



Analyzing Impact of Student Schedules on Academic Performance in Thousand Oaks High School



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Abstract

Thousand Oaks High School students were surveyed to determine the best way to implement a program at Thousand Oaks High School that promotes a healthy balance between sleeping schedules and their academic studies. A study of existing literature reveals that the early start times of most US high schools leads to a detriment of the learning capability for students in their first few classes in the morning. Additionally, current research indicates that there have been increasing amounts of cases that students not just in High Schools but Colleges and Universities are suffering from greater amounts of sleep deprivation. A gap is then defined to detail my own research into the balance of sleep sacrifice as compared to the academic performance of Thousand Oaks High School students, and of all grade levels. One hundred and twenty two students were surveyed to gauge the schedules of students throughout the week and asking for their GPA, as well as how they perceive their work. The survey results show that students received an average of 9 hours of sleep on weekends as compared to 6 hours on weekdays. Electronics use had proved to have little actual impact on academic performance, while impacting sleep schedules greatly, as reported by students. Balanced academic workload was found to be related to higher academic performance.

Introduction

For high school students in the United States, as academic workloads and expected performance increase and an increased amount of extracurriculars deemed necessary on average to attain college or university acceptance are placed upon students, there have been an increasing rise in the sleep deprivation among young adults. Adolescents are in the greatest need of longer lengths of sleep time than any other time in their life, in order to attain the ideal developmental conditions. The combination of increased sleep deprivation which affects the development of young adults, along with a higher amount of stress placed upon the push for academic success. This combination results in a detriment on the overall academic ability for students and their retention of lessons taught during the school day.

I first began interest in the impact of student's nutritional intake upon their academic performance, particularly within colleges, which have a notoriety for their attendees to possess not insignificant amount of nutritional deficiencies. Before settling on this, I had to switch due to the previous topic being simultaneously too broad as well as very difficult to create a set of accurate methods in order to obtain feasible data. In addition, I had felt that I would not be able to provide any meaningful additions to current conversations on said problem of nutrition. In search for a new topic that I would be able to adequately contribute to the conversations within that certain subject, I began to parse through news writing and journalistic resources, as well as several prominent academic paper databases available to me as a student. On one of these resource websites I came across an article that explained how food access can have a huge impact on the grades and mental health of college students. I then shifted my personal topic to how sleep habits affect students' academic performance. I am personally interested in this topic because I have first hand experience of sleep deprivation caused by attention to school work, and I wish to find out for myself whether it is more important to maintain a more highly regimented sleep schedule or sacrifice for completion/higher quality of school work. Previous research has been conducted on very similar topics to mine, but it centered around whether early start times for schools, mainly high schools, were detrimental towards the physical development and mental health of students. I aimed for my research to specifically handle the academic performance aspect rather than mental health, overall attendance, and physical development. Rather than most research being focused almost mostly on students within universities, or younger children in middle school or elementary grade levels, I solely used High School students as my sample population.

Results

Of the one hundred and twenty two students were surveyed, 51.3% were in the 12th grade, 23% were in the 11th grade, a 18.9% were in 10th grade, and 6.6% were in 9th grade.

