

OCCUPATIONAL THERAPY-BASED SLEEP EDUCATION THROUGH SOCIAL
MEDIA

A Thesis submitted to the faculty at Stanbridge University in partial fulfillment of the
requirements for the degree of Master of Science in Occupational Therapy

by

Joyce Esparza Gomez, Amy Lee, Steven Tran, and Mindy Yum

Thesis advisor: Enjoli Filemu, OTD, OTR/L, CPAM

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Certification of Approval

I certify that I have read *Occupational Therapy-Based Sleep Education Through Social Media* by Joyce Esparza Gomez, Amy Lee, Steven Tran, and Mindy Yum. In my opinion, this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirements for the Master of Science in Occupational Therapy degree at Stanbridge University.



Enjoli Filemu, OTD, OTR/L

Instructor of Occupational Therapy

ACCEPTED

Myka Persson, OTD, OTR/L

Program Director, Master of Science in Occupational Therapy

Dedication

We dedicate our thesis project to the occupational therapy practitioners who continue to advocate and motivate us every day and the occupational therapy students who are pursuing to become compassionate practitioners. To our beloved families and friends who have supported us throughout our academic careers and who have sacrificed so much in life in order for us to have an opportunity for an education. With their unconditional love and support, we have strived against all odds to get here.

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Abstract

The Occupational Therapy Practice Framework defines rest and sleep as domain areas of occupations and is essential for our daily functions, occupational performances, participation, and engagement in a meaningful life. Studies examining the effects of occupational therapy-based sleep interventions are currently limited in the literature. Occupational therapy practitioners have many tools and interventions to utilize sleep treatment; however, there is a barrier to disseminating specific sleep information and education to the early adult population. In an attempt to bridge this gap, we aimed to determine an effective way to spread evidenced-based sleep hygiene and sleep interventions. We decided to utilize TikTok, one of the fastest growing social media platforms. Through recruitment flyers on Instagram and word-of-mouth, we surveyed 65 participants from various backgrounds in this study. The participants completed an anonymous survey via Google Forms that consisted of the consent form, intake survey, three TikTok videos, and the post-questionnaire. The three educational TikTok videos address guidance for sleep disturbance, ways to improve sleep quality and educate the early adult population on how to implement them into their own lives.

The results revealed that most participants reported a '10' out of 10 ratings of their knowledge of sleep education after watching the videos ($n = 24, 37\%$). On a Likert scale of 1-10, participants believe that when it comes to social media as an effective learning tool to spread awareness of occupational therapy-based sleep intervention, most participants selected '10' out of 10 ($n = 28, 43\%$), followed by a '9' out of 10 ($n = 8, 12\%$), and '8' out of 10 ($n = 17, 26\%$). The study findings provided insight to help occupational therapists inform and educate early adults on effective sleep interventions and provide a more client-centered and holistic approach. Furthermore, we conclude that

TikTok is an effective modality in educating early adults on sleep education and is a useful platform for occupational therapists to use to share information.

Keywords: sleep, rest, quality of sleep, sleep disturbance, sleep intervention(s), sleep hygiene, sleep education, early adult(s), occupational therapy, social media, TikTok

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Occupational Therapy-Based Sleep Education Through Social Media

Sleep is essential to the human body, and the lack of sleep has short-term and long-term consequences. Such consequences include impaired quality of life, lower productivity, increased injuries, and higher rates of mortality from automobile accidents. Chronic health issues that can also be attributed to lack of sleep include coronary artery disease, heart failure, high blood pressure, obesity, type 2 diabetes mellitus, stroke, and memory impairment and depression (Chokroverty, 2010). Due to the impact on health and well-being, adequate sleep is a powerful element to combat these negative consequences. In accordance with the ideas of the American Occupational Therapy Association (2017) and American Occupational Therapy Foundation, having restful and adequate sleep provides the foundation for optimal occupational performance, participation, and engagement in daily life, which is a concept that is historically consistent with the development of occupational therapy. The United States Department of Health and Human Services recommends adults to have seven or more hours of good-quality sleep; however, approximately 50% of adults complain of difficulty sleeping (Neikrug & Ancoli-Israel, 2010).

According to the American Psychological Association (2013), research has shown that most Americans would be happier, healthier, and safer if they were to sleep an extra 60 to 90 minutes a night, so there is a need for adults to be more aware of the causes of sleep deprivation and effectiveness of interventions. In addition, sleep treatments and interventions can improve the quality of life and enhance daytime functions. Occupational therapy practitioners have many tools and interventions in utilizing the treatment for sleep, but practitioners struggle to disseminate this information to the public. A great way to connect with early adults is through social media platforms,

particularly TikTok, a social media platform that creates videos with durations between 15 seconds and 10 minutes.

Social media such as TikTok, Facebook, and YouTube have become more than just for leisure, instead, social media has become a learning platform for interacting and engaging with learners and their audience (Chawinga, 2017). TikTok has an average user base of 80 million in the United States alone, with 60% of these users being in the age range between 16-24 and another 40% between 24-44 (Doyle, 2022). According to Batten et al. (2020), results have shown that one of the strategies university students use to promote sleep includes using social media or electronic media activities (games, reading, and scrolling) before bedtime, which is counter to best practice in sleep hygiene. For this reason, our study aimed to gain insight into providing occupational therapy-based interventions using the popular social media platform TikTok to address guidance for sleep disturbance, ways to improve the quality of sleep and educate the early adult population (ages 18-40 years old) on how to implement them into their own lives.

Purpose, Hypothesis, and Research Questions

The purpose of our research study was to analyze and determine the effectiveness of evidenced-based sleep hygiene and sleep interventions to which occupational therapy practitioners can refer to when educating early adults. However, there is a lack of segue between occupational therapy practitioners' knowledge of sleep interventions and how to share this information and educate the early adult population. For this reason, our study aimed to gain insight into providing occupational therapy-based interventions using the popular social media of TikTok to address guidance for sleep disturbance, ways to improve the quality of sleep, and educate the early adult population on how to implement them into their own lives. In our study, quantitative survey questions were designed to

gather and measure the participants' current knowledge of healthy sleep hygiene and occupational therapy-based sleep interventions.

Literature Review

Social Significance

Sleep is an essential occupation for humans; just like drinking water and eating food, it's part of our everyday routine and ability to function. Sleep disturbances have been caused by technology, stress, caffeine/alcohol, physical disabilities, and aging. Insufficient sleep can cause people to have a lower quality of life, affecting a person's occupational performance, activities of daily living, work, play, and leisure. Evidence suggests that "50 to 70 million Americans are affected by chronic sleep disorders that can significantly diminish health, alertness, and safety" (Gutman et al., 2017). Not only does insufficient sleep diminish our health, but it can also impact our emotional functioning, impair effective regulation, and cause mood disturbances.

Sleep deprivation can cause moods of sadness, anger, tension, fatigue, hunger, and irritability. Inadequate sleep can impact a person's emotional functioning throughout the day and cause people to have more negative moods than positive ones. According to Schwarz et al. (2019), early adults aged 18-30 were found to be more emotionally affected by sleep deprivation compared to older adults aged 60-72 because early adults were not able to shift attention away from negative information and were not able to focus on more positive information like older adults could. Research has also indicated that mood disturbances relate to the number of hours of sleep deprivation. According to Scott et al. (2006), individuals who received 5 hours of intermittent exercise during 30 hours of sleep deprivation were found to have negative mood disturbances.

Evidence suggests that sleep disturbance can affect people's health and well-

being. Researchers have suggested that interventions such as selecting specific mattresses, wedges, and pillows can reduce neuromuscular pain and help improve sleep quality (Gutman et al., 2017; Rottapel et al., 2020). Other interventions include modifying the environment through adjustments to lighting, noise levels, and external distractions (Gutman et al., 2017; Rottapel et al., 2020). Although these types of interventions do not necessarily cure sleep disruptions, they can help individuals manage their sleep quality. However, it is essential to note that these interventions and environmental modifications all have financial impacts that many clients may not be able to afford. On average, individuals who experience financial concerns sleep 10 minutes less per day than those who are financially stable (Hafner et al., 2017). In addition, people in lower socioeconomic groups may not have access to safe or quiet living situations required for high-quality sleep. Individuals may also work irregular hours, which can affect their sleep quality. According to Hafner et al. (2017), people that work irregular hours sleep on average 2.7 minutes less per day than those working regular hours, impacting their quality of life and sleep.

Sleep disturbances are often overlooked, ignored, or disregarded in our society today. When sleep is addressed in mental health or low socioeconomic settings, participants often accept that lack of sleep is an inevitable part of their schedule and quality of life. This results in having little to no motivation or reason to change their sleep routines and habits. The literature examines the effects of insufficient sleep on individuals. However, only a limited amount of research indicates concrete interventions used to treat sleep disturbances. With this in mind, an occupational therapy-based sleep education video would educate people on how to implement sleep interventions, such as making healthy changes to their sleep routines and habits.

Intrapersonal and Interpersonal Relationships

Research has indicated that lower quality of sleep among individuals is associated with stress, anxiety, depression, fatigue, poor quality of life, and health-related behaviors such as stress management, unhealthy dietary habits, and lack of exercise (Gutman et al., 2017; Wang et al., 2019). These underlying conditions can significantly impact people's social functioning and work performance at their jobs. According to O'Donoghue and McKay (2012), individuals who suffer from sleep apnea reported having trouble staying awake during work. Lack of sleep is affecting employment, impacting their safety, motivation in initiating meaningful activities, occupational performances, and optimal well-being. Studies confirmed implementing behavioral sleep interventions can increase socialization. These interventions include social and emotional support groups, family support, and daily activity participation.

Several studies found that sleep quality among individuals of all ages can be improved by addressing factors such as maintaining healthy social support, social skills, familial relationships, engagement in activity performance, and occupational participation (O'Donoghue & McKay, 2012; Park, 2019; Wang et al., 2019). In addition, researchers found that frequent disruption of sleep from environmental factors interfered with not only an individual's sleep pattern, but also their social roles and ability to maintain meaningful occupations during the daytime, which can lead to impairments in social, emotional, and psychological functioning (Faulkner & Mairs, 2015; Rottapel et al., 2020; Yeager, 2019). Sleep disturbance may also be negatively impacted by job strain, poor work-life balance, and in marital relationships by the other spouse's behavior or care of family members. These external factors could cause the individual to wake up throughout the night and have inadequate sleep duration. In addition, studies confirmed that targeting

intrapersonal factors by improving the individual's psychological well-being among adults have effectively promoted better life and sleep quality.

Occupational Therapy Interventions

Maintaining sleep quality and rest is essential for individuals in all stages of life and their ability to function, regardless of their socioeconomic status, racial/ethnic demographic, gender, disability status and/or other health condition, and other health conditions. In recent studies focusing on individuals with disabilities and health conditions, utilizing non-pharmaceutical medication approaches such as sleep intervention has been proven to improve sleep quality, mood, and occupational performance, as well as reduce fatigue and stress levels (Akbarfahimi et al., 2020; Park, 2019). Early sleep interventions are critical components that can be established through physical activity (aerobic exercise), cognitive-behavioral therapy (CBT), environmental modifications to eliminate disturbances, and promoting occupational balance.

In addition, several articles found that interventions accommodating the individual's needs with lifestyle management and sleep hygiene education through behavioral and environmental modifications were appropriate and beneficial for all populations with sleep difficulties. In the study conducted by Rottapel et al. (2020), addressing disparities in health and providing community-based sleep hygiene intervention for low-income adults and racially/ethnically diverse communities is effective in promoting behavior changes by providing education, motivation, and decreasing barriers for proper sleep. Wang et al. (2019) examined health-related behaviors among junior college students to promote sleep quality, such as establishing a healthy lifestyle; maintaining good nutritional and regular dietary habits; and avoiding smoking and drinking, which are crucial for the adolescent's health during the transition

to adulthood. Generally speaking, each study contributes knowledge about the importance of sleep quality by implementing occupational-based sleep interventions among individuals of all ages, socioeconomic backgrounds, racial/ethnic diversity, health conditions, illnesses, and disabilities.

