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Understanding the Balancing: Students Juggling Work and Studies. The Digital Dilemma: Phone Usage Among Students

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Abstract

Recent data analysis has revealed insightful trends among university students, particularly in how they manage their academic responsibilities alongside work. A significant portion of students are engaged in employment while pursuing their studies, highlighting the dual pressures faced by the modern student body. The extent and manner of mobile use is now an integral part of university students' lives. Based on the scientific studies presented in the second chapter, it was found that the intensive use of mobile phones and digital devices can be associated with a decrease in academic performance and health risks. These findings prompt us to dig deeper into the investigation of university students' media use habits, taking into account changes depending on age, on-the-job learning, and device preferences. This analysis sheds light on the digital lifestyle of university students, highlighting the centrality of mobile devices in their academic, professional, and social lives. We arrived at the data analysis by surveying 141 university students. We were curious about which of their devices they use the most, whether they need a mobile phone for their work and how they feel if they don't have a phone with them. We examined which social media platforms they prefer in their free time and whether they feel they use their own device excessively.

Keywords

University students, Work, Mobile phones, Health risks

Literature Antecedents

In 2020, Zoltán et al. [1] examined the attitudes of university students in Szeged towards digital education and concluded that "a mixed, hybrid educational methodology in Hungarian higher education would be a reality in the next period. Where you can still find the classic classroom environment, but there is no obstacle to the presence of technology, neither on the part of the teachers nor the students." In their article, they explained the results of an empirical research based on technology acceptance research models and explained that such an autonomous digital education solution - a kind of "Campusless" - could be acceptable to students studying in higher education. The social media and mobile device usage habits and attitudes of university students organically match this question.

The research of the University of Pécs regarding the time spent on media use showed that "within Generation Z, the time spent in the company of the media is mostly between 5 - 6 h, but we also found examples that are significantly different from the average. University students spend a few more hours on media use than this, but the most extreme results appeared in the high school age group. They often reported using media for 10 - 12 h a day, even on weekdays" [2].

Researching the comprehensive integration of mobile devices into students' lives and their potential effects on academic performance, mental health, and social interactions is paramount in today's educational environment. The technological possibilities offered by smartphones, tablets and computers have changed the way we learn and access information, creating completely new dynamics in the relationship between students and teachers.

In addition, the opportunities and challenges presented by digital tools are closely related to students' mental health. Prolonged screen time can have a significant impact on sleep quality, stress levels and emotional state, especially in young people.

Studies such as the one conducted by Przybylski and Weinstein [3] investigating the Golden Hair Hypothesis can provide deeper insight into the different aspects of digital device use and its effects on students. Such research can be important for educational institutions, parents, and decision-makers in understanding how to effectively manage and support students in the digital age.

In a previous publication, in which the media usage habits of Romanian students were investigated, the authors state that "for children and young generations, the consumption of news and media, as well as the joint discussion of acquired information, are of particular importance, because due to their high degree of mobility, they constantly need more information to navigate new situations. The media has a significant influence on the behavior of young generations, therefore, in our opinion, examining the media consumption patterns of university students may be important, all the more because they are related to their political and public behavior" [4].

Balázs [5], in his doctoral dissertation, states - among other things - that the use of smartphones is more widespread, "students mostly use the computer to keep in touch, visit social media sites, watch movies, listen to music and write letters. Among the software, text editors, spreadsheets, and presentation programs are the most well-known, and they are the ones that students use the most. Knowledge of database management programs is at a low level." Among the advantages of web services, he primarily emphasized the additional function of the applications as an information intermediary and the content that can be found quickly. Collaboration with group mates appeared in third place. What makes the thesis particularly interesting is that, in addition to the students, it also analyzes the opinions of the instructors regarding the issue of the connection between digitization and learning efficiency.

