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Exploring The Detrimental Effects Of Sleep Deprivation

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Do you have a hard time falling asleep at night? Or staying asleep during the night? Well I have a solution for you! Just call 1-800-SAVE-SLEEP or savesleep.com to learn more! I'm just pulling your leg. This is a topic that many scientists and researchers are trying to find a resolution for, and it is starting to become alarming within our society. Scientists are finding that people 50-years-old or older are sleep severely sleep deprived and this is starting to take a toll on their health (Sheehan & Infurna, 2024). Not only is it affecting the older generations, it is coming for the newer generations and possibly affecting them more!

A study was performed by scientists, Connor M. Sheehan and Frank Infurna. They took approximately 200,000 Americans ranging in gender, racial differences, age, and education status. The participants were all 50 years old or older. This is a reliable study because it shows excellent external and internal validity. External validity is making sure the study can be used in other populations. The scientists ensured that all different types of Americans were surveyed including different genders, multiple races, and educational status. Internal validity is making sure the study is measuring the correct variables within the population. Sheehan and Infurna were only evaluating participants in their midlife years or older. This ensures they are receiving accurate information for this specific study increasing their internal validity. The participants were assigned to record data on how well they slept at night. The group of 200,000 helped the researchers discover that just about four out of ten midlife adults are not receiving the quality sleep they deserve (Sheehan & Infurna, 2024). This is not something that is only being seen in middle aged individuals, this is starting to become a generational issue that may continue down many different years. Yes, even you Gen Zer.

As children, we have always been taught that sleep is a primary activity that everyone needs at least 6-8 hours a night. This will help with school performance, work life, and your overall health. But what is sleep really doing to our bodies? The main reason our bodies need sleep is to maintain and conserve energy. Our bodies cannot support themselves if we were running 24 hours a day 7 days a week and need the sleep to maintain a health status (Douglas, 2024). According to a study done back in 2010, someone who sleeps eight hours and has a wake period for 16 hours will save about 500 kilojoules (kJ) compared to someone who has been up for 24 hours. To convert this into calories 500 kJ is equivalent to about 119.6 calories. This doesn't seem like much, but these are calories that are needed to help the human body regulate respiration, heart rate, gut mobility, and muscle activity. These saved calories will be used to fight infection, release hormones needed for the day, and other physiological processes (Jung et al., 2011). This is a main reason people should be getting sleep to benefit their body.

People who do not receive the amount of sleep that their bodies need will become sleep deprived. Sleep deprivation is when a person isn't getting enough sleep at night. Some people will experience this for a few nights or weeks while other physically struggle with getting enough sleep. Some people may become sleep deprived because they aren't setting enough time for them to sleep and others may have sleep disorders that make sleeping a difficult task. For adults seven to nine hours a sleep a night is needed to support our lifestyles. Unfortunately, everyone will experience sleep deprivation at one point. Some parts of the body that sleep deprivation effects on the body are heart and circulatory health, immune system, nervous system, and the brain (Cleveland Clinic, 2022). The longer sleep deprivation continues the worse the symptoms will get. Not only will there be a decline in your health, people who experience other health conditions may be at a bigger risk of worsening those conditions. For example, Type 2

diabetes, hypertension, obesity, sleep apnea, heart attack, and depression are all conditions that may be greatly affected by sleep deprivation.

Now you may be asking yourself if you are experiencing any signs of sleep deprivation. Common symptoms are fatigue, slowed reaction times, irritability, and headaches. More severe symptoms would be visual and tactile hallucination, hand tremors, drooping eyelids, and impaired judgement. There could be many reasons why people in this generation we live in could be experiencing these symptoms. People are susceptible to sleep deprivation if they are night shift workers, misuse alcohol, use stimulants like caffeine during later hours of the day, have high stress levels throughout the day, and are sleeping in unfamiliar place (traveling for work). It has also been discovered that mental health concerns can arise and greatly affect your sleep schedule and patterns.

According to a team of psychology students at WSU, sleep deprivation easily damages neurons in the brain. In effect of this, people are more prone to developing memory related diseases later like dementia and Alzheimer's disease. For short term effects, people can experience poor decision making and processing memories. This is because the brain has not had time to rest and "reset" for the day (Mental health series…, 2021). Obviously, this would have to be a severe case of sleep deprivation, but scary to know the possibilities it could led to. So many individuals don't think that getting an abundant amount of sleep at night is super important, but something that we need to start prioritizing.

In the day and age, we live in now, phones, social media, and videogaming are huge aspects of our lives. This is such a big part of our lives that people are choosing to lose sleep over scrolling for hours. In a 2023 study, an association was made between sleep and phone usage. Adolescents were losing sleep mostly because of the over usage of cell phone use. For

adolescent boys, an increase is cellphone and videogame usage resulted in sleep problems. For teenage girls, phone usage and the amount of time spend on social media networks was strongly associated with sleep problems and patterns. About 58.9% of the participants within this study showed signs of inadequate sleep-related problems (Gaya et al., 2023). In simpler terms, the use of cellular devices is linked to sleep problems. A way to avoid this is limiting the time used on cellular devices and technology all together and get in the habit of something more beneficial to our bodies and sleep patterns. For a start, exercise may have a positive impact on your sleep schedule and/or patterns.

In another study, participants were put through a series of exercises later in the later hours of the day. The researchers were trying to test if exercising before bed has a greater effect on the way a person sleeps. The researchers found that people who partake in some type of exercise a few hours before bed, they will have great sleep propensity (Mizuno et. al., 1998). Sleep propensity is how well a person stays asleep once they have fallen asleep. People who are sleep deprived may fall asleep easily, but find themselves waking up multiple times throughout the night. Exercise is beneficial for receiving the quality sleep needed for a human to function throughout the day.

At the beginning of this report, I had mentioned that sleep deprivation is being seen within the generation of people born between the 1940s-1960s. This generation grew up without technology, one of the leading causes of sleep deprivation, and are facing the effects of sleep deprivation. Now, more than ever, scientists are seeing these signs in adolescents and young adults. In these stages of life, sleep deprivation might not mean much to them, but in the years down the road it could be a cause of a medical condition or a life-threatening disease. Individuals

need to start limiting time on their cellular devices and technology and spend more time exercising or enjoying a new hobby. Anyone heard of word puzzles?

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