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May 6th, 2019

Sleep is for Everybody

Helping See the Relation Between Sleep and Living

Background and Literature Review

For my research, I will be looking at the effects between sleep, BMI, diet and cognitive test. This is an important are to look at because it is something that affects everyone. Everyone sleeps and eat, compared to some other areas of focus that may only relate to athletes. My goal of this research is to evaluate college students and their habits of this topic. I will be evaluating some of my friends who range in different ages and genders and have different exercise backgrounds. Some of the participants live a most sedentary lifestyle and the others are people I know from football who are very active. The program will consist of a pre-survey on general information on themselves and cognitive test, education session, logs where they will document sleep and exercise, and posttest.

The first article that I found relates to how a lack of sleep can increase ones BMI. This article was a good reference because it shows the more science side of sleep and the chemicals in your body that could affect you and your weight loss and your overall health. “Study at the showed that restricting sleep to just 4 hours per night for a week brought healthy young adults to the point that some had the glucose and insulin characteristics of diabetics” (2). This is very important for people to see because with lack of sleep, it can really be taking a toll on your body. Another great point of this article is that it really relates to college students, which is my main area of focus. They relate it to studying and drinking caffeine, which all college students are guilty of doing.

The second article that I found relates to sleep and cognitive performance. This was a great article on sleep and the areas that it affects your brain. The article relates sleep to creativity, multi-tasking, decision-making, depression, and memory and brain

development. All these areas are vital in one's life and without sleep they will be off balance. "The brain makes a lot of connections during the day, but not all of them are worth saving; so, sleep is a time in which the brain streamlines the connections it needs" This is a very powerful statement that can be incorporated with my participants on why sleep is needed for their cognitive function.

The last article that I found comes from a study done at Stanford which focuses a lot on exercise which I think will relate a lot to some of my participants who love to workout. "They did nothing different but increase their sleep and saw marked improvements in performance, longer endurance, lower heart rate and an overall better workout" (Maher 1). Being in this major and working with people, they mostly care about results in their workout. This study showed that changing one thing in their actions such as more sleep, will allow them to see results in their workouts that they want to see. The article also had a few tips and tricks for a better night's sleep to see these results which will be something that I can add into my educational program.

All three of these articles show a positive outcome of sleep on our BMI, diet and cognitive functioning. They all showed that a better night's sleep will cause for a better you. Since sleep and our health is very important, I really want to make this research something meaningful for my research.

Method

This program was tracked over the first 3 months of the year, this was because during the new year it is expected to see the most behavior change due to people trying to keep up with goals and resolutions made to better themselves. This was done at

Rowan University in New Jersey with 6 participants 3 males and 3 females, ages ranging from 19-24 with different roles on campus. The table is listed below of the students

Participant	Age	Gender/Activity	Year	Activity Level
1	22	F/Athlete	Junior	Intense
2	20	F/Student	Sophomore	Low
3	19	F/Student	Freshman	Moderate – High
4	24	M/Student	Senior	Moderate
5	23	M/Athlete	Senior	Intense
6	21	M/SGA	Junior	Low - Moderate

Table 1.1

These students were chosen through contacting the coaches and administrators in each department or club and students emailing back their interest. The locations with the most significance happened to be the gyms these students went to of their choice and the beds that they slept in also of their choice. The participants worked out in one of the

fitness centers on campus to help with our tracking. The data collected through pre-test surveys, mid-test, and post-test surveys and we also conducted evaluations on all 3 phases of the test to try to keep valid and accurate logs of the involved progress. We wanted to be sure to administer the survey in all three phases because we had to take note of things in each phase.

Pre-test you want to know if your participant knows what they are getting into or what they are being studied about/for, during test you want to know if the person is feeling any way different positively or negatively so you can note that. Lastly you want to do a post survey because you want their opinion being the subjects do they feel that something was ineffective or do they have any advice from their personal experience or knowledge to put added into your work. The same pretty much goes for the evaluations at each stage we are just tracking the progress of our participants over the 3 month span and seeing the improvement and growth.