Social Media Used as a Learning Tool

Social media is an effective learning tool for sharing information and spreading awareness among early adults, college-aged students, and researchers (Escamilla-Fajardo et al., 2021). The effects of social media such as TikTok, Facebook, Twitter, and other social media platforms have been gradually increasing and impacting early adults' lives. According to the article conducted by Escamilla-Fajardo et al. (2021), the implementation of social media, such as TikTok in higher education, has promoted students' motivation and engagement, enhanced learning experiences, encouraged collaborative classroom participation, and improved academic results. In other words, the widespread use of TikTok and other social media applications has been a creative teaching-learning tool to facilitate new learning environments. According to the article by Chawinga (2017), using social media technology has enabled more active learning, virtual interaction, and collaborative approach compared to traditional learning and teaching techniques among university students in a classroom environment. Short-form video platforms allow early adults to learn, collaborate, interact, share information and resources, increase communication, and enhance interconnectedness with others. In addition, the use of social media platforms provides the opportunity to raise awareness and advocate for occupational therapy services while fostering the understanding of healthy rest and sleep.

Remaining Gaps in Evidence

A review of current literature on occupational therapy sleep research reveals many gaps. The first gap we identified is a shortage of sleep research studies specifically devoted to occupational therapy. Though much research literature addresses sleep interventions, there is still a lack of studies focusing on occupational therapy services. The second gap we noticed is that there is little research comparing sleep interventions to one another. In addition, most research focuses on one intervention for a specific population (e.g., pediatric). Next, we noticed that most studies focused on correlation instead of causation. This means they found a relationship between their studied characteristics and sleep hygiene, though it does not show how the interventions would improve sleep. Additionally, we found that many research articles focused on what “not” to do versus what to do regarding sleep hygiene. Furthermore, there are still gaps in research articles that give the reader action items on improving sleep quality. Lastly, after going through TikTok's search engine, there were little to no findings on occupational therapy that focused on sleep interventions.

Clinical Significance of the Evidence

The role of rest and sleep is vital for our daily functions, and having sufficient sleep could protect our quality of life, physical, mental, and cognitive health. Faulkner and Mairs (2015) and other current research have shown that sleep deficiency could drastically impact our daily productivity and physical health and put us at a greater risk for heart disease, kidney disease, high blood pressure, diabetes, and stroke. Research evidence found that adequate sleep helps us achieve a more emotionally balanced memory of events, information, and react less severely to adverse events (Faulkner & Mairs, 2015). However, there is a lack of direction on which suitable interventions have the highest efficacy.

Through the use of effective occupational therapy-based sleep interventions such as sleep hygiene education (reducing caffeine intake, excessive night-time eating, and smoking cessation), physical activity, environmental modification, relaxation technique, lifestyle modification, and CBT in treatment, individuals can enhance sleep quality and improve the overall quality of life. Recent research also suggested that engaging in activities such as work, daily living work, daily exercise, and social participation resulted in higher levels of sleep quality and quality of life. Based on further research and evidence, the data could provide input for occupational therapists to determine which intervention is the most effective in various settings and beneficial for satisfying the client's needs and preferences. In other words, creating a client-centered approach and having the individual engage in meaningful occupations during sleep intervention could address the impact of sleep dysfunction leading to a better quality of life. Overall, the literature supports the effectiveness of most sleep interventions; however, there is still a lack of occupational therapy-specific sleep interventions and the spread of this information.

Theoretical Framework

We utilized the Model of Human Occupations (MOHO) model to further understand the effectiveness of educating early adults on healthy occupational therapy-based sleep interventions through social media platforms. According to Cole and Tufano (2019), the MOHO model is based upon the idea that a person's engagement and participation in occupations is the result of combining elements of volition, habituation, performance capacity, and the sociocultural contexts of the environment. The MOHO offers an occupation-focused approach that manifests in a person's occupational identity, promotes satisfaction in life through participation in meaningful occupations, and restores

occupational competence that corresponds to performance action and skill set that meets societal standards and personal values. The therapeutic goal of MOHO is to incorporate the relationship between the internal factors of a person (volition, habituation, and performance capacity) and the interaction within the social and physical environment to contribute to one's motivation, patterns of behavior, and performance to achieve rest and sleep balance. We utilized the components of this model to educate early adults about effective sleep interventions and therapeutic approaches to improve healthy sleep quality.

The person component of the MOHO theory consists of three subsystems: volition, habituation, and performance. The volition subsystem refers to the person's motivation through personal experience for occupational engagement, including their personal causation, values, and interests associated with sleep health (Cole & Tufano, 2019). The habituation subsystem is the manner in which occupation is maintained and organized into a person's daily routines, habits, roles, and action patterns for adequate rest and sleep. Lastly, the performance capacity subsystem generates skilled performance action from physical and mental abilities. For example, inadequate sleep can negatively impact an early adult's mental and physical well-being, emotional health, difficulty concentrating, risk-taking behaviors, and executive functioning (Batten et al., 2020; O'Donoghue & McKay, 2012; Wang et al., 2019). Several studies have shown that proper lifestyle management, health-related behaviors, and maintaining a healthy sleep habit and bedtime routines improve the quality of sleep (Rottapel et al., 2020; Wang et al., 2019). These intervention strategies could include avoiding or limiting caffeine, alcohol, or nicotine before bedtime, sleep hygiene education, physical activity, and regular sleep schedules. Some personal factors can either support or limit occupational performance; to mitigate this, we utilized the internal factors of MOHO to focus on the

individual's motivation, patterns of behavior, and performance to achieve optimal rest and sleep balance.

In the MOHO model, the environment component consists of the physical and socio-cultural aspects that significantly influence an individual's ability to facilitate participation in meaningful occupations and occupational performance. The environment provides positive and negative influences that may support one's capacity or act as a barrier leading to disparities and dysfunction. The physical environment is composed of the space where it occurs, objects being used, materials, and physical and cognitive quality (safety, accessibility, choices, and availability). Some environmental interventions that might impact sleep quality and performance involve environmental modifications (sleeping in a very dark, quiet, and cold room), assistive devices, and sleep hygiene education introduced by an occupational therapy practitioner (Rottapel et al., 2020; Wang et al., 2019). The social environment includes relationships, interactions, and quality. Several studies have shown that an individual's sleep quality and quality of life are influenced by their engagement with social networks, positive self-image, sense of self-identity, self-actualization, psychological well-being, and interpersonal support from family and peers. By implementing the MOHO, we created questionnaires asking specific occupational therapy-based interventions, as we want to understand the participant's current knowledge about environmental modifications, assistive devices, sleep hygiene education, and other intervention strategies commonly used to enhance the quality of sleep.

Methodology

Design

The goal of our study was to examine the effectiveness of educating early adults

on occupational therapy-based sleep hygiene and interventions through social media. The study aimed to teach early adults about occupational therapy-based sleep hygiene and interventions. In addition, the study used the MOHO model of occupational therapy to create the questionnaires and evaluate the data. A consent form, intake survey, and post-questionnaire were created and distributed through Google Forms. Prior to participating in the study, participants signed a consent form to participate in the study. Once the participants signed the consent form, they proceeded to fill out the intake survey. The intake survey asked participants about their quality of sleep and if they had any prior sleep education. Next, the participants were given a link to the TikTok Sleep Manual Page. This page contained three educational TikTok videos on sleep. Afterwards, the participants were asked to take the post-questionnaire and answer the questions based on the three TikTok videos.

Advantages

For our experiment, we wanted to target the younger generation, specifically millennials and Gen Z from the ages of 18-40. We used TikTok because it is one of the most up-to-date and widely used social media platforms that early adults use. One of the most important benefits of social media is the quick and easy way to spread information and awareness on occupational therapy practices about rest and sleep. It is also a cost-effective way to share content, as we will be producing and creating all the videos ourselves in a highly interactive manner. Tools such as TikTok achieve this interaction by allowing the content creators and viewers to comment, share, and like the videos. The application also allows us to track each video's engagement, including view times and the percentage of people who complete each view. According to Chawinga (2017) and Escamilla-Fajardo et al. (2021), social media services and applications enhance a positive

attitude towards social media and become academically and socially integrated into their learning process. This demonstrates that social media is beneficial and effectively used to supplement traditional teaching and learning approaches among early adults, college-aged students, and researchers. In addition, TikTok and other social networking sites would allow the research team to gather data without indulging and intervening with the participants. Lastly, since social media is such a broad platform, it is an excellent opportunity to advocate for occupational therapy services with zero cost in creating the videos.

Participants

Our target sample size for this experiment was to have about 50 participants. Overall, our research study had a total of 65 participants. We recruited participants through recruitment flyers that were posted on Instagram and were spread through word of mouth. In order to participate in the study, participants had to be between the ages of 18 to 40. Participants had to be able to access the internet and TikTok, be able to complete all online surveys, and be able to read and understand English. Participants did not receive any compensation for participating in the study. Participants who did not meet the above criteria were excluded.

Measures

Quantitative data from our questionnaires was analyzed through SPSS statistical software and the statistics were generated by a professional statistician consultant. We aimed to use descriptive statistics to summarize our data as well as create graphs, tables, and charts. With descriptive statistics, the data will be able to measure the mean and the standard deviation of demographic characteristics. To determine the means of the intake survey and post-questionnaire scores, it provided basic information about the variables in

the dataset and highlighted the possible relationships between the two variables. Chi-square will be used to compare the differences between the intake survey and the post-questionnaire.

Legal and Ethical Considerations

The participants answered identifying information through demographic questions in the survey, including their age, sex, ethnicity, and their highest level of education in the intake survey. However, to ensure complete anonymity and confidentiality, the participants' identities were not revealed because the online survey did not ask the participants for their names, addresses, or phone numbers. For the participant's safety, the data collected was not shared with anyone outside of the research team and was secured through Google Forms which is a password-protected data. For the online questionnaire, we used Google Forms to collect the participant's responses to the survey. The data was stored on encrypted servers and retained confidentiality throughout the process of and after the study.

Since our study involved minimal to no risk to participate, there may be a potential risk of therapeutic misconception for the benefits exceeding those actual stated benefits that the study has the potential to convey for subjects via participation. In addition, the outcomes of the study may vary for each participant. Since there is minimal risk for the participants, the value of obtaining their current knowledge and information outweighs the risk of participation in the study. However, the risk to participants was minimized in the study design by obtaining informed consent before the questionnaire survey and ensuring anonymity and confidentiality, as any personal information did not identify the participants. Participation in the study was entirely voluntary, and the participants had the right to withdraw from the study at any point in time. The research

study was non-experimental and did not include vulnerable populations because it only examined participants' opinions, answers, and knowledge of sleep. The Google Form was utilized for recruitment, data collection, and surveys.

Informed Consent

Participants were asked to sign an online informed consent form that addressed the importance of the study, such as a statement of purpose for the research via Google Forms. Participants were aware that there would be two short 10-minute surveys: an intake survey to be completed prior to watching the videos and a post-questionnaire to be completed after watching the videos. Participants were informed that they would have to watch three short-form TikTok videos that would take approximately three to four minutes in total to watch. The process of watching the three videos and two short surveys takes approximately a total of 25 minutes to complete. Participants were also informed that the study would only be open for 14 days.

The research team also informed participants that all the responses would be anonymous, their identity would be protected, and that we would take preliminary precautions to ensure their confidential information would be secured and protected in a password-protected database. Participants were aware that participating in this study was voluntary and that they could choose to withdraw from the study at any time by exiting the survey before the questionnaire had been completed and submitted. In addition, participants were informed that there was a low to minimal risk associated with participating in this study.

