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Receiving Notifications Influence on Studying

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Notifications & Studying

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Abstract

The purpose of this study is to discover the influence simply receiving notifications on one's phone with the sound alerts on, and not checking them, has on studying. A cellphone can act as a significant distraction when a student is attempting to study. A study has shown that taking one's phone away from them, however, causes anxiety and therefore can also impede a students' learning (Rosen, 2017). This, then made me curious how it can affect them if they make the choice not to use their phone but are still receiving notifications. Is the instant gratification our phones provide us too much to handle, even for studying? Another study found that 24% of people that partook in a self-report questionnaire, stated they feel as though they need to answer their phone, even if it is interrupting a meal or a meeting (Galvan et al. 2013). I wanted to take a closer look at how phone notifications effect a student when attempting to study for a quiz. The results of my study found that just hearing our phones go off while studying, does in fact still affect the success of studying. The best choice would be to alleviate the distraction of sounds from our phones while trying to study.

Introduction

There is no doubt, especially in the 21st century, that a cellphone can act as a distraction to students as they study. According to Larry Rosen is his paper "The Distracted Student Mind- Enhancing its Focus and Attention", taking away a student's phone makes them anxious which also impedes their learning." This made me wonder what the effects are for a student that is willingly not looking at their phone while studying. Does just simply receiving notifications while studying (and not checking them) effect the success of a students' studying? Henry Wilmer, Lauren Sherman, and Jason Chein in their 2017 article "Smartphones and Cognition: A Review of Research Exploring the Links between Mobile Technology Habits and Cognitive Functioning", talk about how smartphones *can* be utilized for helpful tools in our daily lives, however our reliance on them, they say, "is having a negative impact on our ability to think, remember, pay attention, and regulate emotion." We have come to a day in age where we need the instant gratification our phones provide us with. When we receive alerts on our phones, it has become second nature to instantly check it. Veronica Galvan, Rosa Vessal, and Matthew Golley wrote in their journal "The Effects of Cell Phone Conversations on the Attention and Memory of Bystanders", "People have reported feeling so emotionally attached to their cell phones that they feel anxiety without their phone or feel they 'can't live without them'." They go on to explain that people experience a personal relationship with their phone. In a self-report questionnaire they performed, they found that 76% of respondents said their cell-phones were always on, and 24% said they felt they had to answer their phone even if it was interrupting something such as a meeting or a meal. I took a closer look at this and focused in on students attempting to study.

Method

Participants

- This experiment consisted of 20 participants total.
- 10 participants were placed in a control group.
- 10 participants were placed in an experimental group.

Materials

The materials used to conduct this study were few.

- Students were asked to provide their phone number prior to the experiment.
- Participants also had to provide their own phone in which to receive texts from the researcher.
- Participants were given 1 sheet of blank paper.
- List of 16 words.
- A stopwatch was used to time the amount of study time, as a cue for when messages were sent to the experimental participant's phones, as well as to time the two minutes to take the memorization test of the words.
- Laptop for sending messages to the participants.

Procedure

Each participant had their phone present with them during the study, what differed was whether or not they received text notifications. The experimental group was informed to turn their sound alerts on to receive a text message every ten seconds from the researcher while they studied for two minutes. When the experimental group's phone alert would go off, signifying they received a message, the participants were informed not to check the phone, but to ignore it and continue on with studying.

Participants were given one sheet of paper for the memorization test, to write as many of the words previously listed, that they could remember, in two minutes. The researcher provided sixteen words in which the participants were all asked to study. The words asked to study, and then later recall, were- tree, shadow, walk, pepper, flag, door, cat, fan, bottle, art, coffee, grass, wonder, above, paper, and sugar.

Results

My study had two groups. Group 1 is the Experimental and Group 2 is the Control. The list of terms provided to them to study had 16 terms, Group 1 had an average score of 5.9 and Group 2 had an average score of 12.5. Group 1 had a standard deviation of 3.035 and Group 2 had a standard deviation of 2.592. Using the mean and standard deviation I calculated Cohen's d and effect size, or r, of the two groups. There is a large effect size of r=.76 and d=2.339. As well as this I looked at T and df, what I found is $T(18)$=5.229. This study had a 95% confidence interval of the difference and the lower interval of the difference is -9.252 to the upper interval of the difference, -3.948. I'm pleased with the outcome of my results. My study was found statistically significant, p=.000.

Discussion

Overall, the experiment I conducted regarding receiving notifications on studying, resulted in a statistically significant finding. To recap my variables, I had an experimental group that simply just received a text notification every ten seconds while they studied 16 terms for two minutes and a control group that received no texts while they studied 16 terms for two minutes. My results do show statistical validity because they are accurate and reliable. In the future, I can improve the internal validity of my experiment by reserving a study room to conduct the experiment in to block out any outside distractions such as noise. However, the fact that all participants experienced a level of outside noise, the results are still reliable. My results were found statistically significant, p<.001, the acceptable outcome for a study is p<.05. I had a large effect size of r=.76. This tells me that receiving notifications while studying and being able to hear them does impact ones studying, and therefore, impacts the success of ones' grades. The Control group did significantly better overall on the quiz of the studied terms with a mean score of 12.5, whereas the experimental group had a mean score of 5.9. While performing this experiment, a participant involved blurted out, "Literally all I want to do is check my phone." This study can help show students that in order for the best results when studying, silencing their phone should be the foremost option.

References

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