

Screen Time vs Studying Efficiency

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PSYC 333 Section AB3

## **Introduction**

With our society being so reliant on technology, especially new generations, it follows that there are many people who will be engrossed with their screens. Our economy is constantly evolving and demanding more educated individuals for the same jobs, is multitasking possible with the distractions that are at our fingertips? This paper explores whether students who have a higher phone screen time have a longer period of studying. If someone has a higher phone screen time, it is expected that they will need to study longer because students would multitask and increase the amount of time they spend studying with distractions (Hanson et al., 2010). Furthermore, the more time spent on a phone in lecture, the less someone will pay attention (Elder, 2010). Students will think that they will not do as well on quizzes as students who are not on their phones (Elder, 2010). There is also an unintended matter of whether males or females spend more time on their phones, and how that affects their amount of studying. Females actually expect to spend less time relaxing or socializing, and have higher expectations for academics than males (Hanson et al., 2010). Through our study, we were able to find the effects of screen time on how efficient a student's studying is. This is how we reached our hypothesis: people who have a higher phone screen time, study for a longer period of time.

## **Method**

### **Sample**

Using Qualtrics, my group created an eight item questionnaire to administer to 46 students in PSYC 333 (see Appendix A). Our sample group was composed of junior and senior psychology majors at the University of Illinois, with a mixture of genders and races. We used a convenience sampling strategy due to the circumstances of the nature of the survey. We did not

need to further operationalize our independent, which was phone screen time per week.

However, we did add two variables, effectiveness and satisfaction of studying, to better gauge the construct behind our dependent variable, which was time spent studying per week. This operationalization takes into account that people with more hours of studying may not think they are going to do well in class, and vice versa.

## **Methods**

The measures of our survey included multiple choice, slider scale, and free response. The first question is multiple choice, asking “Gender” and the three options are Male, Female, and Other, in that order. As such, subjects who answered Male are assigned number 1, Female are assigned number 2, and Other are assigned number 3. To increase the ambiguity of the intent of our questions, we included three filler questions. The filler questions were “What type of phone do you have?”, “How frequently do you listen to music while you are studying?”, and “If you listen to music while studying, which device do you use to listen to music?”. This increased the validity of the real survey items, so that subjects’ answers would not be influenced by their answer to the previous question. The first major item was a free response question that asked our dependent variable, “How many hours total do you spend studying for exams AND doing homework outside of class per week? Please answer in # of hours (e.g., 12).” We decided to make this a free response item because we had no basis of categorizing the responses accurately.

The second and third major items both used a slider scale from 1-5, 1 being not at all and 5 being completely, asking “How effective are your studying habits?” and “How satisfied are you with your performance as a student?”. We decided to use the same number so there would be no biases, and to avoid a central tendency bias if we had used a larger scale. The last major item was

a free response question that asked “How many hours per week do you spend on your phone? (For iPhone users, go to settings and search for screen time. For android users please estimate.) “ Since iPhones display screen time in their settings, it would be easy for this pool of subjects to answer this item. For android users, it would definitely be less accurate, but we ultimately decided that free response would be the best way to measure this variable for the same reason as the first major item.

One issue we found when constructing the survey was if subjects would answer genuinely without being affected by the previous question. We remedied this by adding the filler questions so that what the survey is actually measuring is obscure. Another issue is if the subjects would answer honestly, especially for the free response items. However, we could not accurately categorize the hours studied or screen time, so we decided the best way to measure these variables would be to give specific directions to the subject and have them type their answer.

## Results

Utilizing SPSS, we used the Pearson correlation test on the survey items to test each correlation between every item. The independent and dependent variables, study time and screen time, were weakly correlated and not significant:  $r(6) = .10, p = .53$ . The correlation between satisfaction and screen time was low,  $r(6) = -.14, p = .52$ . The variables with the most correlation was effectiveness and satisfaction of studying,  $r(6) = .55, p < .01$ . This is unsurprising, so I will be focusing on the second highest correlation, which was between gender and screen time,  $r(6) = -.37, p < .05$ . However, our hypothesis is not supported because our independent and dependent did not have a significant correlation.