We also provided participants with the research team's email as well as the research team's faculty advisors' email information in case any of the participants in the study had any concerns or questions (see Appendix B). The research team made the

participants aware that data would be stored on encrypted servers and that we would retain confidentiality throughout the process of the study and after. Participants were informed that the data would be backed up daily onto a remote server and that the survey would be stored in a password-protected Google account that only the research team could access. Participants were lastly informed that the study would retain records for the duration of the study and destroy the records three years after the completion of the study.

Results

Participant Demographics

Of the 65 participants who participated in this study, $n = 64$ participants met the inclusion criteria. Figure F1 shows that the participant's common response was within the age range "26-30" years ($n = 28, 43\%$), followed by "18-25" ($n = 24, 37\%$), "31-35" ($n = 11, 17\%$), "40 +" ($n = 1, 2\%$), and "26-30" ($n = 1, 1\%$). In terms of sex, 66% of the participants reported female ($n = 43$), followed by 32% male ($n = 21$), and 2% "I prefer not to say" ($n = 1$). As indicated in Figure F3, 51% of the participants identified as Asian or Pacific Islander ($n = 33$), followed by Hispanic ($n = 20, 31\%$), Caucasian ($n = 4, 6\%$), multiracial or biracial ($n = 3, 5\%$), Hispanic and White ($n = 1, 2\%$), prefer not to answer ($n = 1, 2\%$), Asian or Pacific Islander and White ($n = 1, 1\%$), Asian or Pacific Islander, White, multiracial or biracial ($n = 1, 1\%$), and Asian or Pacific Islander, multiracial or biracial ($n = 1, 1\%$). In regard to educational levels, participants reported having a bachelor's degree ($n = 31, 48\%$), followed by a master's degree ($n = 12, 18\%$), associate's degree ($n = 7, 11\%$), some college ($n = 7, 11\%$), high school ($n = 3, 5\%$), doctorate's degree ($n = 3, 4\%$), and other ($n = 2, 3\%$).

Sleep Intervention

Figure F5 shows that 64% of the participants ($n = 42$) did not have prior sleep education before participating in our study, followed by participants who reported “yes” that they have had previous sleep education ($n = 18$, 28%), and participants who said “I’m not sure” to receiving prior sleep education ($n = 5$, 8%). As indicated in Table E1, participants reported a combination of these sleep strategies, “avoid or limit caffeine, alcohol, or nicotine before bed, reduce light and noise in the bedroom, avoid using electronics in bed, daily exercise, establish a bedtime routine, and to try to reduce stress” ($n = 17$, 26.2%). Table E2 shows that a few participants reported being familiar with the combination of these sleep interventions and “assistive device (e.g., weighted blankets, sound machines, eye mask, etc.), relaxation techniques (e.g., progressive muscle relaxation, guided imagery, meditation, etc.), and relaxation breathing/calming techniques” ($n = 8$, 12.3%). As indicated in Table E3, participants equally reported performing the following sleep strategies to create a good sleep environment: “make the sleeping area very dark (e.g., using shades, lined drapes, etc.), avoid or block any sources of white or blue lights (e.g., computer, cell phone, television, etc.), reduce noises (e.g., wearing ear plugs, silencing cell phones and non-essential alerts. etc) and cool temperature” ($n = 14$, 21.5%).

On a Likert scale of 1-10, wherein a score of “1” signified that they did not have a good understanding of getting adequate sleep, and a score of “10” indicated that they received an excellent understanding of getting adequate sleep daily, participants reported a “10” out of 10 when it comes to knowing the benefits of getting adequate sleep daily ($n = 29$, 45%), as shown in Figure F17. Overall, when the participants were asked about their knowledge of sleep interventions after watching our videos, a few participants

reported a “ten” out of ten rating ($n = 24, 37\%$), as shown in Figure F18.

Knowledge on Sleep Education

After completing the post-questionnaire survey, the majority of participants ($n = 62, 95\%$) learned that “modifying the environment, CBT, and deep breathing techniques resulted in “getting better sleep quality” (see Figure F9). In addition, as shown in Figure F10, most of the participants ($n = 56, 86\%$) reported “improved IQ” is not a benefit of getting quality sleep. Figure F11 shows that most of the participants ($n = 51, 78\%$) learned that “poor room temperature (too hot or too cold), pets, and doing work in bed” are factors that can negatively affect their quality of sleep. When asked about the equivalent blood alcohol content percentage of an individual with poor sleep quality, participants ($n = 43, 66\%$) reported “0.100%” (see Figure F12). Moreover, when asked about knowing how to create a sleep sanctuary, most participants ($n = 53, 82\%$) answered “yes” (see Figure F13). Furthermore, most of the participants ($n = 59, 91\%$) reported “alcohol, nicotine, caffeine” as things to avoid when trying to go to bed (see Figure F14). Overall, on a Likert scale of 1-10, we found that participants believed that when it comes to social media as an effective learning tool to spread awareness of occupational therapy-based sleep interventions, the majority of participants selected the three highest response scores: “10” out of 10 ($n = 28, 43\%$), followed by a “9” out of 10 ($n = 8, 12\%$), and “8” out of 10 ($n = 17, 26\%$).

Discussion

According to the American Occupational Therapy Association and American Occupational Therapy Foundation, this study aimed to address the scope of practice in occupational therapy in restoring an individual’s rest and sleep. This study aimed to determine the use of social media as an effective learning tool to educate early adults on

occupational therapy-based sleep interventions for adults ages 18-40 years old by creating three TikTok videos, an intake survey, and a post-questionnaire survey after watching the videos. The data from our study provided information about occupational therapy-based sleep interventions, sleep hygiene strategies to use for early adults, and things to avoid before bedtime. According to evidence-based research articles that reviewed sleep practices among university students, Batten et al. (2020) and Farrehi et al. (2016) noted that increased knowledge and education about sleep hygiene and effective strategies may decrease reliance on maladaptive strategies (over-the-counter medication and alcohol use), enhance physical and mental health, promote academic performance, and improve the perception of sleep. Additionally, this study focused on gathering information from participants' knowledge about sleep and their current sleep routines and habits. Data from participants ages 18-40 years old is critical for understanding the effectiveness of social media platforms because early adults are the largest user base of online platforms to interact with one another, facilitate new teaching-learning approaches, and share information. This emphasized the importance of client-centeredness due to the participant's specific needs, social, and environmental factors, as well as their current sleep habits and routines.

Based on the intake survey results, $n = 42$ of the participants reported that they had never had any sleep education prior to taking the survey and $n = 34$ participants reported that they do not maintain a regular sleep schedule. This may imply that most early adults do not get sufficient sleep or rest due to not knowing how to create a sleep routine based on the lack of knowledge of interventions that can be used to help them get adequate sleep. Another aim of this study was to identify social media as an effective learning tool to bring awareness to occupational therapy-based sleep interventions and

sleep hygiene. As shown in Figure F18, 37% of the participants reported a “10” out of 10 ($n = 24$), 29% of the participants reported a “9” out of 10 ($n = 19$), and 23% of the participants reported an “8” out of 10” ($n = 15$) ratings of their knowledge after watching the videos. These findings suggest that participants felt they had gained knowledge after watching the videos. From this data, we can conclude that 89% of participants felt strongly that social media is indeed an effective way to spread occupational therapy sleep knowledge. Education through social media and popular resources has enhanced individuals’ perception of the future application of TikTok and reduced the gaps in the teaching-learning process among the younger generation (Escamilla-Fajardo et al., 2021). Participants also reported that they are familiar with utilizing sleep strategies.

Although the survey did not collect information about whether the studied participants use these specific sleep interventions daily, findings did suggest that they are aware of the benefits of sleep and how lack of sleep can impact their quality of life. Furthermore, we can imply that using educational short-form video content was an effective modality as most participants reported “getting better sleep quality” results from modifying the environment, CBT, and deep breathing techniques ($n = 62$, 95%), which was addressed in one of the TikTok videos. Data also indicated that most participants reported “poor room temperature [too hot or too cold], pets, doing work in bed” as factors negatively affecting the quality of sleep ($n = 51$, 78%), which was also addressed in one of the TikTok videos. We can imply that more than half of the participants answered the question correctly and that the video was intriguing and engaging to the participants. Figure F11 indicates that the participants answered the question correctly as they were able to identify how to create a sleep sanctuary such as adjusting room temperature, not letting pets on to the bed, and avoid doing work in bed before falling asleep.

Limitations

Several limitations in this study should be mentioned. First, our study had a limited sample size of only $n = 65$ participants, which is not a large enough sample size to represent the general early adult population. Consequently, caution should be utilized when generalizing these findings from studied participants to other populations. A second limitation was that there was no indication or guarantee that the participants watched all three TikTok videos from start to finish. Participants were asked to watch the videos on their own time and were not monitored by the researchers. The third limitation of this study concerned using a self-reported survey, as some respondents may have answered the questionnaire with what they perceive to be the “right answers”, instead of answering honestly. This may lead to inaccurate data collection. Another limitation of this study concerned the use of the participants not having access to the internet or not knowing how to navigate the TikTok page. As a result, this may have impacted how many participants we could have gathered for the study, and if participants were to drop out of the study, this might threaten the validity of the results. Lastly, another limitation in this study regarded one of the intake survey questions (“Do you take any naps throughout the day? If so, how long do you nap for?”) due to a mistake in the survey procedures that did not allow the participants to check multiple answers. Thus, this may have impacted the accuracy of the data collection because the studied participants were only allowed to give one answer choice.

OT Implications

The literature review revealed limited research focused on occupational therapy-based sleep interventions among early adults and how sleep disturbances can affect people’s health and well-being. The result of this research study allowed occupational

therapy practitioners to gain an understanding of whether social media is an effective learning tool to educate and spread awareness of occupational therapy-based sleep interventions.

After reviewing the data, we found that more than half of the participants ($n = 34$, 52%) did not have prior education on sleep before our study, nor did they maintain a regular sleep schedule ($n = 34$, 52%). This study indicates that social media is an effective modality for educating early adults on sleep and may be beneficial to occupational therapy practitioners (OTP) who currently work with early adults experiencing issues with it. The data allows occupational therapists to see what sleep intervention the participants are familiar with, what strategies they currently perform for better sleep quality, and consider providing awareness of sleep interventions. In addition, the study results are beneficial for OTP who do not directly work with this population, as it can help add to a practitioner's understanding of their clients who struggle with sleep disturbances. Moreover, the data from the study is helpful for other OTP in general since insufficient sleep can lead to a lower quality of life and may negatively affect an individual's occupational performance.

Using social media, OTP in all settings can reach out to their clients and the general population with minimal barriers and costs. For example, the majority of participants ($n = 53$, 81%) indicated that using social media was an effective learning tool to spread awareness of occupational therapy-based sleep intervention. Further studies could provide more insights and understanding of the different social media platforms regarding the effectiveness of learning through each social media product. However, differentials in social media platforms can vary vastly; for example, TikTok users are accustomed to shorter (a few seconds) videos compared to YouTube videos which are

longer. As such, we can see different learning styles and approaches in how the public views social media as learning tools.

As society continues to grow accustomed to the internet, OTP can use TikTok or other social media to utilize these tools to address, bring awareness and integrate occupational therapy-based interventions for sleep. For instance, it would be beneficial for OTP to consider implementing and educating effective sleep interventions based on the individual's needs and wants during treatment plans and intervention implementation, as this may facilitate individualized sleep hygiene routine and establish effective engagement and participation in valued activities or other occupations. In addition, OTP can also address the gaps in the benefits of sleep and misconceptions about sleep or expectations by bringing awareness on social media platforms on a larger scale. The data from this study can provide more resources for OTP in various settings to help promote optimal sleep performance and choose appropriate interventions based on the individual's needs, wants, and preferences. Future research studies could classify and determine which specific extrinsic or intrinsic factors are used to improve sleep quality.

