

A decorative border of pink daisy flowers with yellow centers, arranged in a rectangular frame around the central text.

# How sleep improves academic performance

By Agbenu Michael

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## **Abstract**

**This project is about determining and experimenting if sleep improves academic performance. I am going to be testing with a human participant by giving them different bedtimes but the same wake times and then giving them a test and recording each day their scores and then checking if their scores improve each day for the three days of experiment.**



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## **Question**

**Does sleep improve academic performance?**

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# Hypothesis

**If you get more sleep then you get better grades and that is why my hypothesis is that sleep does improve academic performance.**



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## Procedure

- Give the human participant the bedtime: 9:00pm
- Wake up. Day 1: Wake up at 6:00am, take the test at 4:00pm, record the scores.
- Give the human participant the bedtime: 8:00pm
- Wake up. Day 2: Wake up at 6:00am, take the test at 4:00pm, record the scores.
- Give the human participant the bedtime: 7:00pm
- Wake up. Day 3: Wake up at 6:00am, take the test at 4:00pm, record the scoresm

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# Background Research

Sleep plays a vital role in academic performance by enhancing cognitive functions like memory, attention, and problem-solving. During sleep, especially REM (rapid eye movement) and deep non-REM (opposite of rapid eye movement) stages, the brain consolidates information, improving memory conservation. Studies show that consistent sleep patterns can have a stronger impact on academic success than sleep duration alone. Sleep deprivation, on the other hand, can damage cognitive abilities, leading to decreased concentration and lower academic performance.

To improve academic performance, students should:

1. Maintain a consistent sleep schedule.
2. Create a sleep-friendly environment.
3. Avoid stimulants before bedtime.
4. Manage stress to promote restful sleep.

By prioritizing sleep, students can optimize their learning potential and improve their academic outcomes.



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# Results

**Day 1: 9:00pm-6:00am = 90%**

**Day 2: 8:00pm-6:00am = 100%**

**Day 3: 7:00pm-6:00am = 100%**

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## Conclusion

**The purpose of this experiment was to determine if sleep improves academic performance. The hypothesis stated that sleep does improve academic performance. The results of the experiment showed that sleep does improve academic performance and a good sleep schedule helps with that concept. Based on these results, it can be concluded that having a good sleep schedule and sleeping on time so you can get more than 7 hours of sleep improves academic success and improvanace. This supports the hypothesis because the hypothesis states that it does and the results add on to that concept. Furthermore, this experiment highlights the importance of sleep and how much it helps in school. Future experiments could explore different times than i did or extend the days of experimentation.**



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# Acknowledgements

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