Research Proposal

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Abstract

Sleep is a vital process for every person, as it helps with mental and physical restoration, memory formation, and helps improve overall health. The amount of sleep needed differs with age, as adults need 7 hours of sleep while adolescents (ages 13-19) need 8-10 hours of sleep, which many do not get. Previous research shows that if students do not get enough sleep, it will affect their academic performance, mental health, as well as healthy growth of the brain. The research proposal we will discuss is “do early start times cause highschoolers to have lower self-esteem?” Getting more research on this topic will not just help the students get the help they need, but it would also help researchers learn more about the effects of sleep deprivation on adolescents and how early start times effects students' level of alertness, ability to learn and their emotional well-being. We will propose a research design that will survey high schoolers by using a quantitative correlation design and use stratified sampling to find participants who have early and late school start times to see if there is any correlation between these two variables. The outcome of this research is to be believed that there is a significant correlation between early start times and low self-esteem.

Introduction

Sleep is vital to every living person on the planet. Sleep is defined as a natural and essential state of rest that occurs in living creatures with a nervous system. It is needed for physical and mental restoration, helping with memory, and overall staying healthy. The less sleep a person gets, the more likely they will forget things, experience low levels of alertness along with fatigue. Sleep is needed for development in children and adolescents. The less sleep a child/adolescent gets, the longer it will take for them to fully develop.

Depending on the school, they usually have an early start time. These times range from 7:30-10:30 for students in high school. Knowing that adolescents need about 8 hours of sleep to feel well-rested, do these early start times affect the amount of sleep they get? If they do not get the right amount of sleep, or even if they do get the right amount of sleep, does it affect their emotional state? The research question that will be discussed is, do early start times cause highschoolers to have lower self-esteem?

As stated above, adolescents need at least 8 hours of sleep to feel well-rested and be ready for the day. If they do not receive the full amount of sleep they need, they will experience symptoms of fatigue. If we study this, we will learn more on how sleep-depravation or how early start times effects students' level of alertness, ability to learn and their emotional well-being. Although there could be outside stressors that could affect their emotional well-being, we can still see how much sleep affects a student's emotional well-being. If we learn more about this topic, we can provide better help and information to these students so they can stay healthy and get the help they need.

Potential implications of this research are that early start times do affect students' self-esteem in a negative way. This could mean that they are less focused, have low levels of

alertness, feel uneasy and possibly anxiety, along with feeling sad and possibly experience depression. All these factors could affect their well-being, attendance, and academic success.

Dr. Adam Winsler conducted research into this topic and gathered valuable information with his study. He conducted a research experiment with public school students in the school grades 8th, 10th, and 12th. He used a self-report survey and sent them to the schools for them to be done to see the sleep averages of the students, how hopeless they feel, if they were seriously considering suicide and/or suicide attempts, along with substance use (Ansler, 2014).

The results shown that high schoolers only received on average about 6.5 hours of sleep on school nights, with females and minority groups received less than the average (Ansler, 2014). He had also discovered that with just one less hour of sleep had caused a significant effect on the feeling of hopelessness, had seriously considered suicide/attempted suicide, and substance abuse. The relationship between sleep duration and suicide were greater in male teens while sleep duration and feeling of hopelessness was greater in white students.

With this shown, it is clear that sleep can have an effect on a student's emotional well-being. More studies are needed to show the differences of self-esteem between early start times and late start times in schools, that way we can get more information on this issue along with finding out the best way to help our students.

Literature Review

Robert Meadows (2016) explains how sleep is not just important for overall health, but the lack of sleep could cause dependency on drugs such as alcohol and cocaine. The use and dependence on these drugs could cause individuals to lose stage 3 of sleep, which helps restore bodily functions. Meadows explains how sleep should be considered a practice, as sociologists describe sleep as “more than a simple biological necessity and that how we sleep, when we sleep,

where we sleep and the meanings and values, we accord sleep are all historically and patterned socio-culturally."

The lack of sleep also has a key involvement in a lack of mental health. A study conducted by Wang et al. (2024) with 761 Chinese adult volunteers were studied to see the association between stress, loneliness, depression, and sleep quality. The study used a face-to-face questionnaire and found that stress was positively associated with loneliness and depression, while sleep quality mediated the stress scores with loneliness and depression. This shows that stress can affect an individual's sleep quality and their mental health.

Sleep is not just important for adolescents and adults, but children as well. Children need to get sleep to help them grow into healthy individuals. Jiskrova et al. (2019) conducted a study that showed that children who had sleep problems have a correlation between internalizing or externalizing problems in their adolescents and have more trouble adjusting to changes in their life. This shows that if children do not get the sleep they need, it can cause future problems as they start to get older.