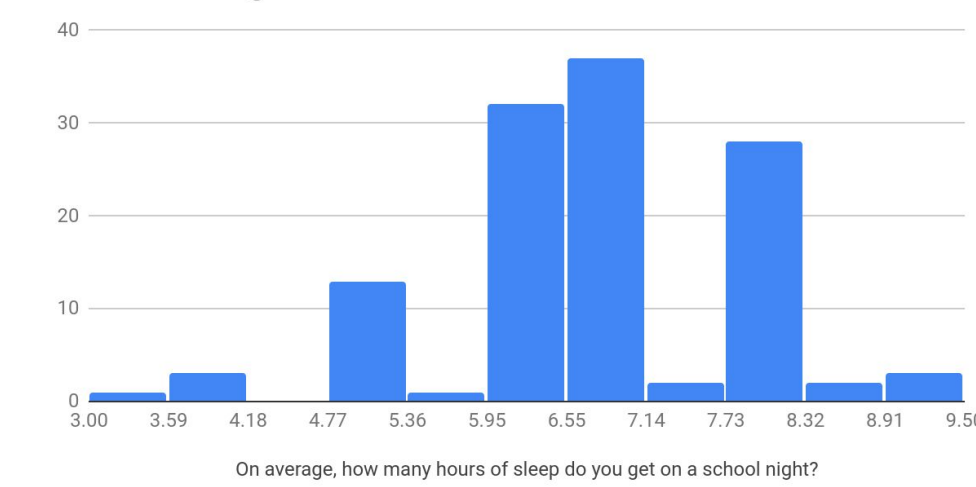
For the histogram of "On average, how many hours of sleep do you get on a school night?" the answers range from 3 hours to 9 hours but most values are around 6.75 hours, plus or minus 1.25 hours.

For the histogram of "On average, how many hours of sleep do you get on a weekend? (Or any night without school the next day)" Answers ranges from 4 hours to 12 hours but most values are around 9.139 hours, plus or minus 0.861 hours.

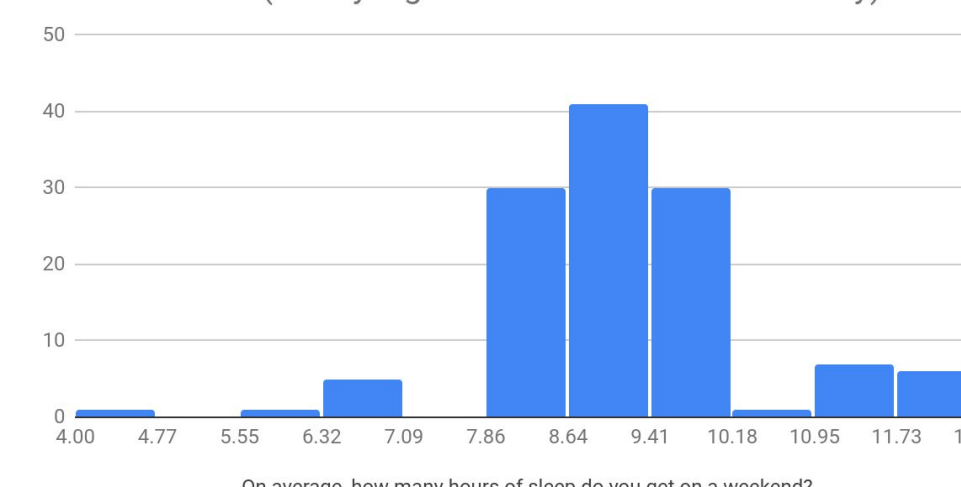
For the bar graph of "Hours of Extracurricular Activities compared to Grades", students within the grade range of "A+, A or A-" completed 603.5 hours of extracurricular activities. Students within the grade range of "B+, B or B-" completed 79 hours of extracurricular activities. Students within the grade range of "C+, C or C-" completed 9 hours of extracurricular activities.

For the "Count of What time do you typically go to sleep?" answers typically ranged from 9:30:00 PM to 3:00:00 AM. Most common value is 11:00:00 PM. The average time varied from 10:30:00 PM to 11:30:00 PM. with a variance of about plus or minus 25 minutes.

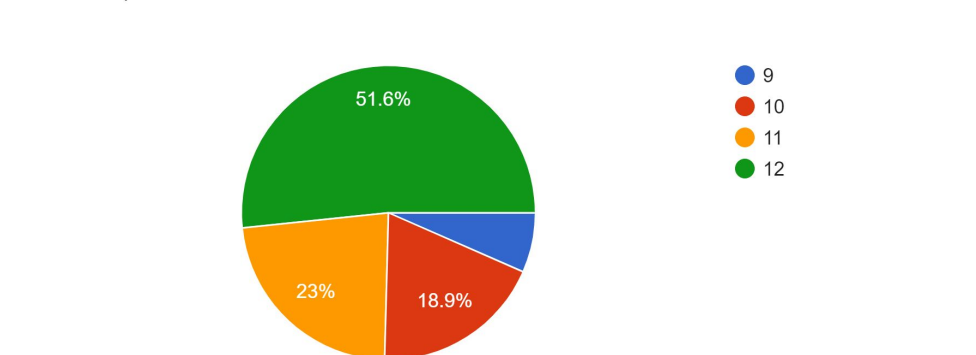
Histogram of On average, how many hours of sleep do you get on a school night?