Two PhD students of Pannon University drew attention to the FoMO phenomenon related to the media usage habits of generation Z [6], which is nothing more than a kind of anxiety, a fear of missing out on something. In their study, the intensity of social media use, the fear of missing out (FoMO) and the correlations between social relationships and well-being were examined using quantitative tools. They assessed the social media consumption habits of Hungarian generation Z youth, the quality of their peer relationships, their FoMO level and their general psychological well-being. Their research findings support that the feeling of FoMO is independent neither with the subjective well-being of young people nor with age; however, it is closely and significantly related to the quality of social relationships and the use of both Instagram and Facebook.

Thomas et al. [7] in their publication "The digital lives of student mothers: A consideration of technologies that support or erode the student/parent boundary", for example, examined the digital lives of student mothers, with particular attention to the technologies that support or erode the student/parent boundary. During the research, the authors interviewed student mothers to understand how they use technology and how it affects their relationship with their child and the university. The results showed that using technology can be beneficial for student mothers, but maintaining a balance between technological limitations and parenting can be challenging.

A study by Elhai et al. [8] provides a comprehensive overview and systematic review of problematic smartphone use and its relationship to general anxiety and depression pathology. The study examines the behavioral patterns and psychological effects that problematic smartphone use can have on individuals, particularly when these patterns and effects are associated with symptoms of anxiety and depression.

The purpose of this study is to understand how problematic smartphone use contributes to the deterioration of general psychological well-being, with particular attention to the circumstances in which this behavior is associated with anxiety and depression symptoms. In this systematic review, the authors review the existing scientific literature in this area and analyze the results of each study in order to obtain a comprehensive picture of the psychological effects of problematic smartphone use.

The aim of the study is to contribute to a better understanding of the relationship between problematic smartphone use and mental health, and to help psychologists and other professionals manage problems such as general anxiety and depression that problematic smartphone use can cause.

According to a large-scale study conducted by Przybylski and Weinstein [3], the Golden Hair Hypothesis quantifies the relationship between digital screen use and adolescent mental well-being. The research showed that the relationship between digital screen time and mental well-being is described by quadratic functions. Furthermore, the results showed that these relationships vary depending on the time-of-day digital technologies are used (weekend or weekday), suggesting that to fully understand the impact of leisure activities, they need to be examined in conjunction with other daily activities. Overall, the evidence suggests that moderate digital technology use is not intrinsically harmful and may even be beneficial in a connected world. The findings provide recommendations for limiting adolescent technology use and provide a model for rigorous examination of the links between digital technology and children's health.

Presentation of Results

Figure 1 shows how much time the respondents spend in

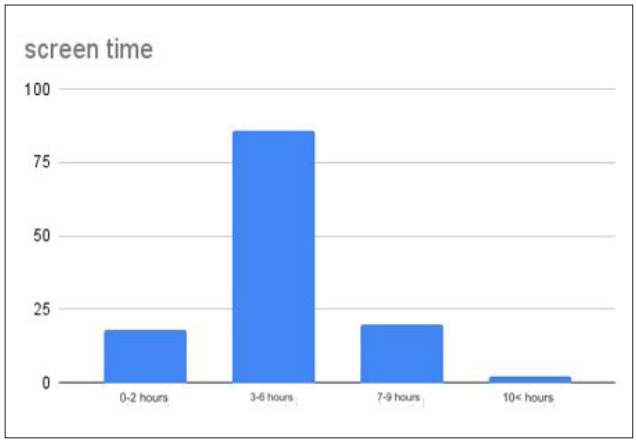

Figure 1: How much screen time do you get on your phone per day?

front of the screen every day. The question was exactly how much you use your phone, so to this number of hours is added the time spent on the laptop, computer and in front of the television, as well as streaming and the cinema.

The vast majority of respondents use the phone for 3 - 6 h a day. Our investigation into students' media usage habits has uncovered a complex relationship with digital devices, particularly smartphones. To conduct a correlation analysis of Likert scale responses from the survey data, we'll need to perform statistical analysis on the responses related to the statements about phone usage, such as feelings of dependency on the phone, the perceived need to reduce phone usage, and the impact of phone usage on well-being.