		<b>Correlations</b>				
		Gender	Hours_of_Study	Effectiveness	Satisfaction	Screentime
Gender	Pearson Correlation	1	.231	-.030	.099	-.371 <sup>*</sup>
	Sig. (2-tailed)		.127	.845	.517	.012
	N	45	45	45	45	45
Hours_of_Study	Pearson Correlation	.231	1	.158	.132	.095
	Sig. (2-tailed)	.127		.298	.388	.533
	N	45	45	45	45	45
Effectiveness	Pearson Correlation	-.030	.158	1	.547 <sup>**</sup>	-.127
	Sig. (2-tailed)	.845	.298		.000	.406
	N	45	45	45	45	45
Satisfaction	Pearson Correlation	.099	.132	.547 <sup>**</sup>	1	-.135
	Sig. (2-tailed)	.517	.388	.000		.378
	N	45	45	45	45	45
Screentime	Pearson Correlation	-.371 <sup>*</sup>	.095	-.127	-.135	1
	Sig. (2-tailed)	.012	.533	.406	.378	
	N	45	45	45	45	45

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## Discussion

Overall, our hypothesis was not highly supported. With an insignificant p-value and a low correlation between hours of studying and screen time, there were no conclusive results from our survey. Another way to test our hypothesis would be to have a larger sample size with categorical multiple choice options for the free response items. We could research the average screen time for college students and create the categorical options from that foundation. The main issue with our study would be the limitation of sample size, which restricts generalization. Students in PSYC 333 definitely do not reflect the effects of screen time on effectiveness and satisfaction of studying for all students.

The advantages and disadvantages of doing a survey study are usually the same no matter what type of survey is distributed. The advantages are easy distribution, no need for a lab setting,

and no cost. The disadvantages are response bias and how meticulously the experimenter must word questions. If a question is worded in a weird way, the subjects could be confused in how to respond or even angry if they interpret it as offensive.

An interesting finding from our survey was that there was a high negative correlation between gender and screen time. In our study, males are assigned number 1 and females are assigned number 2. This means that males spend more time on their phone than females. This might be worth exploring with another experiment, since I thought that females spend more time on their phones. The experiment can test what apps which genders are more partial to, such as texting apps versus social media apps.

Since this study did not yield palpable results, we cannot say that higher screen time results in more hours of studying. Outside the field of psychology, the results of this study could be useful in helping students study for exams or in helping teachers construct rules for their classrooms.

## References

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## Appendix A

## Screen time vs Effectiveness, Satisfaction, and Hours of Studying

Gender	Hours_ of_stud ying	Effectiv eness_1	Satisfac tion_1	screenti me
2	3.0	5.00	5.00	18.00
2	4.0	3.00	4.00	3.50
2	5.0	4.00	4.00	21.00
2	15.0	4.00	4.00	26.00
1	6.0	3.00	3.00	100.00
2	20.0	4.00	4.00	10.00
2	24.0	5.00	5.00	4.00
2	4.0	2.00	2.00	8.00
2	10.0	2.00	3.00	4.60
2	10.0	4.00	4.00	12.00
1	10.0	3.00	3.00	54.00
2	30.0	3.00	3.00	50.00
2	11.0	3.00	4.00	14.00
1	15.0	3.00	3.00	51.00
2	10.0	2.00	3.00	5.00
2	10.0	2.00	3.00	14.00
1	8.0	5.00	3.00	25.50



2	30.0	4.00	4.00	7.00
1	5.0	3.00	4.00	35.00
2	10.0	3.00	2.00	5.00
2	10.0	3.00	4.00	5.00
2	10.0	4.00	4.00	6.30
2	15.0	2.00	3.00	60.00
1	3.0	2.00	2.00	15.00
2	30.0	4.00	3.00	14.00
2	10.0	3.00	4.00	6.00
1	5.0	5.00	5.00	35.00
2	5.0	4.00	4.00	4.00
2	6.0	2.00	3.00	22.00
2	12.0	4.00	3.00	20.00
1	20.0	4.00	4.00	40.00
1	12.0	4.00	4.00	5.50
2	7.0	4.00	4.00	5.00
1	10.0	1.00	4.00	20.00
2	15.0	3.00	4.00	31.50
2	8.0	4.00	4.00	5.00
2	4.0	4.00	3.00	14.00
1	5.0	3.00	3.00	5.00
1	4.0	3.00	3.00	18.00

# SCREEN TIME VS STUDYING EFFICIENCY

10

1	10.0	4.00	4.00	15.00
1	5.5	4.00	3.00	8.00
1	10.0	4.00	4.00	18.00
2	5.0	3.00	3.00	8.00
2	15.0	4.00	4.00	3.50
1	10.0	4.00	3.00	15.00