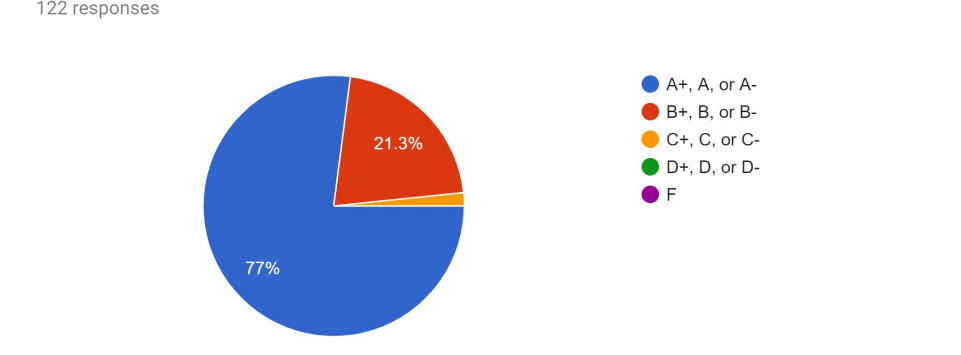
Histogram of On average, how many hours of sleep do you get on a weekend? (Or any night without school the next day)



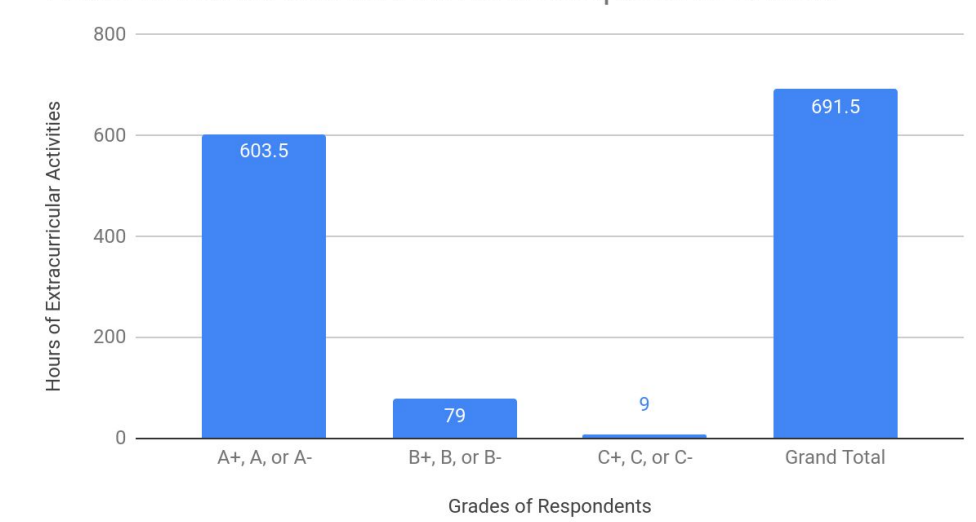
What grade are you in?
122 responses



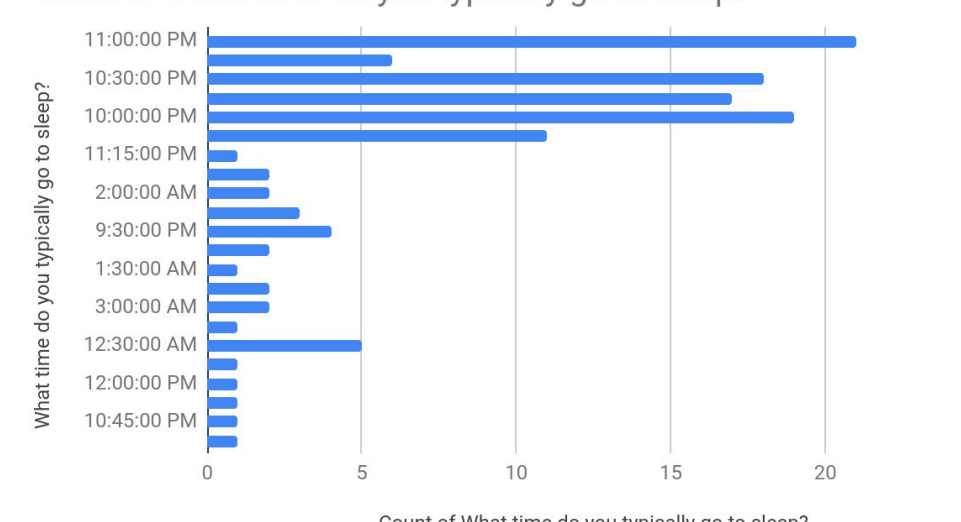
What are your average class grades?
122 responses



Hours of Extracurricular Activities compared to Grades



Count of What time do you typically go to sleep?



Methods and Materials

Voluntary survey taken by students at Thousand Oaks High School. Used data retrieved from high school students' self reported sleep times, wake times, and sleep durations, in addition to having them report their own GPA's, and how often they participated with extracurricular activities.

As for the survey instrument the questions asked and their reasons for inclusion are as follows. "What grade are you in?" was asked to obtain basic demographic distribution. The questions "On average, how many hours of sleep do you get on a school night?" and "On average, how many hours of sleep do you get on a weekend? (Or any night without school the next day)" were asked to gather a necessary data required to construct a major part of any given person's daily schedule. The question "What time do you typically go to sleep?" (With an example answer being 11:00 PM) was asked so that when combined in tandem with the response to the previous two questions a typical sleep time, wake time, and sleep duration can be constructed. The question "Rate the quality of your sleep." with responses coming in a range of 1 to 5 with one being "I cannot sleep at all" and five being "I sleep without interruption" was asked so a qualification can be made about the quality of sleep a respondent gets. The next question is another qualification for quality of sleep. "Please list which, if any, of the following affect your sleep the most." Responses include: "Sports", "Work", "Extracurriculars", "Academic studies", "Procrastination/Distractions", "My sleep is unaffected by all of the others listed", or "Other".

