Effect of Time Management on Academic Performance and Sleep Schedule

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Abstract:

City College students face various challenges that influence their academic performance. This study explores the connection between effective time management, academic performance, and sleep schedules among these students. An anonymous survey was conducted, gathering data on sleep duration, daily study hours, and other factors impacting academic performance. Results showed that students had an average sleep duration of five to six hours, two to three hours of daily study time, and half of the participants reported having a 3.5+ GPA. Our findings support the hypothesis that effective time management is linked to improved academic performance and appropriate sleep schedules. Future research should consider a larger sample size and broader demographic representation to better generalize the results to the City College student population.

Introduction:

Time management is a crucial skill that every individual needs to develop in order to balance their daily tasks, responsibilities, and personal well-being. The ability to allocate and prioritize time efficiently has been recognized as a significant factor in determining success in various aspects of life, including academic performance and sleep quality. The research question posed in this study is: How can managing your time effectively affect your academic performance and sleep schedule? This inquiry aims to identify the specific aspects of time management that contribute to both academic success and an optimal sleep schedule. Our objectives include investigating the role of time management techniques, such as study habits,

phone and social media usage, as well as scheduling/commute time in relation to academic performance and sleep quality. In summary, we hypothesize that students who effectively manage their time will exhibit improved academic performance and a more regulated sleep schedule compared to their counterparts who struggle with time management.

Methods:

To replicate this study, one must create a survey using an online platform. For our purposes, Google Workspace Survey Software was chosen for this experiment because of its anonymous reporting. The software was chosen for the data analysis feature, which helps with presenting the results and organizing the participants responses.The goal of the survey was to obtain data that supports the hypothesis. The survey consisted of 16 simple questions, designed to acquire information on participant characteristics such as, chosen majors, grade level, GPA (grade point average), gender, sleep duration, study habits, and general demographic information. This survey was shared with sixteen males and thirty-two females attending The City College of New York. The target group consisted of currently enrolled students at City College. The survey was completed electronically by students in the common area as well as all of the students in our "Writing for the Sciences" course. The data collected was then analyzed in the form of pie charts and percentages for comprehension. The data consists of forty-eight completed surveys. The independent variable was time management and the dependent variables were students academic performance and amount of sleep.

Results:

After conducting the study, as reflected in Fig. 1, 85.4% percent of students have a 3.0-4.0 GPA and 14.6 % of students have a 2.5-3.0 GPA. Out of all the students, 2.1% were taking less than 12 credit classes, 64.4% were taking 12-15 credit classes and 33.3% were taking 15+

credit classes. Based on the depiction of Fig. 2, 16.7% of students spend less than one hour studying each day, 47.9% of students spend two to three hours studying, and 35.4% of students spend more than three hours studying. Additionally, 58.3% of students answered "No" to whether or not they prioritize their sleep schedule, and 41.7% answered "Yes." Fig. 3 shows that the average amount of sleep recorded was five to seven hours (72.9%), 14.6% slept less than five hours and 12.5% answered to getting more than seven hours of sleep each night. Lastly, 45.9% of the students that answered the survey were Biomedical Science majors and the other 54.1% were a mix of Computer Sciences (2.1%), Electrical Engineering (2.1%), Sociology (2.1%), Economics (4.2%), Mechanical Engineering (2.1%), Undeclared Engineering (2.1%) and Childhood Education (2.1%) majors.

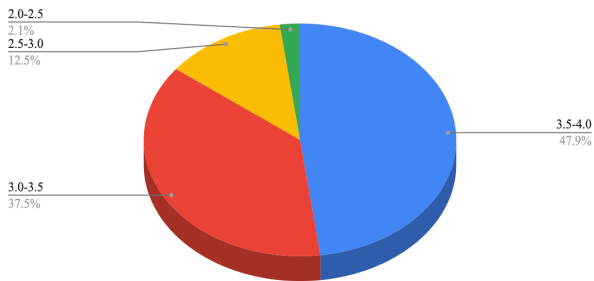Select the GPA range that best applies to you this semester?

Figure 1: The pie chart shows the self-reported cumulative GPA range.

How much time on average do you need to dedicate each day on homework/Studying?
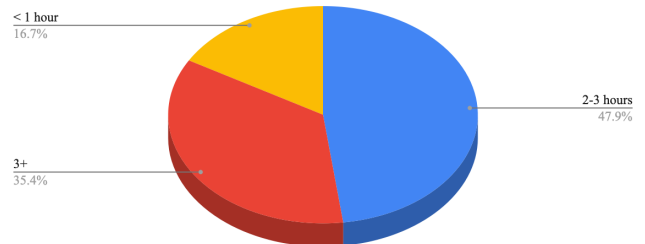

Figure 2: The pie chart shows the average amount of time, in hours, that students spend each day studying and or completing homework.

On average how many hours of sleep do you get each night?

Less than 5 hours
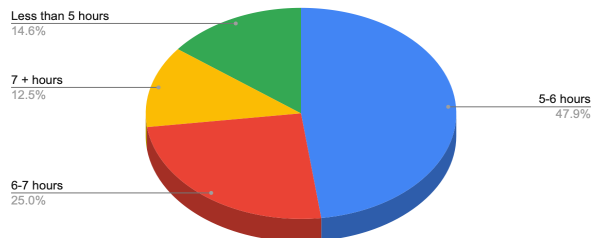14.6%

7 + hours
12.5%

6-7 hours
25.0%

5-6 hours
47.9%

Figure 3: The pie chart shows the reported amounts of sleep,
in hours, participants receive on average each night.

Discussion:

The findings support our original hypothesis; our data shows that effective time management allows students to perform academically well while getting adequate amounts of sleep. Most CCNY students do not adhere to a set schedule, which can inhibit their ability to perform academically well. On average students receive about five to six hours of sleep each night. Our data suggests that the amount of sleep one receives is slightly correlated to academic performance but can be considered negligible. Despite receiving an average of five to six hours of sleep, students continued to excel in school. Published in the Journal of Science Direct, scientists had similar findings to our own. Scientists discovered that sleep duration is not significantly correlated with overall academic performance (Musshafen et. al, 2021). The correlation between the self-reported average sleep duration and academic achievement was found to be negligible and non-significant. Scientists concluded that a student's quality of sleep impacts their overall academic performance.

One limitation was the use of a small sample size since we had a total of forty-eight participants. Another limitation was that the majority of participants were biomedical students and/or students enrolled in The Sophie Davis Program, potentially skewing our results. Students in this program have a rigorous academic schedule requiring them to dedicate more time to their studies. These students also tend to have a higher cumulative GPA, which could have also affected our results. If this experiment were to be performed again, it would be ideal to use a larger sample size and utilize a longer time frame. Making these changes would allow us to determine if there is a direct correlation between effective time management on academic performance and sleep schedules. It is also important to take into consideration report bias because students could have underestimated or overestimated their answers when completing the survey. After considering all possible limitations, we would then be able to generalize our findings to the students of City College of New York. In future experiments, scientists can study the quality of sleep one receives rather than the duration of sleep and its effect on academic performance. Receiving good quality sleep each night may influence an individual's ability to retain information for longer periods of time.

Appendix

https://docs.google.com/forms/d/e/1FAIpQLSej-5yDU4D2UazLH-OvTeLPcDwev1bTqIpRs7Dj6J61m_3y1Q/viewform?usp=sf_link