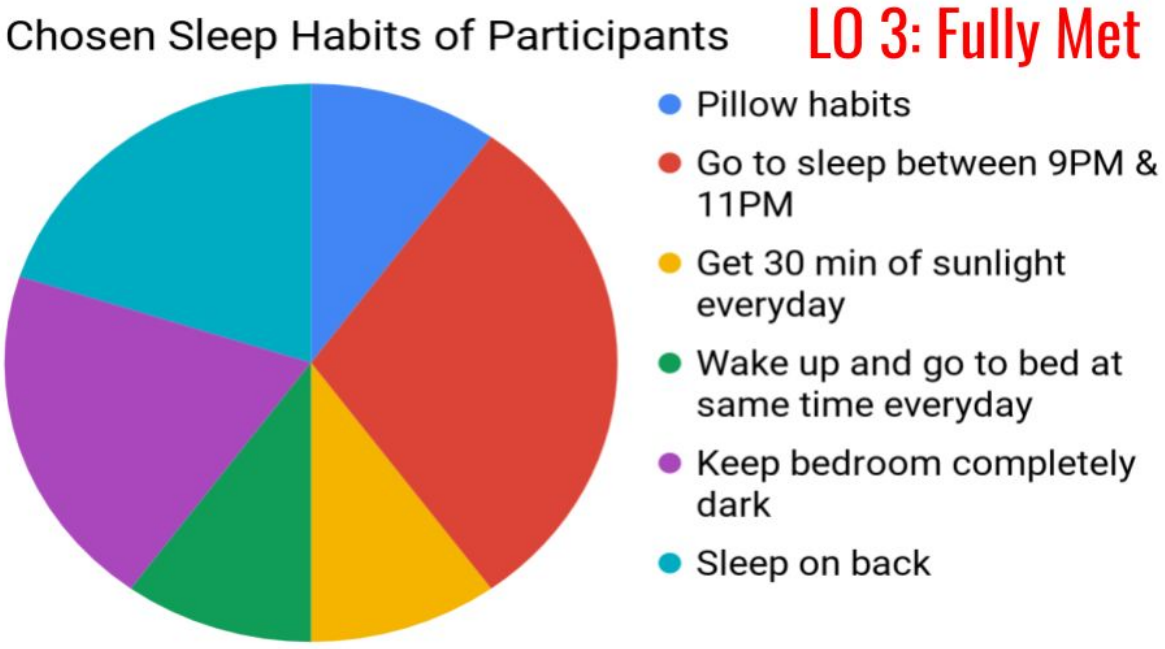



LO 2: Fully Met
Alcohol helps you sleep- "When there's alcohol in your body it releases a hormone to induce sleep but the quality of sleep is not better, you tend to wake up more frequently during the night" Accurate
Alcohol helps you sleep- Don't drink right before bed. Partially Accurate

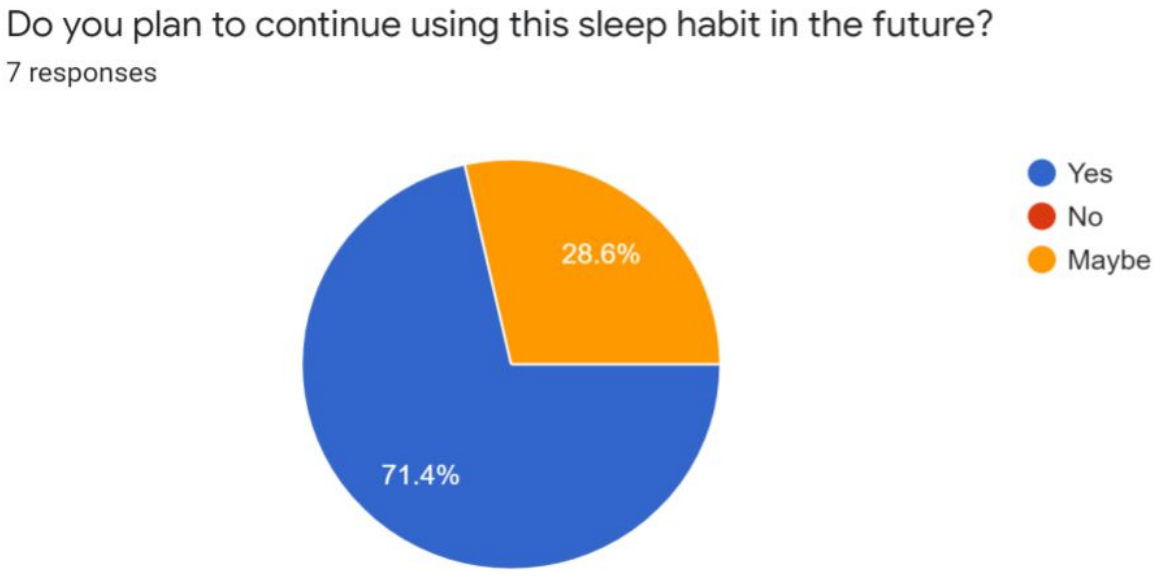

LO 3: Specify one sleep habit strategy they will use themselves to get better sleep

