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# How is Your Productivity Affected Based on Your App Usage?

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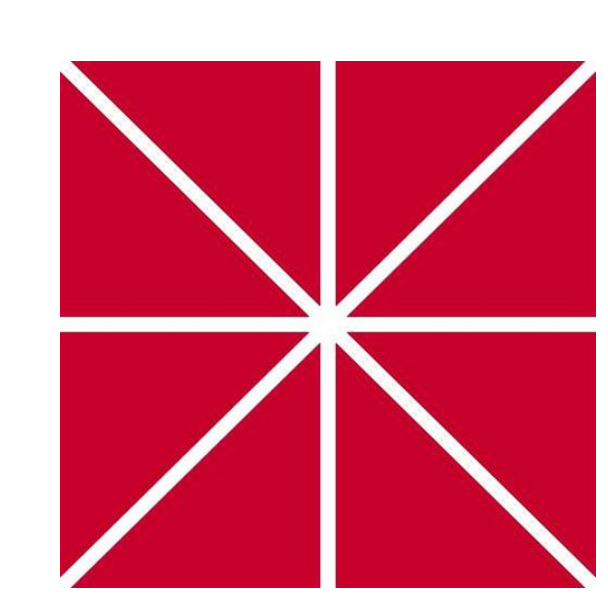
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# How is your productivity affected based on your app usage?

Noghreian, Colette Advisor: Dr. Oliver Lopez

## Introduction

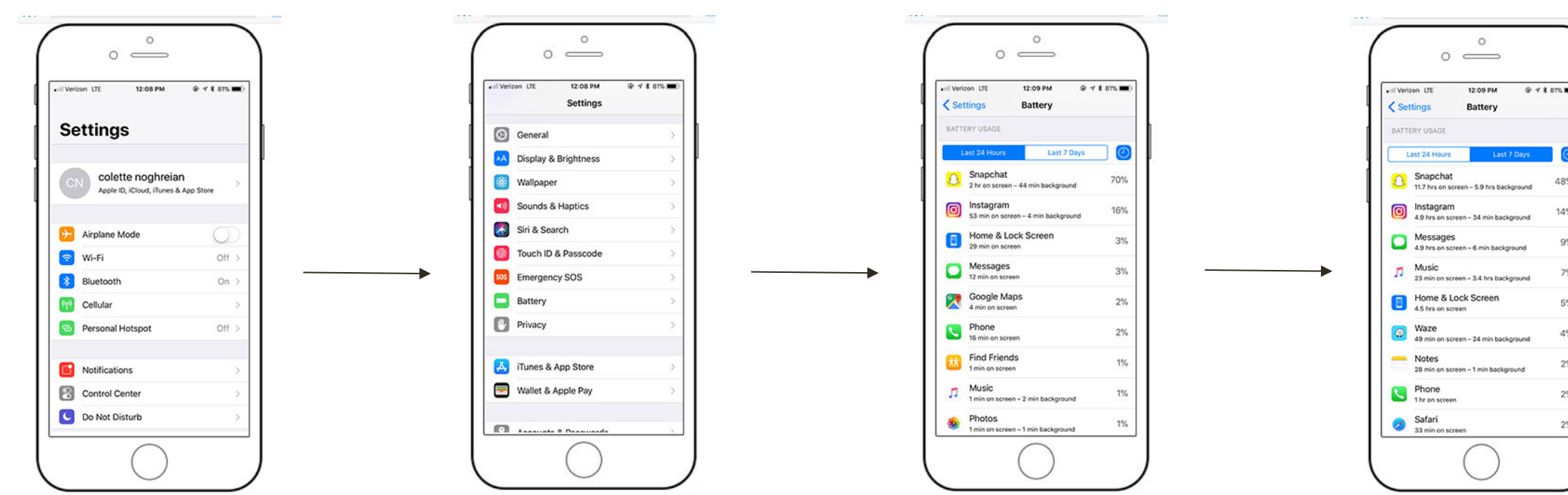
As technology becomes more prominent in society, it is crucial to investigate its effect on day to day life. The purpose of this study is to determine how the amount of time spent on iPhone applications affects how productive students feel in the span of one week. Results are tested through a survey which first determines general information about the student, and then guides students to navigate their phone settings and record the battery usage of the top three applications which use up the most battery. It is hypothesized that productivity decreases as battery usage increases due to the substantial amount of time spent on applications such as social media or other media platforms.