Summary, Conclusion, and Recommendations

Overall, there needs to be more insight into providing occupational therapy education and interventions using social media such as TikTok to address guidance for sleep disturbances, ways to improve the quality of sleep, and ways for the early adult population ages 18-40 years old to implement them into their own lives. Common themes that we found include inadequate sleep affecting interpersonal and intrapersonal relationships and sleep as a necessity throughout all stages of life and its effects on occupational performance. In addition, we found a significant amount of gaps in occupational therapy sleep research. These gaps included a lack of overall occupational

therapy-specific sleep research, a comparison between the most effective sleep interventions, a lack of what “to do” in research as opposed to what “not” to do, studies that focused on causation, and a lack of occupational therapy-based sleep interventions on TikTok.

Moreover, it seems that many sleep research articles do not have sufficient participants in their studies. Based on our research and the large user base of social media, OTP can utilize social media to provide occupational-based sleep interventions and educate the public about the occupational therapy scope of practice. This would allow OTP to reach a more extensive audience base and use social media as an effective learning tool. As there is a growing user base of consumers using TikTok, the purpose of our research study was to investigate the effectiveness of implementing social media content through short-form videos to educate early adults about occupational therapy-based sleep hygiene and sleep interventions. Although this current study provided additional information on this topic, it is recommended to explore more current literature when educating early adults on effective sleep intervention through social media platforms. We hope that this study will contribute to the American Occupational Therapy Association's 2025 Centennial Vision to help address concerns and provide occupational therapy-based sleep interventions to enhance health, wellbeing, and life satisfaction. Overall, there is a need to advocate for further studies on occupational therapy services to balance rest/sleep, functional performance, and overall well-being.

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Appendix A

Recruitment Flier




Get Better Sleep through watching TikTok Videos


Occupational Therapy Students from Stanbridge University are conducting a study to educate early adults on occupational therapy sleep interventions and hygiene. Please participate by taking 2 short 10-minute surveys (intake survey and post questionnaire survey) and by watching our 3 short 1-minute TikTok Videos. (Approximately 25 minutes)

Inclusion Criteria

- Must be between the ages of 18 to 40 years old
- Be able to access the internet and TikTok
- Be able to complete all online surveys
- Be able to navigate the app or website



SCAN ME



Sleep Tight!

WE NEED YOUR HELP!

To participate please contact:
Thesis Research Team
Email: OTSleepManual@gmail.com

Faculty Advisor: Dr. Enjoli Filemu, OTD, OTR/L, CPAM
Email: efilemu@stanbridge.edu

Appendix B

Informed Consent

A group of graduate students in the Master of Occupational Therapy Program at Stanbridge University, are conducting a research study to gain a better understanding of occupational therapy-based sleep hygiene and sleep interventions. The purpose of this research study is to investigate the effectiveness of using social media content through short-form videos as a way to educate early adults about occupational therapy-based sleep hygiene and sleep interventions.

Participation in this study is entirely voluntary, and the study will be non-experimental. This study will consist of two short 10-minute surveys: an intake survey to be completed prior to watching the videos, and a post questionnaire to be completed after watching the videos. There will also be 3 short-form videos that are posted on our TikTok account that will take approximately 3 to 4 minutes in total to watch. Approximately a total of 25 minutes to complete.

Inclusion Criteria:

You must be between the ages of 18 to 40 years old to complete this survey and be able to access the internet and TikTok as well as being able to navigate the app or website.

Please try to answer all questions to the best of your knowledge. At any point in time during the study, you may choose to withdraw your participation from the study and terminate the process by exiting the survey before your questionnaire has been fully completed/submitted.

This experiment will be open for 14 days. There will be minimal-to-no foreseeable potential risks and discomforts involved in this study. The researchers will attempt to ensure that all responses will be anonymous and the identity of your participation will be protected. The researchers will take preliminary precautions to ensure your confidential information will be secured and protected in a password-protected database.

Data will be stored under encrypted servers and will retain confidentiality throughout the process of the study and after. Data will be stored and backed up daily onto a remote server. The data collected from the survey will be stored in a password-protected Google account that can only be accessed by the research team only. Data storage that contains human subjects data and consent records will be retained for the duration of the study and destroyed three years after completion.

If you have any comments, concerns, or questions regarding the conduct of the study and/
or your rights as a participant of this study, please feel free to contact:

Thesis Research Team
OTD, OTR/L, CPAM

Email: otsleepmanual@gmail.com

Faculty Advisor: Dr. Enjoli Filemu,

Ph: 808.683.2963

Email: efilemu@stanbridge.edu

If you have questions about your rights as a research participant, you may contact the Stanbridge University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. Please call the IRB Office at 949-794-9090 or via email at irb@stanbridge.edu.

I understand the statements above and agree to participate in this study.

I do not wish to participate in this study.

Appendix C

Questionnaire Surveys

Sleep Hygiene and Sleep Intervention Survey

This survey is intended to gather information based on your personal opinion and knowledge which will be used for the development of an occupational therapy sleep manual. By completing this survey, you are agreeing to be a participant in our study and have given us consent to use this information. To participate, you must be between the ages of 18 to 40 years old.

Intake Survey

1. **What age range do you fall within?**
 - Under 18
 - 18 - 25
 - 26 - 30
 - 31 - 35
 - 36 - 40
 - 40+

2. **What is your sex?**
 - Male
 - Female
 - I prefer not to say
 - Other

3. **How would you describe yourself?**
 - Asian or Pacific Islander
 - Black or African American
 - Hispanic or Latino
 - Native American or Alaskan Native
 - White or Caucasian
 - Multiracial or Biracial
 - A Race/Ethnicity is Not Listed Here
 - Prefer Not to Answer

4. **What is your highest level of education?**
 - Less than high school
 - High School/GED
 - Some College
 - 2 Year College (Associate Degree)
 - 4 Year College (Bachelor's Degree)
 - Masters Degree
 - Doctoral Degree

5. Have you had any sleep education before?

- Yes
- No
- I'm Not Sure

6. Do you maintain a regular sleep schedule?

- Yes
- No
- I'm not sure

7. How many hours of sleep do you get daily?

- Less than 4 hours
- 5 hours
- 6 hours
- 7 hours
- More than 8 hours

8. Do you take any naps throughout the day? If so, how long do you nap for?

- Yes
- 1 hour
- 2 hours
- More than 2 hours
- No

9. Do you know any strategies that help you fall asleep?

- Avoid or limit caffeine, alcohol, or nicotine before bedtime
- Reduce light and noise in the bedroom
- Avoid using electronics in bed
- Daily Exercise
- Establish a bedtime routine
- Try to reduce stress
- Other

10. Which sleep intervention are you familiar with?

- Cognitive Behavior Therapy (CBT)
- Sleep Hygiene Education
- Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.)
- Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, meditation, etc.)
- Sleep Diary/Journaling
- Relaxation Breathing/Calming techniques
- Other

11. What are some strategies that you perform to create a good sleep environment?

- Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.)
- Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.)
- Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc)
- Cool temperature
- Others

Post-Questionnaire Survey**1. Modifying the environment, Cognitive Behavioral Therapy (CBT), and deep breathing techniques are all sleep interventions that help with what?**

- Decreases immune system function
- Getting better sleep quality
- Increases stress levels
- Decreased energy levels

2. Which is not a benefit of getting quality sleep?

- Improve IQ
- Regulate stress and mood
- Lower the risk of serious health problems (e.g. cardiovascular disease, hypertension, and obesity)
- Boost immune system to fight off infections

3. What are some factors that can negatively affect your sleep quality? (check all that apply)

- Poor room temperature (too hot or too cold)
- A quiet and safe environment
- Pets
- Having a designated area of sleep
- Doing work in bed

4. What is the equivalent blood alcohol content percent of an individual with poor sleep?

- 0.1%
- 0.2%
- 0.5%
- 0.7%

5. Do you know how you can create a sleep sanctuary?

- Yes
- No
- I'm Not Sure

6. What are some things to avoid when trying to go to bed? (Check all that apply)

- Alcohol
- Nicotine
- Caffeine
- Water

7. Do you feel like social media is an effective learning tool to spread awareness of occupational therapy based sleep interventions?

1 2 3 4 5 6 7 8 9 10

Poor

Average

Excellent

8. On a scale of 1-10, how well do you know how Cognitive Behavioral Therapy (CBT) can be beneficial for sleep hygiene?

1 2 3 4 5 6 7 8 9 10

Poor

Average

Excellent

9. On a scale of 1-10, how well do you know the benefits of getting adequate sleep daily?

1 2 3 4 5 6 7 8 9 10

Poor

Average

Excellent

10. On a scale of 1-10, how would you rate your knowledge after watching our videos?

1 2 3 4 5 6 7 8 9 10

Poor

Average

Excellent

Appendix D

Institutional Review Board Approval

Dear Dr. Enjoli Filemu and Students,

The Stanbridge University Institutional Review Board has completed the review of your application entitled "The Effectiveness of Educating Early Adults Through Short-Form Video Content on Occupational-Therapy Based Sleep Intervention." Your application (MSOT011-512) is approved and categorized as Expedited.

IRB Application Number	MSOT011-512
Date	09/06/2022
Level of Review	Expedited
Application Approved	X
Conditional Approval	
Disapproved	
Comments	The requested Minor changes have been reviewed and confirmed as completed by the IRB. (09/06/2022)
Signature of IRB Chair	

Please note that any anticipated changes to this approved protocol requires submission of an IRB Modification application with IRB approval confirmed prior to their implementation.

Sincerely,

Julie Grace, M.S., M.A.

IRB Chair

Appendix E

Tables

Table E1

Strategies Used to Fall Asleep

Sleep Strategies	Frequency	%
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Avoid using electronics in bed, Daily Exercise, Establish a bedtime routine	2	3.1
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Daily Exercise, Establish a bedtime routine	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Daily Exercise, Try to reduce stress	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Establish a bedtime routine, Try to reduce stress	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom	2	3.1
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed	2	3.1
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise, Established a bedtime routine	2	3.1
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise, Established a bedtime routine, Try to reduce stress	17	26.2
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise, Established a bedtime routine, Try to reduce stress, Other	5	7.7
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise, Other	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Avoid using electronics in bed, Established a bedtime routine, Try to reduce stress	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Established a bedtime routine	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Established a bedtime routine, Try to reduce stress	1	1.5
Avoid or limit caffeine, alcohol, or nicotine before bedtime, Reduce light and noise in the bedroom, Other	1	1.5
Avoid using electronics in bed	1	1.5
Avoid using electronics in bed, Daily Exercise, Try to reduce stress	1	1.5
Daily Exercise	2	3.1
Daily Exercise, Try to reduce stress	1	1.5
Establish a bedtime routine	1	1.5
Establish a bedtime routine, Try to reduce stress	1	1.5
Establish a bedtime routine, Try to reduce stress, Other	1	1.5
Other	3	4.6
Reduce light and noise in the bedroom	4	6.2
Reduce light and noise in the bedroom, Avoid using electronics in bed	2	3.1
Reduce light and noise in the bedroom, Avoid using electronics in bed, Daily Exercise, Establish a bedtime routine	1	1.5
Reduce light and noise in the bedroom, Avoid using electronics in bed, Try to reduce stress	2	3.1
Reduce light and noise in the bedroom, Daily Exercise	1	1.5
Reduce light and noise in the bedroom, Daily Exercise, Establish a bedtime routine	1	1.5
Reduce light and noise in the bedroom, Daily Exercise, Try to reduce stress	1	1.5
Reduce light and noise in the bedroom, Other	1	1.5
Reduce light and noise in the bedroom, Try to reduce stress	2	3.1
Total	65	100.0