Given the nature of Likert scale data, which is ordinal, we can use Spearman's rank correlation coefficient to assess the strength and direction of association between these variables. This method is suitable for non-parametric data like Likert scale responses, where we're interested in rankings rather than absolute values.

The Spearman's rank correlation matrix in table 1 shows the relationships between students' perceptions and behaviors regarding their phone usage. Here are some key insights: There is a moderate positive correlation (0.5487) between students feeling they should use their phone less daily and spending their free time on their phone, suggesting that those who acknowledge overuse are also the ones engaging in it during leisure. A similar moderate to strong correlation (0.5749) exists between students feeling they should use their phone less and occasionally thinking they should engage in other activities, indicating a recognition of overuse and a desire for more varied activities. The correlation between feeling bad when using the phone for hours and thinking they should engage in other activities is also moderate (0.4436), suggesting a link between recognizing the negative effects of prolonged use and the desire for change.

Table 1: Spearman's rank correlation matrix for students' phone usage perception and behavior.

I feel bad without my phone	1.000	0.222	0.265	0.031	0.191
I should use my phone less on a daily basis	0.222	1.000	0.549	0.365	0.575
I tap my phone in my spare time	0.265	0.549	1.000	0.245	0.513
I feel bad when I use my phone for hours	0.031	0.365	0.245	1.000	0.444
Sometimes it occurs to me that I should deal with other things more	0.191	0.575	0.513	0.444	1.000

Phone Dependency

Students report a moderate level of discomfort without their phones, indicating a dependency that could impact their mental well-being. 26 of the respondents rated their own behavior as spending more time in front of a screen than average. The observation that students report a moderate level of discomfort without their phones highlights a significant aspect of modern digital life, especially among younger demographics like university students. This discomfort, often referred to as "nomophobia" (the fear of being without a mobile phone), points towards a dependency on mobile devices that extends beyond mere convenience or entertainment.

According to Lissak [9], based on the data, the negative physiological and psychological effects experienced during screen time are important for children and adolescents.

Frequent use of social networking sites can be associated with poor psychological functioning among children and adolescents, as shown in the study by Sampasa-Kanyinga and Lewis [10].

This dependency on phones can have mixed effects on students' mental health. While smartphones can offer valuable tools for communication, learning, and relaxation, excessive reliance on them may lead to stress, anxiety, and decreased face-to-face social interactions. The moderate discomfort reported suggests that while not all students may experience severe negative effects, there is a noticeable impact on their well-being when separated from their devices.

Moreover, phone dependency can also influence academic performance. The constant presence and use of smartphones may lead to distractions during study times, potentially affecting concentration and the ability to retain information. However, smartphones also serve as important tools for accessing educational resources, highlighting the need for balanced usage.

In terms of social relationships, while smartphones facilitate staying connected with friends and family, an over-reliance on digital communication can impact the quality of real-life social interactions. It's important for students to find a balance between digital and face-to-face communication to maintain healthy relationships.

Furthermore, recognizing the signs of phone dependency is crucial for students. Developing self-awareness about their phone usage habits can help them implement strategies to manage their screen time effectively, such as setting specific times for phone use, using apps that monitor and limit screen time, and engaging in offline activities that promote well-being (Figure 2).