## Methods

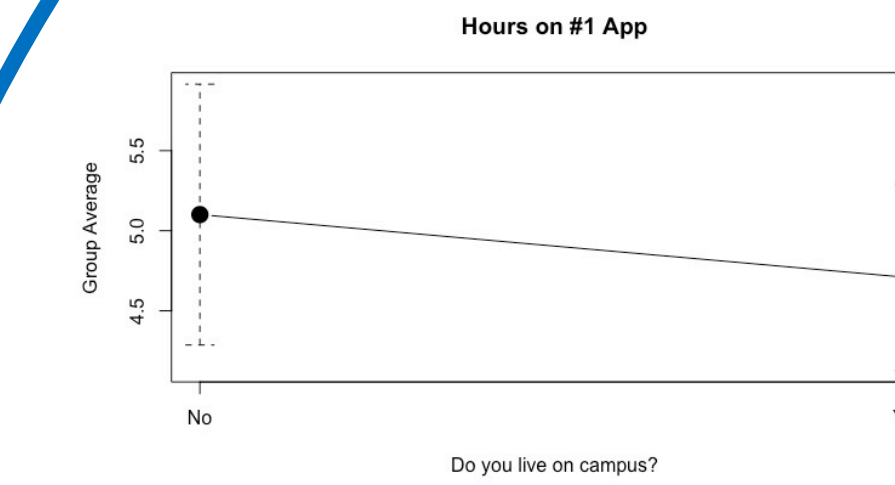
In order to conduct this experiment, a survey was sent out through Facebook, GroupMe, text message and word of mouth to students of Chapman University. Only students with an iPhone could participate. The survey consisted of 19 questions which first identified general information such as what year they were, and then were more specific questions which are explained in instructions.

## Instructions

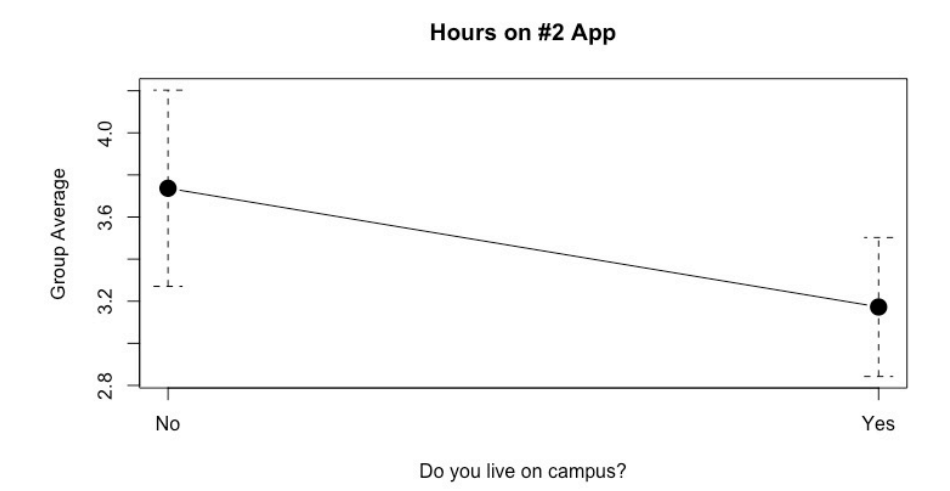
Each person was instructed to indicate how productive they felt that week on a scale of one to ten. Next, the student was instructed to open their settings application on their phone. Lastly, they opened "Battery" where a drop down list of applications popped up from most used applications to least used applications based on how much battery each application used. The top three applications were recorded by each student as well as the time spent on each application highlighted by using the clock icon on the top right of the screen as seen below.