Instruments

The first instrument used for this research was a pre-survey. This was helpful to the study because it showed where the participants stood before the program along the lines of exercise and sleep. An example of the survey can be found in appendix A. It included questions such as how much sleep on average do they get, how they feel about their exercise habits and how their mood generally felt. The second instruments used was a quiz. This helped show where the participants stood on their knowledge on

sleep, mood and exercise and help shift the educational session to help benefit the participants. See appendix B for quiz given out.

From there an educational session was conducted. This was a good way to interact with the participants face to face as a group. This was also important to this research because it was important to educate them on why they were participating in this study and how it would benefit their health. Areas stressed were sleep, exercise and cognitive functioning and how they are go with one another. Without showing the participants the benefits, they may not have gone into it with motivation to keep up with the program which would have affected the results of the program. The session touched on topics such as why sleep and exercise are important and how they go hand in hand with one another. In the session as well, the research done beforehand was stressed a lot because it allowed the participants to see first hand real statistics on sleep and exercise. To end the education session, we talked more on how participants can get more sleep and establishing sleep and gym schedules.

From the educational session, the program began. The study tracked a few different areas including sleep gotten, how the participant felt before and after exercise, how they felt after the workout and what type of exercise was performed. All of these areas were tracked on a log given out after the educational study. See appendix C for log sheet participants used. These logs helped this research better understand the correlation between sleep, cognitive functioning and exercise. Another big part of the study were weekly meetups with the participants. It was important to keep touch with participants so they would not forget about the program and would help keep them more

accountable. At the start of each week a set day and time when all participants could meet up and go over the program together. It was a good way for them to talk about any troubles they may be having, how they were feeling overall or any other topics needed to be addressed. Some questions asked every week to see if the participants were experiencing a change were:

- Overall how are you feeling?
- Are you feeling any changes or improvements?
- What is something that challenged you this week and how did you overcome it?
- What are your goals for next week?

From how the participants answered, the researcher was able to see how to help the participants needed help to reach their goals for the next week.

Results

From the research conducted, there was an increase in all areas including sleep, exercise and mood. In the first table below, it represents how much sleep the participants got before and after the study concluded.