Discussion

Overall, what I found was that students who participated in more extracurricular activities on a weekly basis, such as volunteering, organizing clubs, internships and other non-academic related activities, received much higher grades overall than students who did not participate. The students who receive "A Range" grades who were surveyed, overall completed six hundred three and one half hours worth of extracurriculars in a given week, which when compared to the seventy nine hours of the "B Range" students, and the nine hours of the "C Range" clearly show a relationship between how much a student commits to activities outside of one's own school mandated curriculums. Electronics use had proved to have little actual impact on academic performance, while impacting sleep schedules greatly, as reported by students. Balanced academic workload leads to higher academic performance, as students who reported the highest grades were not in the very highest percentile of class difficulty (AP and Honors level classes). In addition, it was found that on weekends students received on average, 3 hours less of sleep than compared to the weekend, which over 80% of respondents claimed affected their academic performance.

Conclusions

Some of the many limitations for the study revolve mainly around the Survey Tool that I had used to collect data. Grade level distribution, schools sampled, and the relatively small percentage of the school sample all contributed to very few of the actual questions asked being statistically significant. In the future to overcome these hurdles, consolidation of survey questions, conduction of supplementary interviews, and widening of the sampled population in order to get a much better overall picture of what the exact cause of academic shortcomings are would be attempted in a recreation of this study.

Contact

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References

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