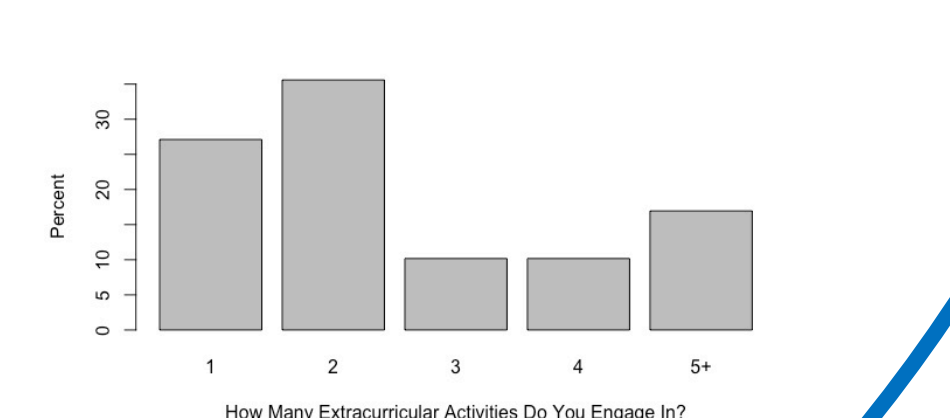
## Figures



These graphs clearly demonstrate how people who live on campus spend less time on their number one and two application than those not living on campus. Those not living on campus are inferred to be mostly upperclassman such as sophomores, juniors, and seniors.

