

Sleeping and Brain Activity

1. Motivation behind Research Paper

What study are you interested in? I am interested in health and nutrition so I think that I want to work to be concerned with these fields in the future. Therefore, I reached the word of “sleeping” to connect the future. Sleeping is related to health and life so if you cannot sleep well, I believe quality of life gets worse. I want to improve the quality of life. The goal of this essay is to analyse the impacts of people and in terms of sleeping.

2. Introduction

This essay will focus on the relationship between sleeping and the lives of people through a social experiment done at Doshisha Women’s University. I think that sleeping is closely related with life activity. According to Zepp Health Corporation, Japan has the second shortest sleep time in the world. From this information, I thought that it is important to tell how to improve the quality of sleeping. There are three conditions to get high-quality sleep. Those are “enough sleep time”, “regularity”, “stable sleep”. We started explorations about sleep on the effects of brain activity based on “enough sleep time” in three conditions. The data collected for my research will be taken from the website called Zepp Health Corporation.

3. Results and Analysis

We experimented about sleep on the effects of brain activity. This experiment's theme is "Depending on the length of sleep, is there a difference in brain activity?" We used easy check tests in English, Math and Japanese. English are sort of questions about the spelling of the word to the level of grade 4 to 3 of the EIKEN. Maths are numerical calculations to the level of elementary school. Japanese are questions of reading and writing Chinese characters to the level of elementary school.



Figure 1. Result of the experiment Friday.

Four people joined the experiment. There are individual differences, and yet the percentage of correct answers of 2nd week is higher than 1 week ones. The result was the same on Wednesday and Thursday. At this point, the hypothesis seems correct. However, looking at the amount of sleep shown in the figure 2, we decided that the hypothesis could not be proved.

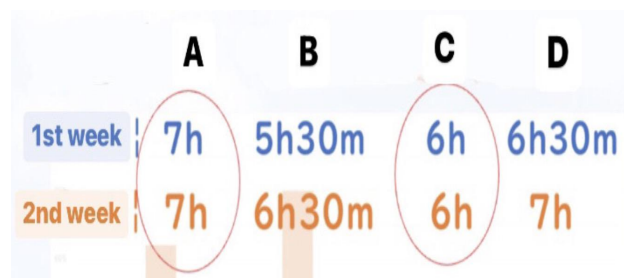


Figure 2. This figure indicates the amount of sleep time each participant has on Friday.

The bedtime was 11:30 for A, 1:30 for B, 24:00 for C, 1:30 for D, and the 2nd week, 21:00 for A, 23:30 for B, 24:00 for D. Except for Mr. C, they go to bed about an hour earlier than expected in the 2nd week. With this in mind, we think that this hypothesis is a contradiction so we had a new hypothesis that "If you fall asleep before the date changes, your brain will be more efficient the next day."

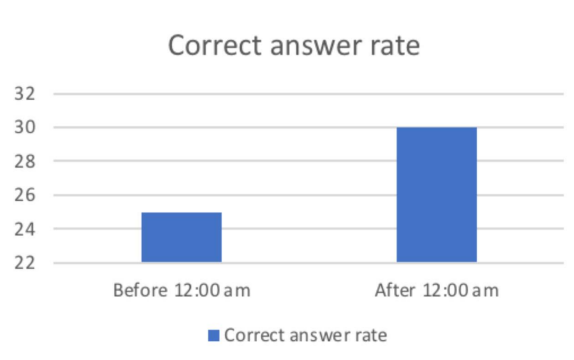


Figure 3. Correct answer rate

Figure 3. Each person participated in the experiment only once, only English was the subject of the check test. Twenty-eight people participated in the experiment. The result was different from the hypothesis, and it turned out that people who fell asleep after midnight had a higher percentage of correct answers from figure 3. We thought it was because people who fell asleep after midnight happened to have good thinking skills or a good rhythm of life. It turns out that the amount of sleep and early sleep are not closely related to brain efficiency. Furthermore, we wondered if "regularity" was more closely related to brain efficiency.

4. Conclusion and Future Problems

We have been exploring “the relationship between sleeping and the lives of people”. We experimented two times to solve two hypotheses after we learned the sleep knowledge and importance of sleep. As a result, we know that they are not closely related to brain activity. We also got a new hypothesis that is related to regularity and brain activity.

5. Reflection

How has this research changed your life, or your way of life: This exploration gave rise to a new hypothesis. However, we could not prove the new hypothesis to the last. There were two things that I struggled with in the course of my experiment. First thing is gathering people to get accurate data. Another thing is about how to communicate what I want to convey well. From this information, I understood that people can't gather just by telling them, and I felt the importance of my ability to act.

6. Work Cited

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