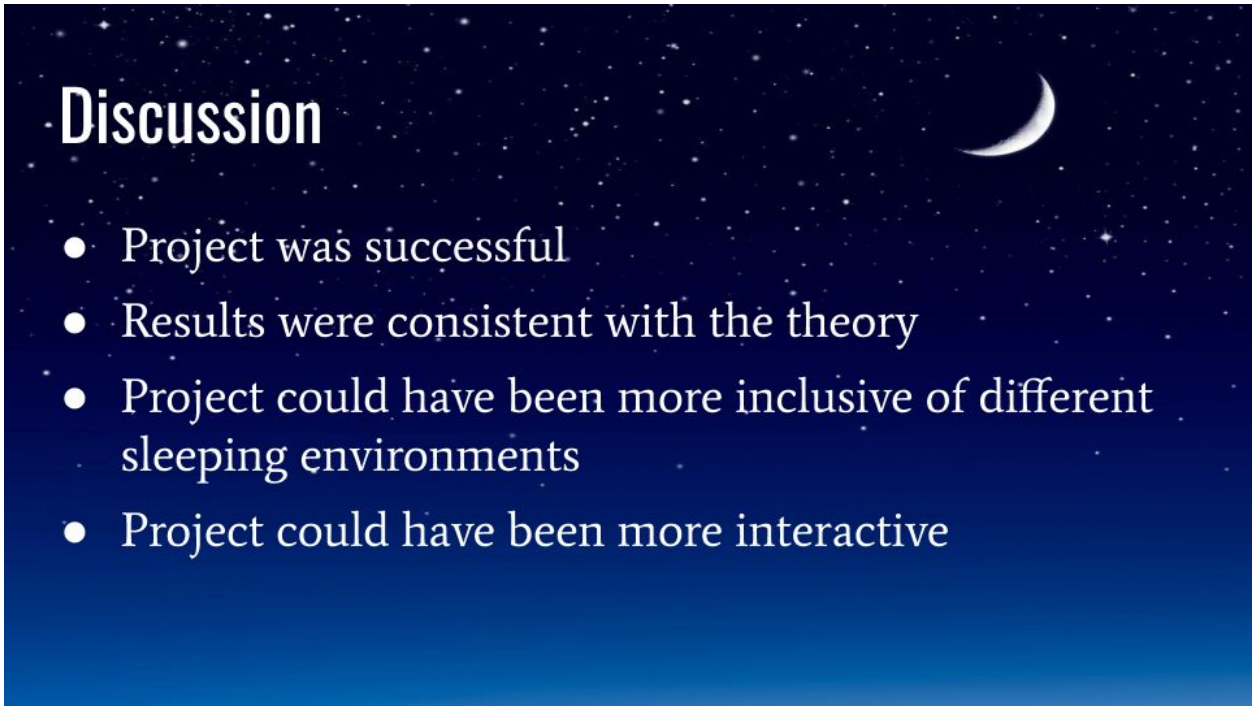
## LO 3: Fully Met

| Participants' Chosen Sleep Habit | Number of times mentioned |
|---|---|
| Pillow Habits | 1 |
| Go to sleep between 9PM & 11PM | 3 |
| Get 30 min of sunlight everyday | 1 |
| Wake up and go to bed at same time everyday | 1 |
| Keep bedroom completely dark | 2 |
| Sleep on back | 2 |




How helpful was this sleep habit in improving your sleep?
7 responses
6
4
2
0
0 (0%)
0 (0%)
2 (28.6%)
5 (71.4%)
0 (0%)
1
2
3
4
5
Not helpful at all
Extremely helpful


Do you plan to continue using this sleep habit in the future?
7 responses
28.6%
71.4%
Yes
No
Maybe


Discussion
Project was successful
Results were consistent with the theory
Project could have been more inclusive of different sleeping environments
Project could have been more interactive


Thank You!
Any Questions?