Table E2*Familiar Sleep Interventions*

Sleep Interventions	Frequency	%
Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.)	4	6.2
Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation Breathing/Calmng techniques	3	4.6
Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc)	5	7.7
Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Relaxation Breathing/Calmng techniques	8	12.3
Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	7	10.8
Cognitive Behavior Therapy (CBT)	2	3.1
Cognitive Behavior Therapy (CBT), Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Relaxation Breathing/Calmng techniques	4	6.2
Cognitive Behavior Therapy (CBT), Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	4	6.2
Cognitive Behavior Therapy (CBT), Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	4	
Cognitive Behavior Therapy (CBT), Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques, Other	1	1.5
Other	5	7.7
Relaxation Breathing/Calmng techniques	6	9.2
Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc)	2	3.1
Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Relaxation Breathing/Calmng techniques	1	1.5
Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	1	1.5
Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	1	1.5
Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.)	1	1.5
Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Relaxation Breathing/Calmng techniques	2	3.1
Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Relaxation techniques (e.g. progressive muscle relaxation, guided imagery, medication, etc), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	3	4.6
Sleep Hygiene Education, Assistive Devices (e.g. Weighted blankets, sound machines, eye mask, etc.), Sleep Diary/Journaling, Relaxation Breathing/Calmng techniques	1	1.5
Total	65	100.0

Table E3*Strategies Used to Create a Good Sleep Environment*

Strategies to create good sleep environment	Frequency	%
Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.)	1	1.5
Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature	1	1.5
Cool temperature	6	9.2
Cool temperature, Other	1	1.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.)	4	6.2
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.)	2	3.1
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.), Cool temperature	7	10.8
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc)	2	3.1
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature	14	21.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Avoid or block any sources of white or blue lights (e.g. Computer, cell phone, television, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature, Other	1	1.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Cool temperature	14	21.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Cool temperature, Other	1	1.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Other	1	1.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc)	1	1.5
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature	6	9.2
Make the sleeping area very dark (e.g. Using shades, lined drapes, etc.), Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature, Other	1	1.5
Reduce noises (e.g. wearing ear plugs, silencing cell phones and nonessential alerts. etc), Cool temperature	2	3.1
Total	65	100.0

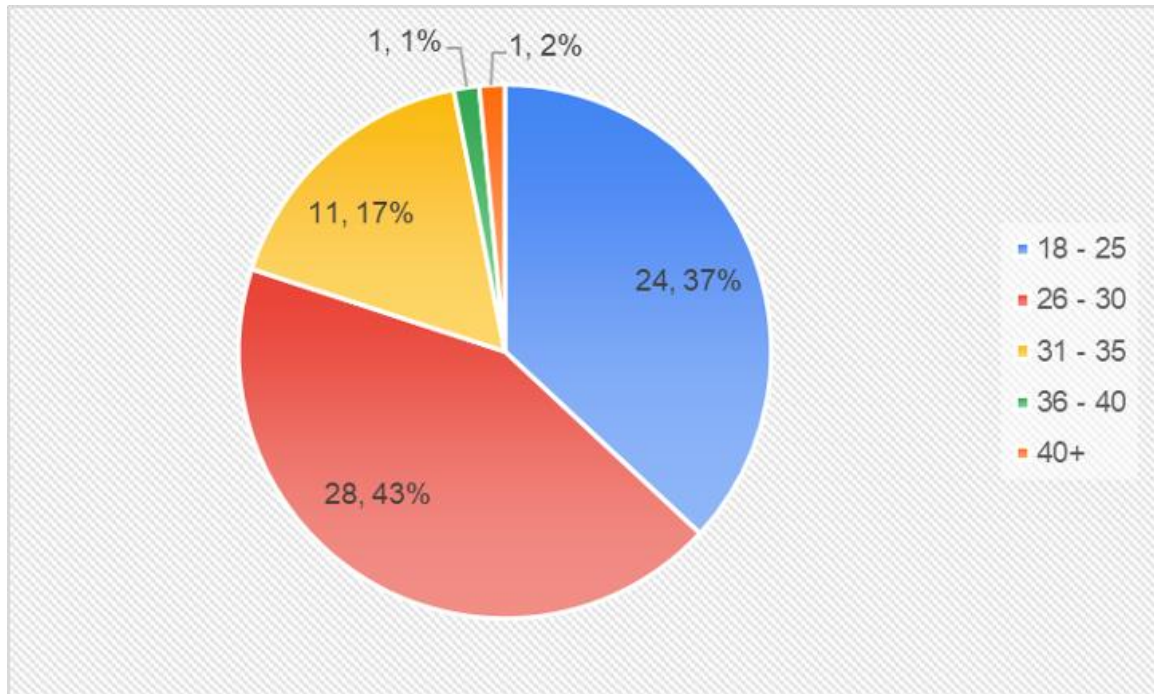
Appendix F**Figures****Figure F1***Participants' Age Range*

