Navigating the Impact of Notifications on Screen Usage

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In the context of today's tech-dominated society, young adults spend an average of seven hours and 22 minutes daily on screens, according to Common Sense Media. The prevalence of electronic devices and attention-grabbing applications raises concerns about maintaining a healthy balance. Excessive screen time can be linked with negative mental/physical health effects, and research even suggests potential developmental issues in other demographics such as young children. In this experiment, an investigation of the relationship between notifications and screen usage was conducted, mainly stating and hypothesizing that by silencing notifications or having a reduced amount of notifications daily, screen time usage will also decrease, leading to more productivity and better mental health. While conducting this research, multiple tests that yielded a statistically significant p-value were performed, supporting the notion that decreased notifications are linked to lower mean screen usage among young adults. Despite the positive impacts of technology, implementing measures like silencing notifications can potentially contribute to a more balanced digital lifestyle.

Introduction

Technology consumes and plays a big role in our daily lives. From using an alarm to wake up in the A.M. or even facilitating navigation to work. The increasing reliance on smartphones is contributing to a growing disconnect from the real world. The more people depend on their phones, the more society will see a growth in mental health issues, including depression, and anxiety. Many times, it's the small things like wanting to check a notification that ends up making individuals tied to their phones. The act of checking notifications poses a significant distraction, with frequent alerts prompting users to engage with their phones. We've all been guilty of turning what we thought would be a simple phone check into hours and hours of scrolling. While there are many ways to reduce overall screen time, an accessible starting point could involve turning off, silencing, or at least reducing the number of notifications that pop up on your lock screen. This can slowly but surely make a significant impact on one's life, mental health, and even physical health.

Related work

In a study conducted by Menggi Liao, an investigation into the relationship between notifications and screen usage revealed that mobile notifications play a role in providing immediate gratification. This connection is associated with prolonged phone usage and increased frequency of checks. The study also identified FOMO (fear of missing out) as a significant influencing factor, indicating that individuals with higher levels of FOMO were more inclined to check their phones even when notifications were silenced. The research also incorporated additional variables, considering individuals with a high "need to belong." The findings suggest that while silencing notifications generally leads to reduced screen usage, for those with FOMO and a strong need for social connection, such measures may have detrimental effects. Liao utilizes hierarchical regression and regression analysis to support his findings. Regression analysis quantifies this relationship by providing coefficients that represent the change in the dependent variable for a one-unit change in the independent variable. This study deviates slightly from my research, as my analysis does not factor in FOMO or NTB, and also uses statistical testing instead of hierarchial regression to support my hypothesis.

Hypothesis

In this study, the focus is on exploring the relationship between screen usage and notifications based on a data set containing key features such as notifications, screen usage, times opened, and the specific apps accessed. The notifications variable lists the amount of notifications that a user gets daily. The screen usage feature looks into the overall time spent engaged with cellular devices. The research aims to see whether a correlation exists between higher notification levels and increased screen usage among young adults. This research can bring awareness to potential implications for mental health and well-being in the context of contemporary technology usage patterns. The utilization of statistical methods, including hypothesis testing, will be used to analyze the data set and hopefully derive meaningful conclusions regarding the relationship between notifications and screen usage.

H0:There is no significant difference between lower notifications and a decreased screen time
H1: If young adults silence notifications or have a reduced amount of notifications daily, then their screen time usage will also decrease, leading to more productivity and better mental health.
I hypothesize that there is a strong correlation between notifications and screen usage among young adults. Specifically, my null hypothesis (H0) states that there is no significant difference correlation between a lower amount of notifications and decreased screen time. Conversely, my alternative hypothesis (H1) suggests that there is a significant

correlation between a lower amount of notifications and decreased screen time. Anticipating that individuals receiving a lower number of notifications will exhibit decreased screen usage, reflecting the influence of digital interruptions. This hypothesis seeks to contribute valuable insights into the dynamics between technological stimuli and user behavior, with implications for understanding and mitigating potential effects associated with increased screen time in today's digital world.
Alternatively, In this research investigation, another one-tailed T test as well as a one-way ANOVA, has been conducted to help dive more into the potential relationships between notifications and screen time usage.

H0: The average number of notifications for this sample is not significantly less than the average number for young adults (200 notifications per day).
The average number of notifications for this sample is significantly less than the average number for young adults (200 notifications).
H0: There is no significant difference in screen time usage among different levels (low, medium,high) of notifications
H1: There is a significant difference in screen time usage among different levels(low, medium,high) of notifications
The one-tailed T-test investigates whether there is evidence to suggest that the average number of notifications in the sample used is significantly lower than the assumed population mean of 200. The one-way ANOVA assesses whether different levels of notifications (low, medium, high) contribute to significant variations in screen time usage. These statistical analyses will help provide a comprehensive perspective on the relationship between notifications and screen usage among young adults.

Results

The first one-tailed T-test to support my original hypothesis was performed. " If young adults silence notifications or have a reduced amount of notifications daily, then their screen time usage will also decrease, leading to more productivity and better mental health.". With a t Statistic of -7.28 and a P-Value of 0.0000000008, I will reject the null hypothesis.
For the second hypothesis, "The average number of notifications is significantly less than the average number for young adults (200 notifications)", this hypothesis was formed based on descriptive stats used from the data. According to Zippia, the average American checks their phone about 96 times per day. Using the median number of phone checks from the data, which resulted in 61.48, my rationale was grounded in the belief that if the average frequency of phone checks within my data set is lower than the broader average for all Americans, then the average number of notifications should also be lower. A one-tailed t-test was performed to measure whether the observed average number of notifications in the data set was significantly lower than 200. It scored a p-value of 0.00000076 indicating that we will reject the null hypothesis, and infer that the average number of notifications in the data set is significantly less than 230.

Finally, a one way ANOVA was performed on three groups of notifications categorized as "low, medium, and high" checking to see if there was a significant difference in screen usage between them. This will be important in analyzing whether or not notifications have an impact on screen usage. The data was sorted from least notifications to greatest, and split data into thirds. The 1st third being the "lowest" group and so on. The idea was that the "high" group would have the highest screen usage because they receive the highest amount of notifications and are more inclined to check their phones. With a p-value of 0.000000013, the null hypothesis was rejected and concluded that there is a significant difference in the means of screen usage between these three groups.

Discussion

These findings strongly indicate a clear correlation between daily screen usage / the frequency of notifications received and prove my hypothesis. The purpose of this research is to raise awareness among young adults and teenagers about the potential impact. This current generation struggles deeply with mental health issues and because of the rise of technological advancements, studies believe that this is what plays an immense role. Sometimes, when trying to create a positive impact, individuals are more likely to listen if it requires them to do something small or something that requires little to no effort. This is why I propose silencing notifications. While notifications may seem insignificant, they play a significant role in the constant checking and unintentional scrolling on phones. Advocating for the practice of silencing notifications should be more common in this society. By doing so, the number of interruptions on the screen significantly decreases. With reduced notifications, there is a corresponding decrease in screen usage. This reduction in screen time can positively influence mental and physical health over time, fostering a more grounded connection with reality. Even small steps, such as leaving your phone on "do not disturb," can be a meaningful starting point.

Conclusion

In conclusion, the analysis conducted on the correlation between notifications and daily screen usage yields compelling evidence. The strong correlation suggests that notifications highly influence the amount of time users spend on their phones every day. The motivation behind this analysis is to emphasize the importance of considering the negative impact of notifications, which are always perceived as "non-harmful". Contrary to this perception, notifications are a major factor contributing to the habit of checking phones and engaging in prolonged scrolling sessions.

CITATIONS

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