In conclusion, while smartphones are an integral part of students' lives, understanding and managing their use is key to ensuring that their impact on mental well-being and overall quality of life is positive. Encouraging a mindful approach

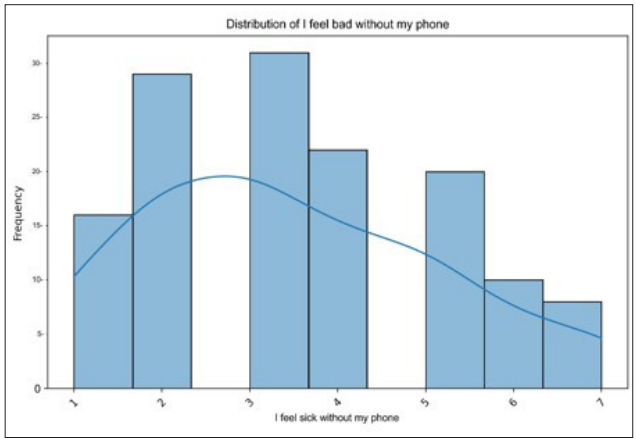

Figure 2: Phone dependency.

to smartphone use, where students are aware of their habits and actively seek to balance their digital and non-digital lives, can help mitigate the negative aspects of phone dependency (Figure 3).

Awareness of overuse

There is strong agreement that students feel the need to reduce their daily phone usage, suggesting an awareness of potential overuse. There is strong agreement among students about the need to reduce their daily phone usage. This is indicated by the moderate to strong correlations observed in the Spearman's rank correlation matrix, particularly between the statements related to feeling the need to use the phone less and engaging in phone usage during free time or thinking about engaging in other activities. These correlations suggest an awareness among students of potential overuse and a desire to manage their phone usage more effectively (Table 1).

Leisure time engagement

During free time, students tend to turn to their phones, which may reflect on the changing nature of leisure among young adults. The analysis of students' engagement with their phones during leisure time can indeed reflect the changing nature of leisure among young adults. The data suggests that a significant portion of students turn to their phones during free time, which may indicate a shift towards digital forms of leisure and entertainment. This trend could be attributed to the convenience, accessibility, and wide range of activities that smartphones offer, from social media browsing to streaming content and engaging in various apps.

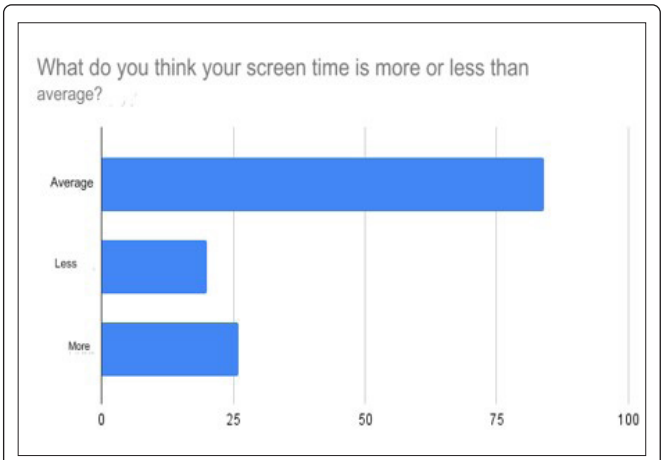

Figure 3: Screen time duration.

Understanding this shift is crucial for comprehending how leisure activities are evolving and how they impact students' well-being, social interactions, and overall lifestyle. It also raises questions about the balance between digital and non-digital leisure activities and the potential effects of heavy phone use on mental health and social skills.

Figure 4 visually represents the distribution of the most popular applications among students, with Messenger, TikTok, and YouTube being the most used. It provides a clear view of students' preferences for digital leisure activities. Percentage of students working alongside their studies: 68.79%. Percentage of students claiming their phone is essential for their work: 72.92%.

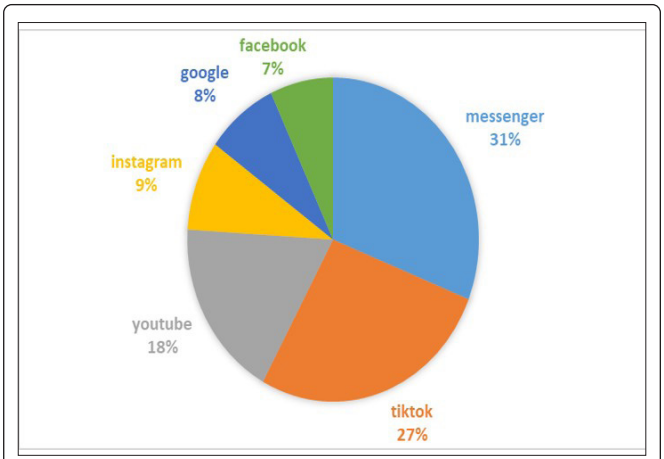

Figure 4: Usage distribution.