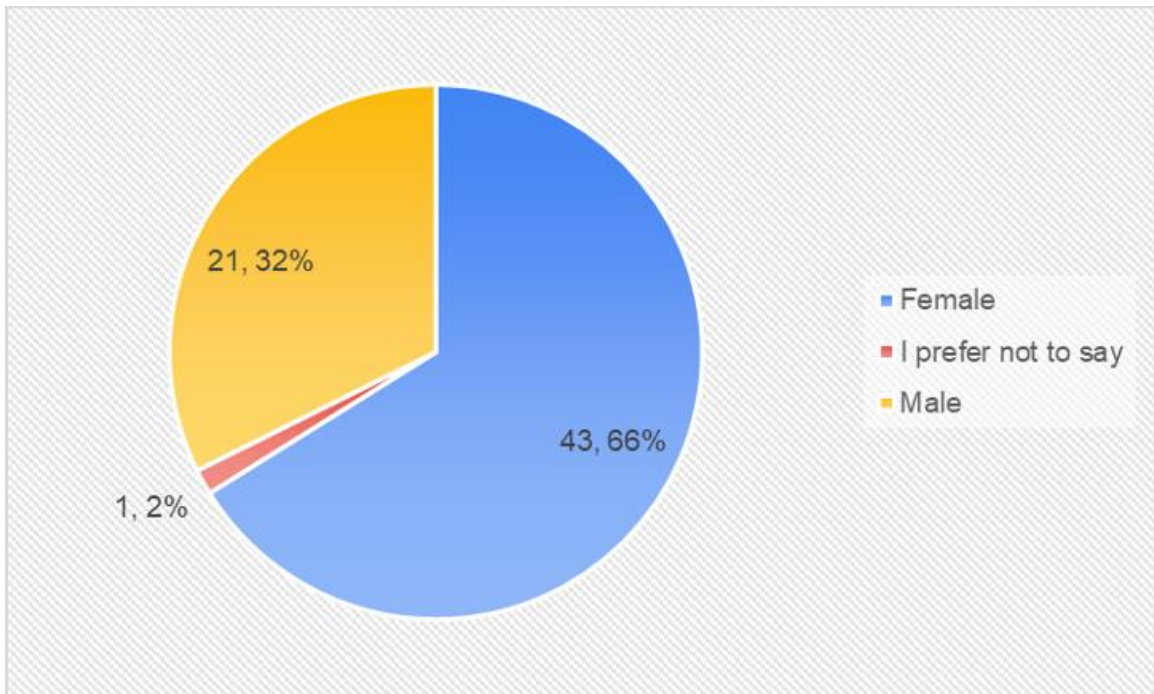
Figure F2*Participants' Sex*

Figure F3

Participants' Ethnicity

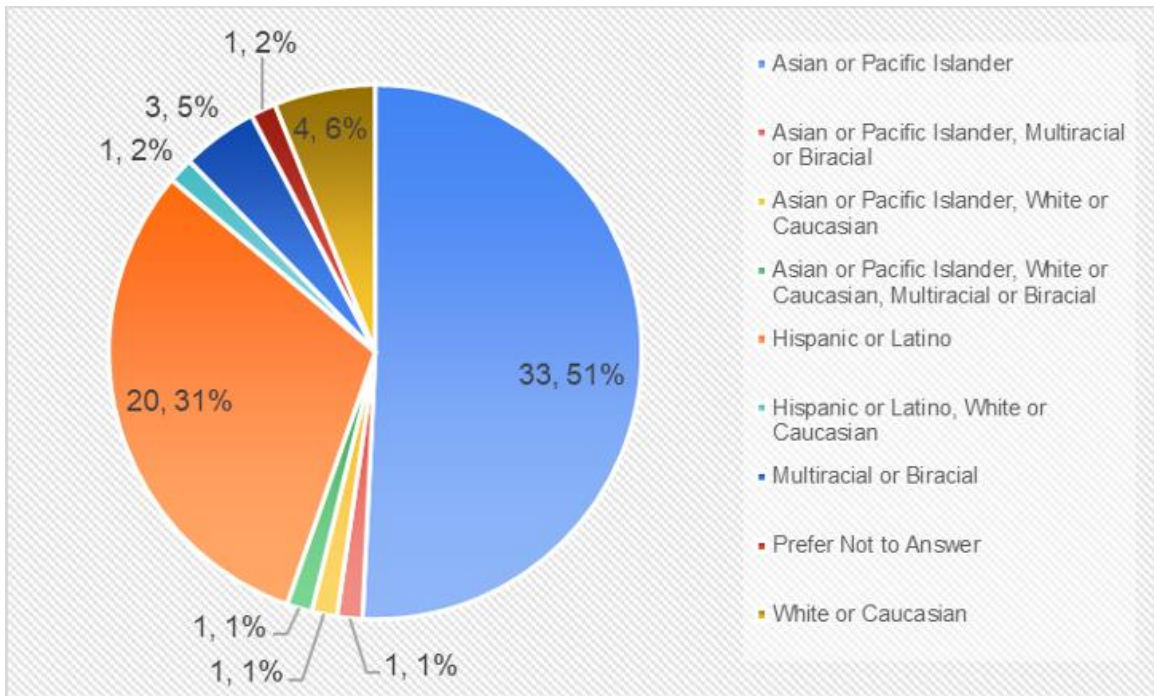


Figure F4

Participants' Highest Level of Education

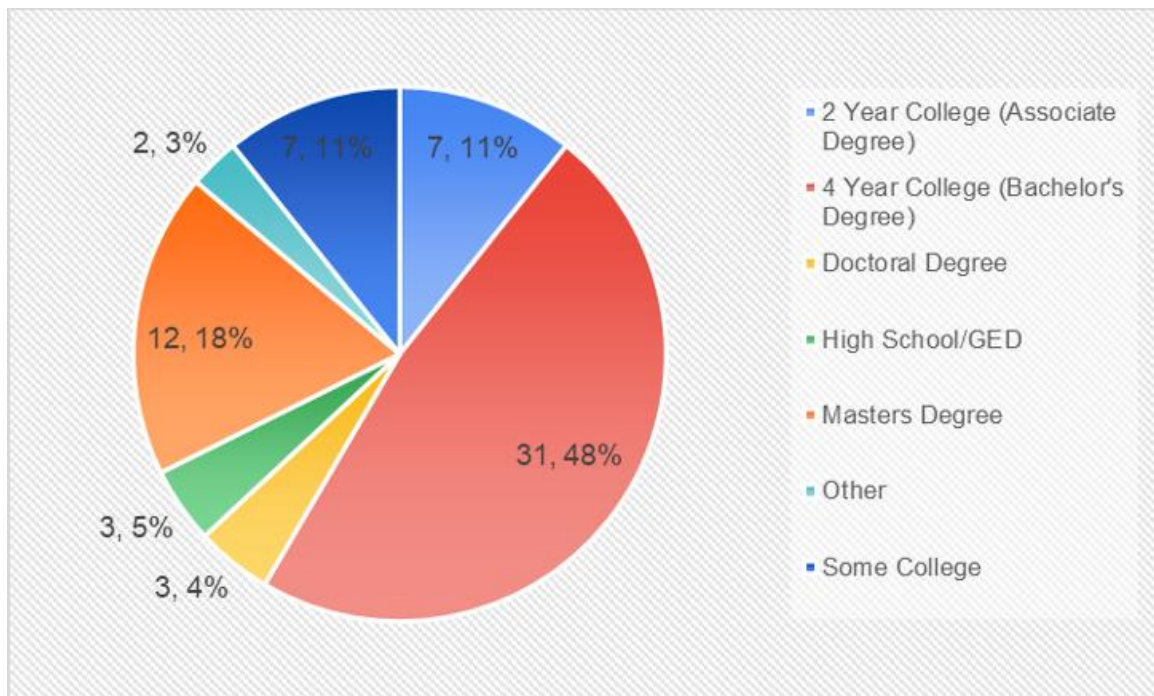


Figure F5

Participants' Previous Sleep Education

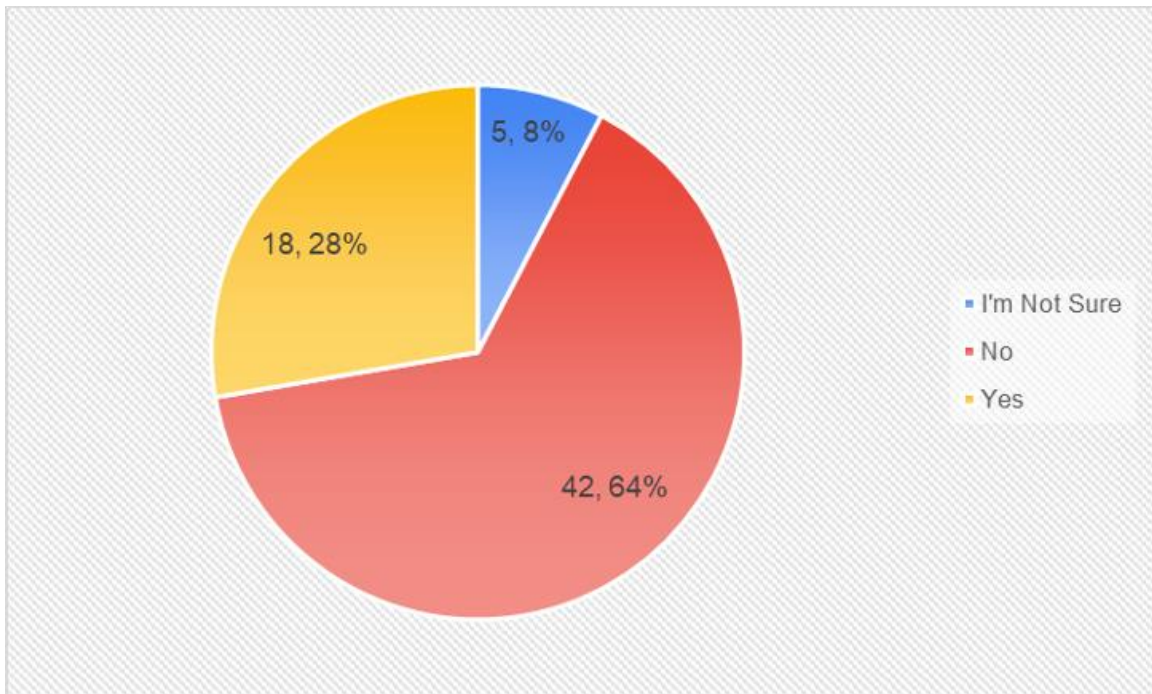


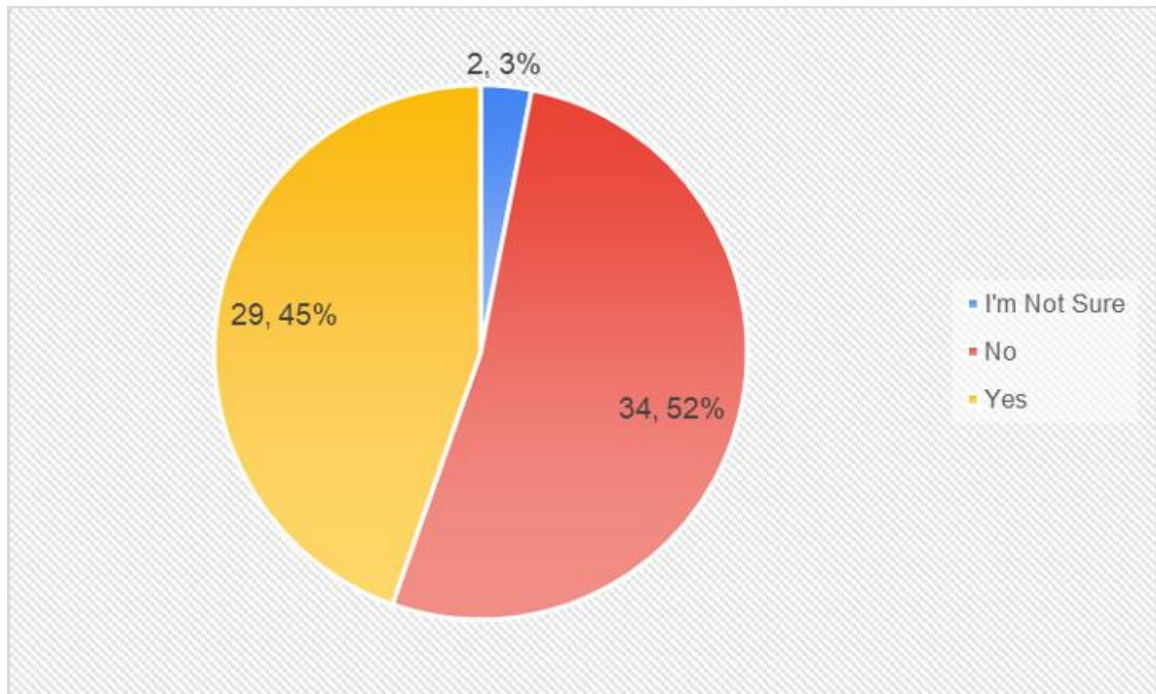
Figure F6*Participants' Sleep Schedule*

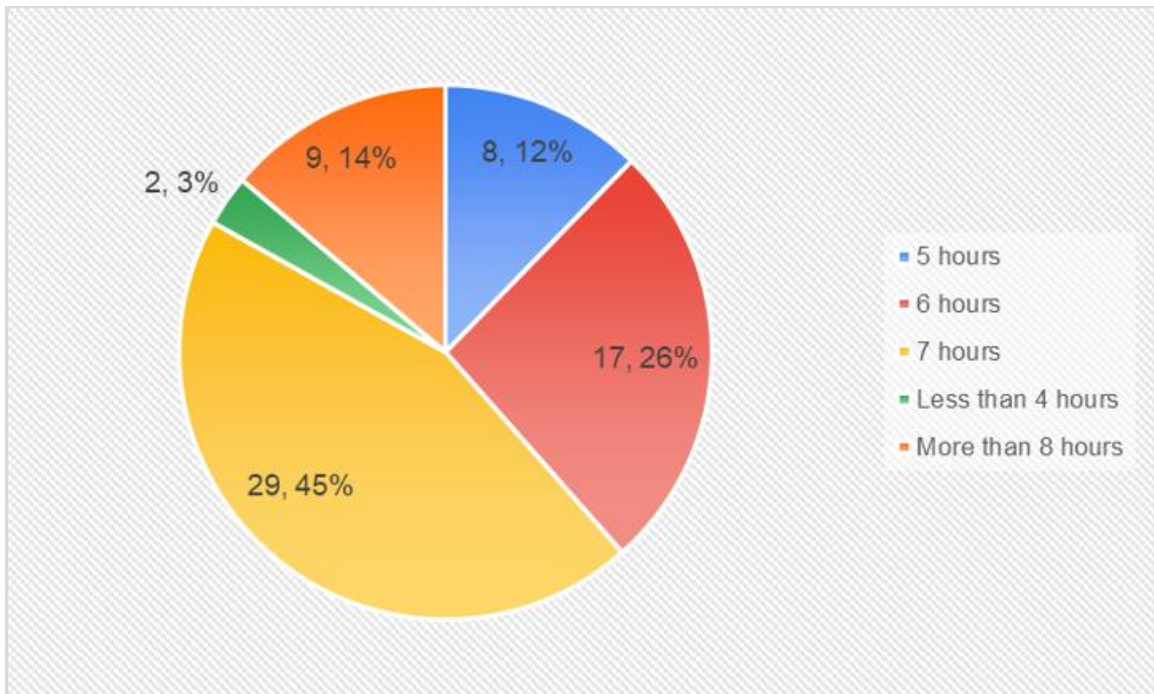
Figure F7*Participants' Total Hours of Sleep*

Figure F8

Participants' Amount of Naps Throughout the Day

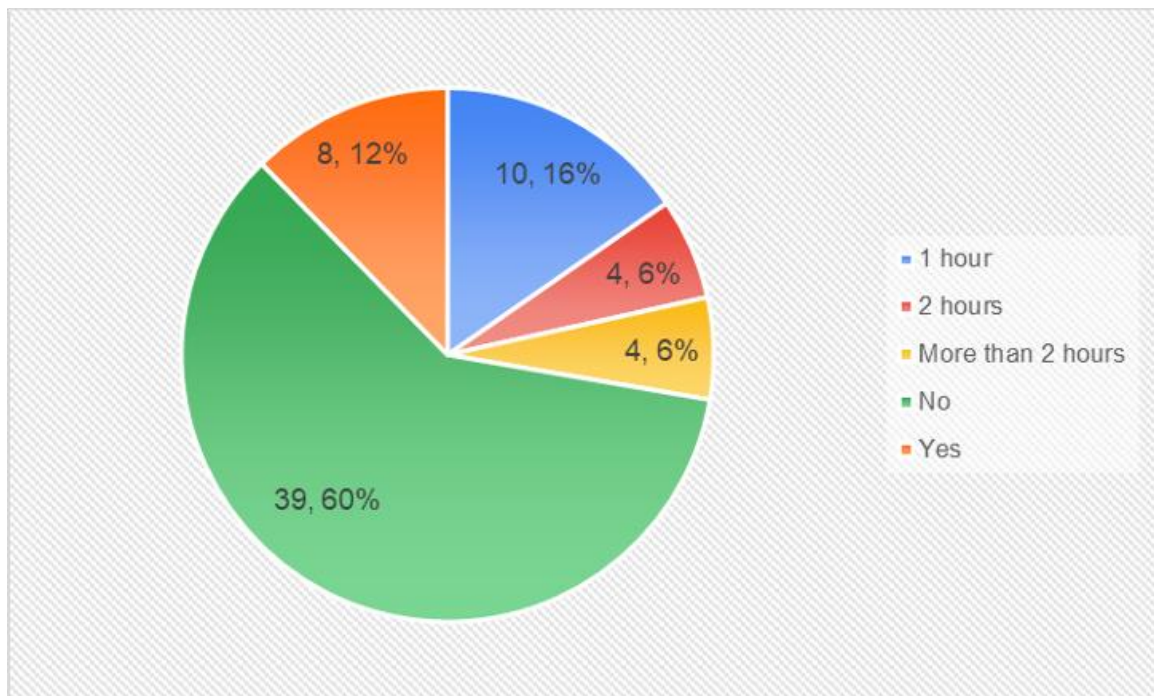


Figure F9

Modifying the Environment, Cognitive Behavioral Therapy, and Breathing Techniques