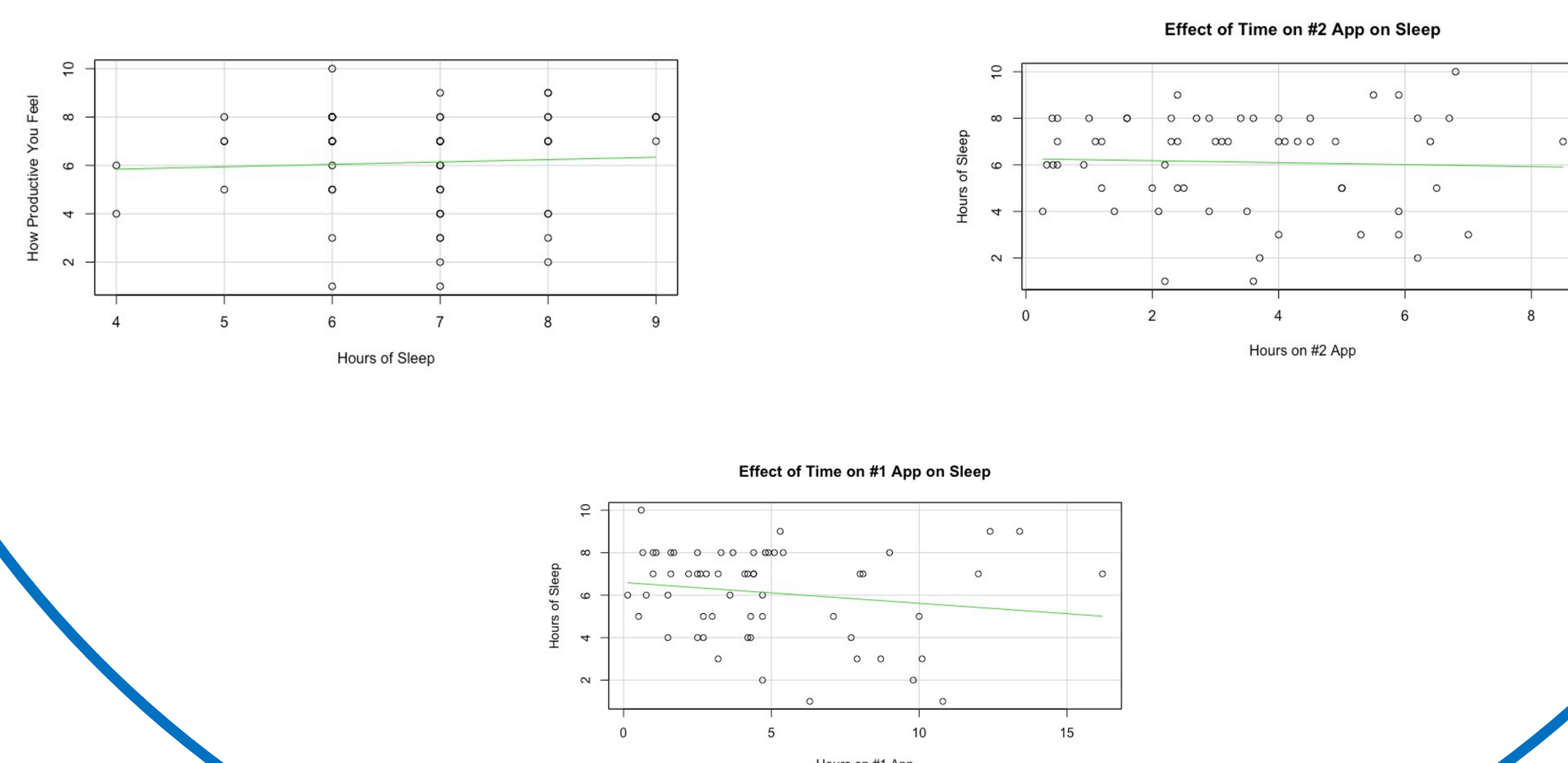


The bar graph on the left proves that the sample population mostly checked their phone every 10 minutes at the least. This is significant because it highlights how often people are on their phone rather than engaging in other activities or work. The graph on the right shows how most students participate in two extra curricular activities.



## Figures

All three scatter plots emphasize that there is no correlation between the amount of sleep and the amount of time spent on the number one and two most used applications. There is also no correlation between hours of sleep and how productive students felt during the week.



## Tables

Variable	Count (%)
Do you live in the dorms?	
Yes	39 (66.1)
No	20 (33.9)
What year are you?	
Freshman	31(52.54)
Sophomore	19(32.20)
Junior	1(1.69)
Senior	8(13.56)
Most Used Apps in Past 24 Hours	
Snapchat	22(37.29)
Instagram	11(18.64)
YouTube	4(6.78)
Second Most Used App in 24 Hours	
Instagram	15(25.42)
Snapchat	14(23.73)
Messages	8(13.56)
Third Most Used App in 24 Hours	
Instagram	11(18.64)
Messages	10(16.95)
Snapchat	7(11.86)
Most Used Apps in Past 7 days	
Snapchat	25(46.30)
Instagram	11(20.37)
Messages	3(5.56)
Second Most Used Apps in Past 7 days	
Instagram	16(29.63)
Snapchat	13(24.07)
Messages	7(12.96)
Third Most Used App in Past 7 days	
Messages	9(16.67)
Instagram	7(12.96)
Snapchat	5(9.26)

Variable	Mean (SD), (Min, Max)
Hours on Screen #1 App	(4.84) (3.59) (0.14,16.20)
Hours on Screen #2 App	(3.36) (2.07) (0.27,8.5)
Level of Productivity	(6.12) (2.13) (1,10)
Sleep Hours	(6.78) (1.15) (6,9)

A total of 59 students made up the sample size population with most of the population represented by Freshman students (52.54%). For both periods of time (24 hours and 7 days) the most prominent apps consistently were Instagram, Snapchat, and Messages (not in that order). It is interesting to note that Facebook was not included in this list which shows a decline in use with most recent generations. Students on average spent about 5 hours on their number one app and around 3 hours on their number 2 app. Students also on average felt a six out of ten or 60% level of productivity within a week.

## Conclusion

By finding the slope of the graph through linear regression of the correlation between productivity and the amount hours spent on the number one application, we arrive at the conclusion that for every one hour more on the number one application, a person loses 0.1 level of productivity. This means that if a student spends 10 hours on their number one application, they feel as though their productivity level drops by one point on a scale of one to ten. This proves that the more time spent on your phone, specifically on the applications used the most (Instagram, Snapchat, and Messages), the less productive you will feel towards the end of your week. The results also proved that time spent on the top three applications that uses up the most battery during the day has almost no effect on sleep during the night. This is significant to highlight because technology before bed has been proven to affect the amount of sleep a person gets, however, based on the results has little to no affect when used throughout the day.