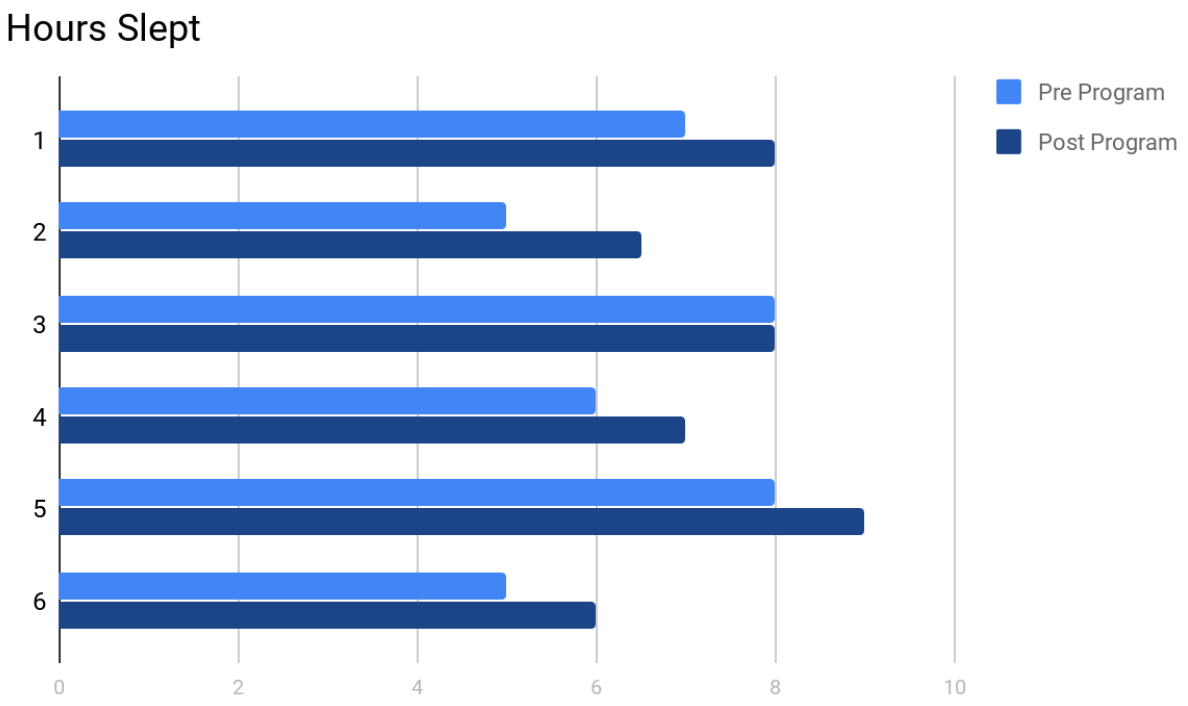


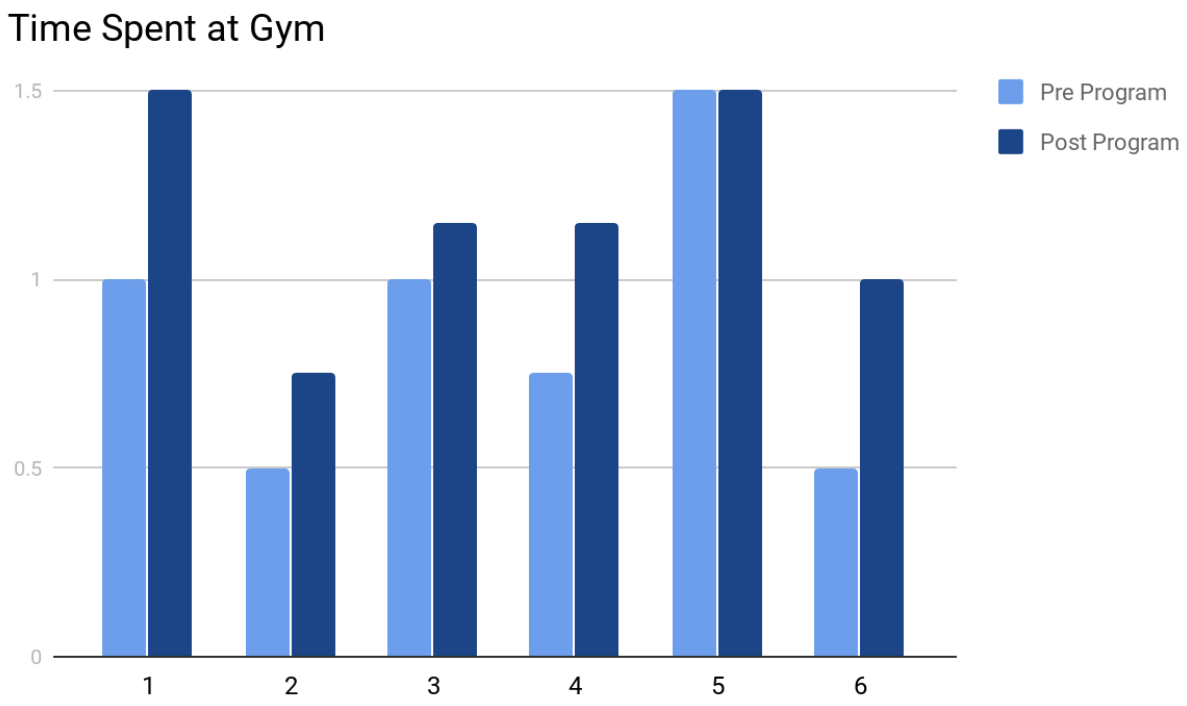
Chart 1.1

From this chart you can see that there was an increase in sleep in the participants. Even though one hour of sleep does not seem like a lot on paper, one hour of sleep added on every night is a dramatic increase on the body. Not only was there an increase of sleep, there was an increase on the participants mood. In the pre-test survey it was established that participants found it hard to get to the gym or needed a pre-boost to get the energy to workout. It was also found in those results that the time spent at the gym was not for very long. In chart 1.2, it shows the time spent in the gym before and after the program. Not only was time at the gym increased, but how the participants felt about the workout increased as well. Before the program, they felt as if they went to the gym but did not get much out of the workout and did not feel as if they were satisfied with the workout. But after the program, having more of a natural boost in

energy allowed the participants to walk away with a better feeling in what they had accomplished. See table 1.1 for the increase in participants work rate at the gym.

Chart 1.2

Participant	Pre	Post
1	Intense	Intense
2	Low	Moderate
3	Moderate – High	High
4	Moderate	High
5	Intense	Intense



6	Low - Moderate	Moderate

Table 1.1

Conclusion/ Results

In conclusion, sleep goes hand in hand with a lot of different areas in ones life. Sleep helps you in the gym. When the participants got more sleep, they tend to feel to have a better work that was more intense. When you get more sleep and have a better workout, the participants were allowing for a more healthier self including lowering BMI and other health risks. Another area sleep helps with is their cognitive functioning. Participants felt overall in a better mood, which helps lower their risk for depression and other risks like that.

A few aspects of the program allowed for it to be successful. First was the educational session. There the participants learned why this program was important and showed them how it could benefit their lives. Another part of the program that made it successful was the weekly meetings with the participants. This held them more accountable to the program compared to never seeing them again for three months and hope that they are doing it.