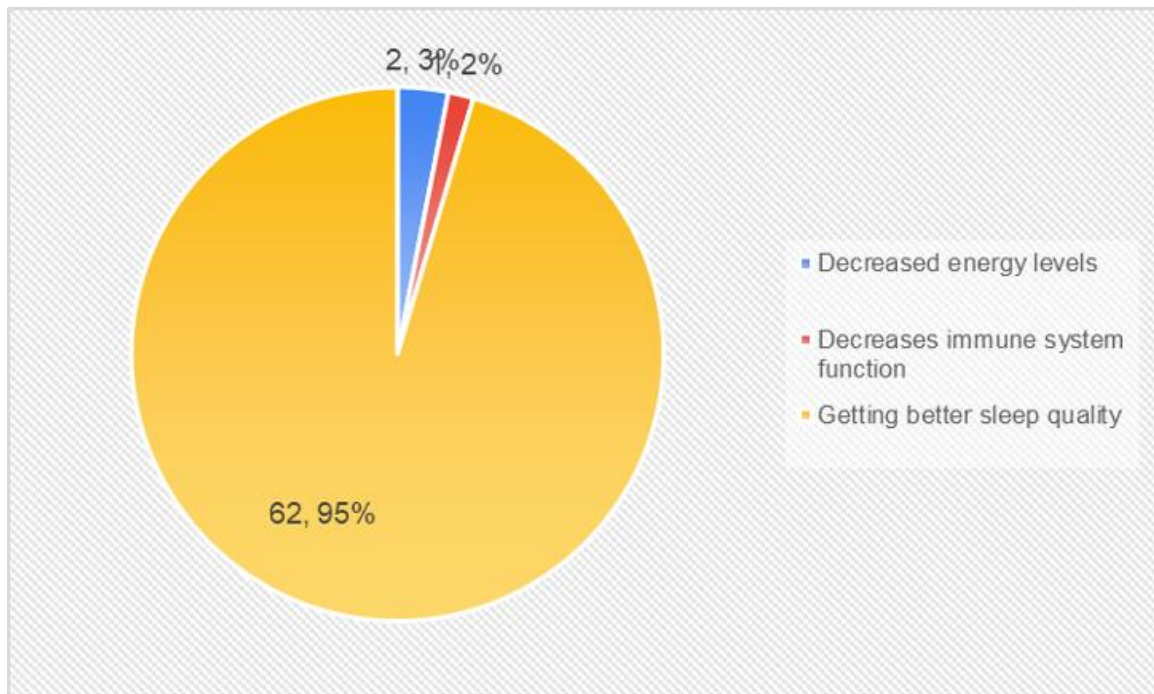


Figure F10

Which is Not a Benefit of Getting Quality Sleep?