You can also correlate the lack of sleep a child gets at night with childhood obesity. In a study conducted by Snell et al. (2007), two waves of families were studied to find if there was a correlation between sleep and obesity. The first wave interviewed 3,563 children and 5 years later they reinterviewed 2,907 of those children. The researchers measured the children's height and weight before measuring the amount of sleep the children get by using a PSID-CDS time diary. The study showed that sleep matters more for younger children's BMI than older children.

While sleep is important for children, school is also important for them to learn and socialize with other children their age. Different schools have different start times, some starting earlier than others. While sleep is important for everyone, it is known that children should get a

good night's rest so they can continue to grow physically and mentally, but early start times could affect the amount of sleep a child gets each night, along with other factors.

A study shows how early start times affect the sleep patterns of U.S adolescents. Paksarian et al. (2015) used the National Comorbidity Survey-Adolescent Supplement, which is a cross-sectional survey that was sent to students ages 13-17 throughout the U.S. With written-conformed consent by parents, 9,244 students were surveyed and interviewed to find that students with later start times tend to go to bed later but still get more adequate sleep then students with earlier start times. Transportation to school can also be a factor to sleep patterns, as students in rural areas may have to get up earlier than others to get to school at their start time.

Adam Winsler et al. (2014) had conducted a study to see what the sleep average of high school students in his county was, how hopeless they felt, if they were considering suicide, if they had attempted suicide, along with substance use. The results of the study show that students get on average 6.5 hours of sleep each night, which is two hours less than what they need. Winsler et al. also discovered that just one hour less of sleep had a significant effect on the student's mental health and well-being. This shows that if students do not get the right amount of sleep they need, 8-10 hours, it will affect their emotional health and well-being.

With these literary analyses, we can see that sleep is vital for survival for all living organisms and a lack of sleep can cause issues for people of all ages, especially for adolescents. With earlier start times in schools, students get less sleep than what they need. With this lack of sleep, their academic performance, mental well-being and health starts to take a toll and could cause harmful effects in the long run. With later start times, this could help students with their academic performance and their emotional well-being.

Methodology

The research design that would be the best fit for this research would be a quantitative correlational design. Quantitative research is when a researcher collects and analyze data to find patterns, find differences and similarities of variables as well as generalize results to a wider population (Bhandari, 2020). Correlational research is when a researcher wants to investigate the relationship between variables without controlling any of them (Bhandari, 2021). Since the research question is wanting to see how start times effects students' self-esteem, a correlational research design would be the best fit due to wanting to see the correlation of early start times and students' self-esteem. A quantitative research design would also be best fit due to having to analyze numerical data to find these correlations.

The population being studied in this proposal is high school students. The way we would select participants for this study is by using stratified sampling. Stratified sampling is when the population is divided into different subgroups by specific characteristics before using random sampling to pick random individuals to participate in research (Shields, 2024). For this research design, we would use two different groups, one being students with early start times (school starting before 8AM) and the other being students with late start times (school starting after 8AM). After these groups are classified, students will then be chosen randomly to be surveyed for the research.

To collect this data, we will survey the students by using a questionnaire we created that asks generalized questions to gain info on when school starts for individuals, when they get up to get ready for school, demographics, as well as self-esteem levels. We would also include questions from the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI) to gain further insights on self-esteem levels of students.

Due to collecting numerical data, we would have to use statistical software, one such as SPSS, to run statistical tests and analyze the data we have collected. Using statistical software such as SPSS we will be able to run tests on certain variables to see if there are any correlations to any of them. For example, we would run a test to see the correlation between different school start times and the students' self-esteem levels.

Ethical consideration is a top priority for research and creating a research design that will not harm the participant or researcher themselves. Before we can start collecting and analyzing data, we would have to gain consent from both the student and parents. As most high school students are below the age of 18, it is required to get the consent of parents as they are considered minors. If we do not get the consent of both parents or students, we will not survey them and do another random sample in hopes of getting an individual who will be able to take part in the survey. Privacy and confidentiality are also very important in any research design, the way we would keep the participants information confidential is to not collect any names, as if there was any sort of data leak the participants would not be harmed due to no names or personal information was taken.

Other challenges we have considered are participant dropout and biases. Participant dropout can be difficult to face but will not be as much of a problem as it is just a one-time survey. Although it is not likely to have participant drop out, we will still make sure the survey is not too long so the participant will not deal with survey fatigue or any complex questions that may leave participants confused. Bias could also be difficult to face as we are dealing with topics such as self-esteem and mental health. Participants may not answer truthfully due to being afraid they will be judged or since their parents know they are taking the survey they may be afraid the parents will get angry or watch over them more if they’re pressured to tell them their results. We

will make sure the participants know their answers are confidential and no one will know their results except the unbiased researchers.

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