If this program was to be done again, there would be a few things to change. One thing to would be number of participants. Only having six participants is not the best representation of a population. A longer program would also allow for better results and being able to have more time to add in more factors for the program.

Appendix A

Pre/ Post Survey; Sleep and Exercise

Name: _____

Age: _____

Grade/Major: _____

Gender: _____

1. How many hours would you say you get on a daily basis?

_____

2. I feel energized for my workouts on the regular basis

☐ **Agree** ☐ **Sometimes** ☐ **Never**

3. I need to drink an energy drink in order to workout

☐ **Agree** ☐ **Sometimes** ☐ **Never**

4. I understand the benefits of sleep

☐ **Agree** ☐ **Sometimes** ☐ **Never**

5. Do you feel like you have a good grasp on your sleeping habits?

☐ **Yes** ☐ **No**

6. Do you feel overwhelmed by daily life that sleep takes a back seat in order to get everything done?

☐ **Yes** ☐ **No**

7. Do you feel if you had more sleep you can improve your performance in the gym?

☐ **Yes** ☐ **No**

8. On average how many hours a week would you say you go to the gym?

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9. How would you rate your workouts?

☐ **Intense** ☐ **Moderate** ☐ **Light**

Appendix B

Pre and Post Quiz

1. On average, how much sleep is needed for your body?
a. 4 Hours b. 8 hours c. 6 hours

2. What happens to the body if you get 4 or less hours of sleep?
a. Stroke b. Diabetic Characteristics c. Higher Energy Levels

3. True or False: Sleep and exercise go hand in hand with one another
a. True b. False

4. True or False: Working out later in the day is going to help have more sleep
a. True b. False

5. True or False: Exercise can be a natural fix to sleep issues like sleep apnea
a. True b. False

6. True or False: The harder you work out, the more sleep you'll get
a. True b. False

7. True or False: Energy drinks have no benefit on your workout
a. True b. False

8. True or False: Tracking habits can help you fix the bad ones
a. True b. False

9. True or False: Fatigue is always the cause of lack of sleep
a. True b. False

10. Night-time rituals will help increase melatonin levels that will actually help you the next day in work out
a. True b. False

Appendix C

Daily Logs

Date	***How many hours of sleep?***	***How felt before and after exercise***	***Type of exercise focused on***	***Mood After exercise was done***