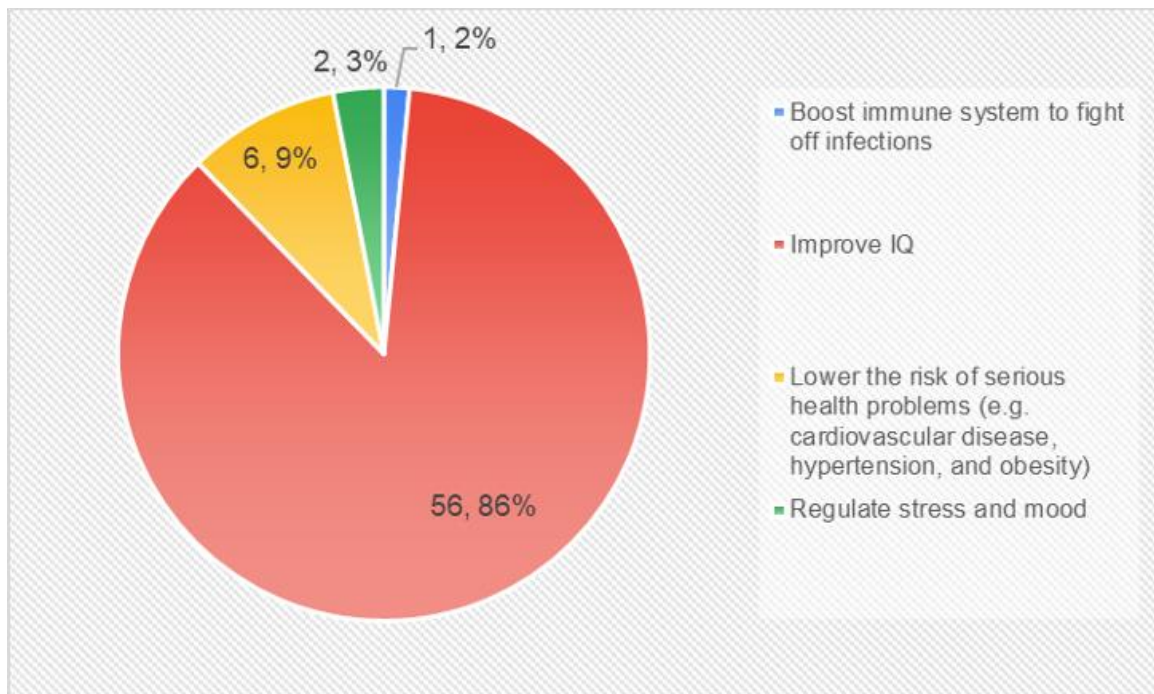


Figure F11

Factors that Can Negatively Affect Sleep Quality

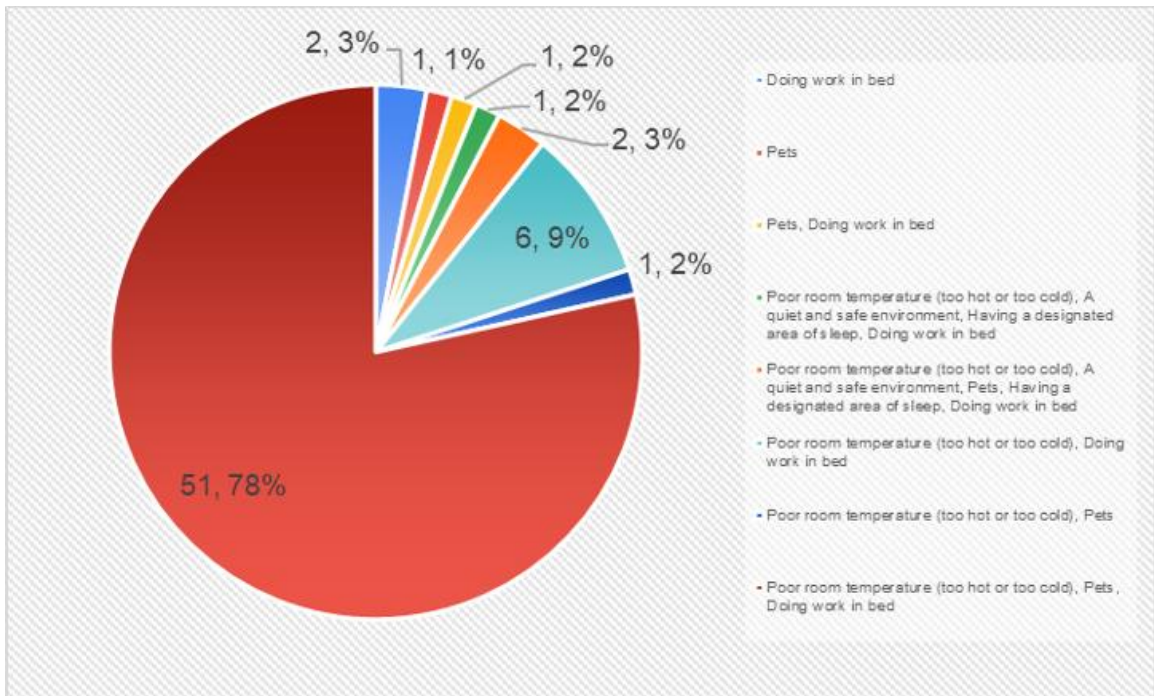


Figure F12

Blood Alcohol Content Percent of an Individual with Poor Sleep

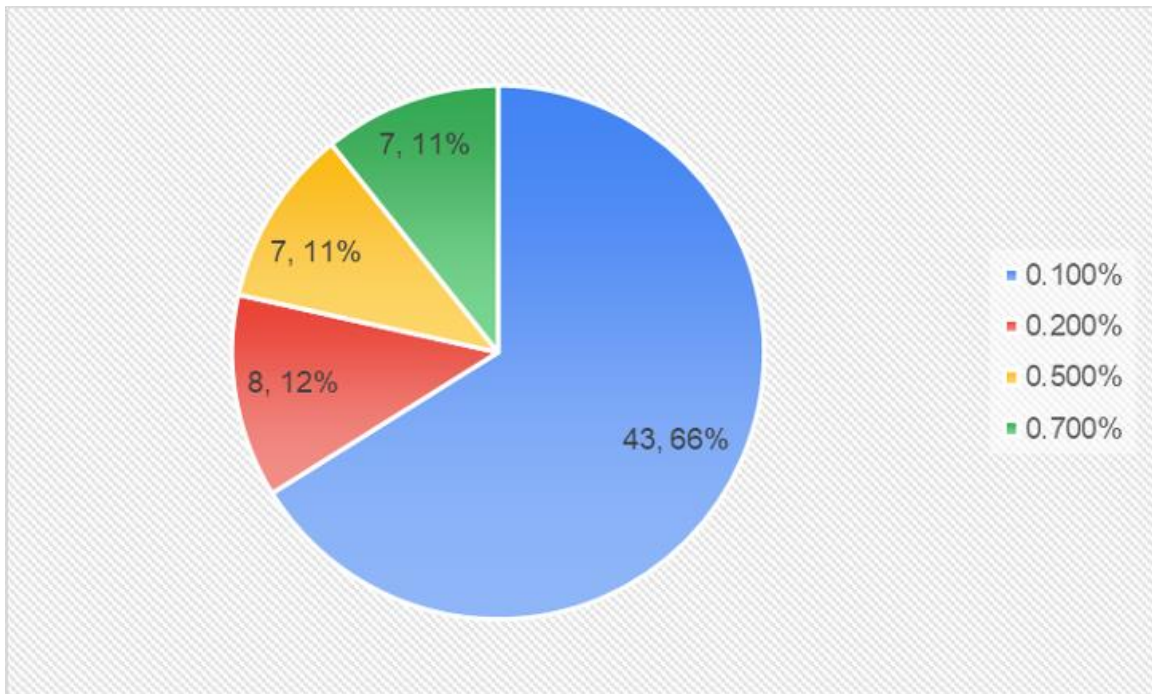


Figure F13

How to Create a Sleep Sanctuary

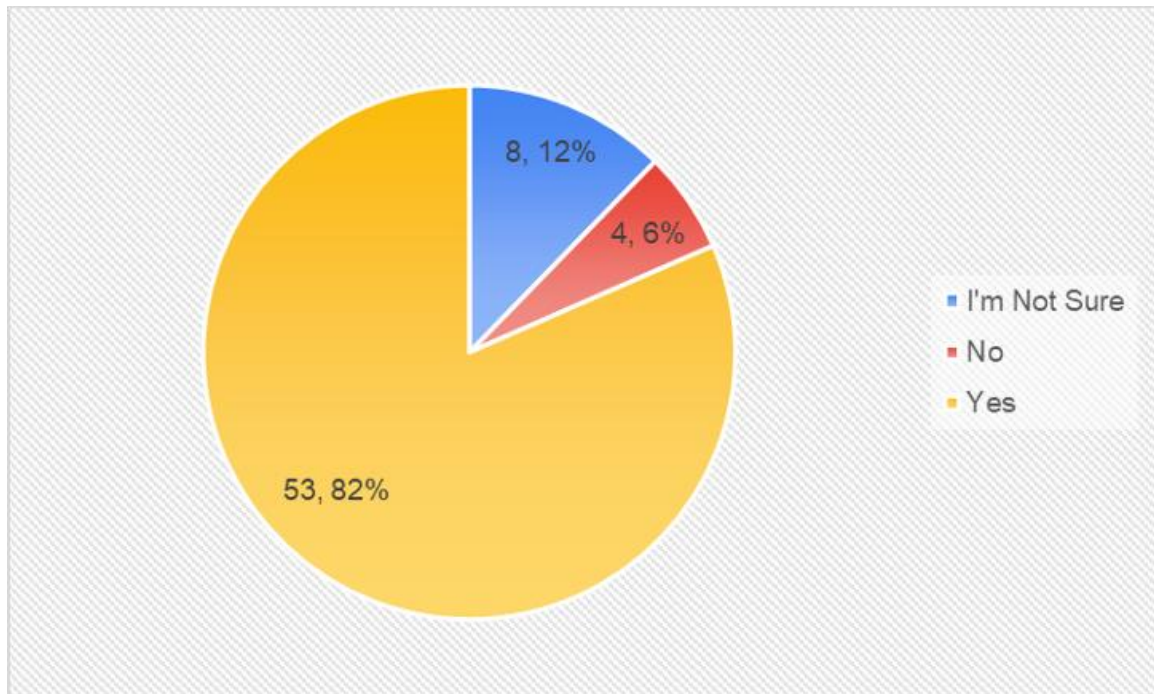


Figure F14

Things to Avoid When Trying to Go to Bed

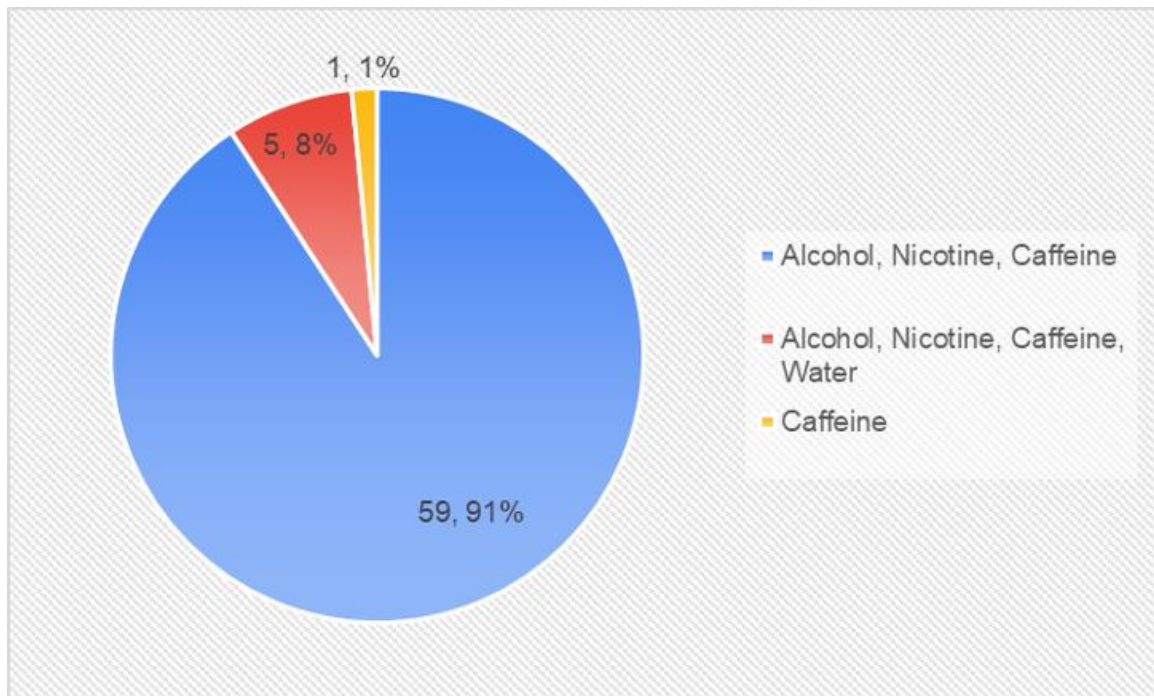


Figure F15

The Effectiveness of Social Media as a Learning Tool

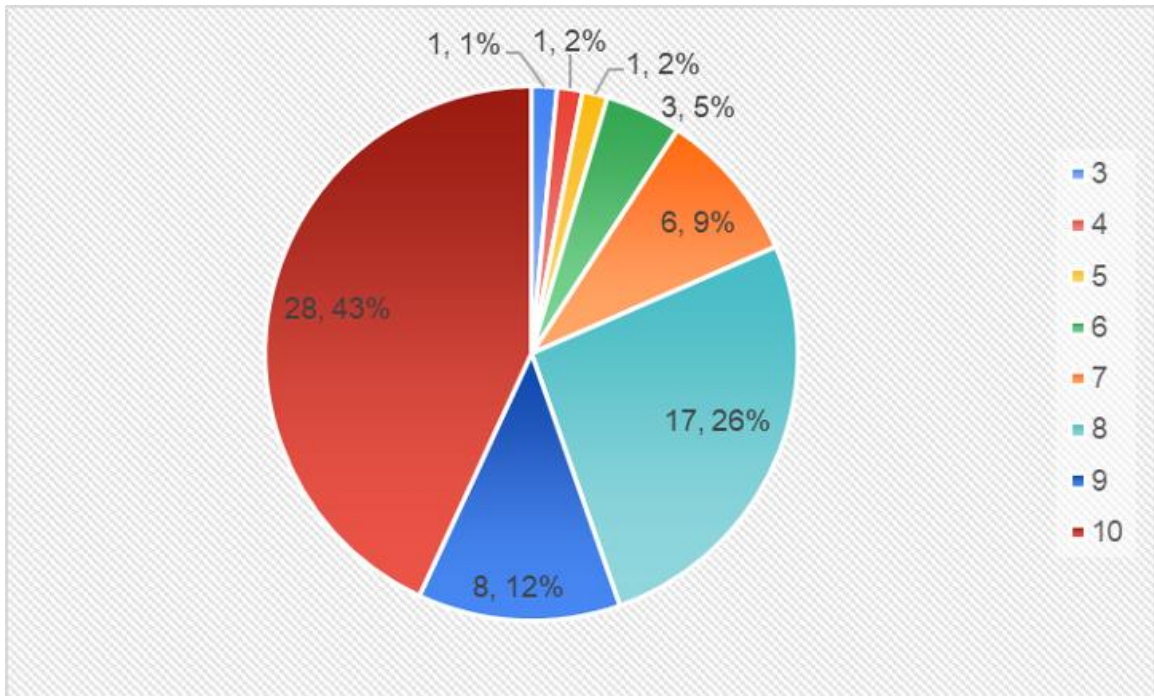


Figure F16

Cognitive Behavioral Therapy and Sleep Hygiene

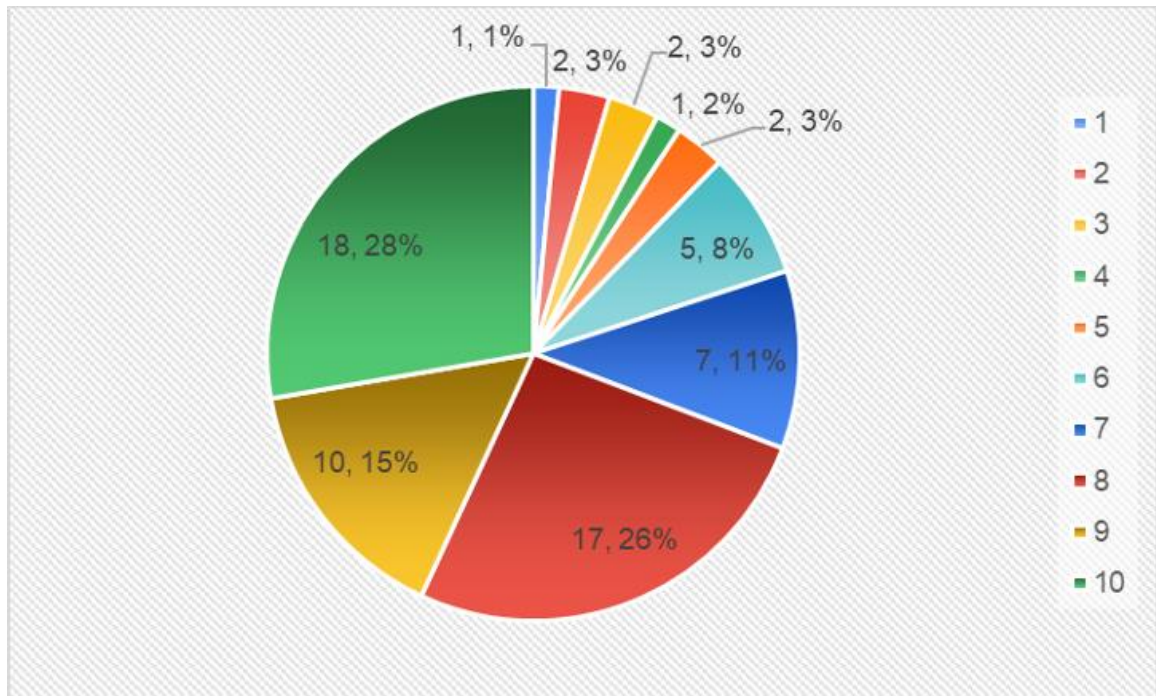


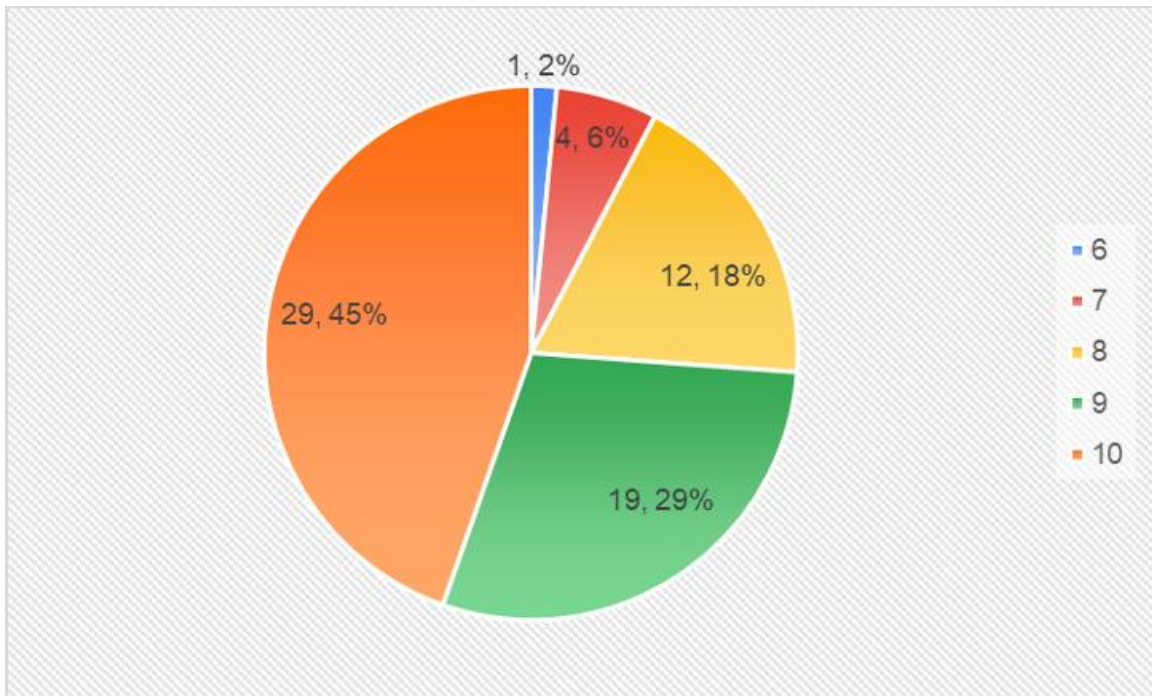
Figure F17*Benefits of Getting Adequate Sleep Daily*

Figure F18*Rate of Knowledge After Watching Videos*