Based on the analysis, 68.79% of the students work alongside their university studies, and among those who work, 72.92% claim that their phone is essential for their work. This highlights the significant role that mobile phones play in supporting students' work-related activities alongside their academic commitments.

Well-being concerns

There is a noticeable discomfort reported by students when spending hours on their phones, which could have implications for their overall health. These findings suggest a need for strategies to balance digital consumption with other aspects of life, ensuring that students maintain a healthy relationship with their technology.

Table 2 represents the average level of agreement with the statements related to students' feelings and behaviors regarding their phone usage. The provided average values on a 7-point Likert scale regarding phone usage among students offer a quantitative glimpse into their perceptions and behaviors related to phone dependency. These averages suggest a moderate level of agreement with the sentiments expressed in the statements, indicating a nuanced relationship students have with their phones. Here's a brief analysis of each

Table 2: Average values on a 7-point Likert scale.

Average values on a 7-point Likert scale	Average
I feel bad without my phone	3.4632
I should use my phone less on a daily basis	4.8235
In my spare time I dial on my phone	4.0882
I feel bad when I use my phone for hours	3.8161

statement's implications:

- Feeling bad without the phone (3.4632): This suggests a moderate attachment to phones, indicating that while not overwhelming, there is a sense of discomfort or unease when students are without their devices. This could point to the beginning stages of dependency.
- Using the phone less (4.8235): The highest average score among the statements indicates a strong recognition among students that they should reduce their daily phone usage. This awareness is a positive sign, suggesting that students recognize the potential for overuse and its negative implications.
- Phone usage in spare time (4.0882): This score reflects a moderate to high tendency to turn to their phones during free time, which could indicate a lack of engagement with non-digital activities or a default behavior pattern of reaching for the phone when not occupied with other tasks.
- Feeling bad after using the phone for hours (3.8161): This indicates a moderate level of regret or negative feelings following prolonged phone use, suggesting that students may be aware of the negative consequences of excessive screen time, even if they find it difficult to moderate their behavior.

The practical implications of the results of this study may be important for students, educators, and health professionals. For example, it is important for parents and educators to be aware of the potential effects of problematic smartphone use on students' mental health. Educational institutions should be given the opportunity to organize briefings and workshops on the healthy use of digital devices.

Training programs should be developed that help students use smartphones and other digital devices consciously and responsibly. These programs can raise awareness of the importance of developing healthy digital habits and help students maintain emotional and mental well-being.

It is recommended that parents be provided with information about the signs of problematic smartphone use and its possible effects on the child's mental health. This can help parents recognize and deal with problem behavior early and seek professional help if needed.

Summary

This draft article provides a concise overview of the data-driven insights into university students' work-life balance and media consumption patterns. Further details and statistical nuances can be included as required by the journal's editorial standards.

Based on the results, the mobile phone is primary, but the laptop is also widely used (91%). 93% of participants measure their screen time, and 54% say their mobile is essential for their work. The questionnaire also focuses on the emotional and mental state of the participants, as well as their opinions regarding their phone use.

We also touched on the detection of inconsistencies, for example, among those who criticize the use of phones during leisure time, there are also several people who also prefer this activity.

Based on the analyzes and statistical data carried out during the research, many of our hypotheses were confirmed. First, we found that participants aged 18 - 23 are more likely to prefer using a mobile phone in their daily activities. Our hypothesis was also confirmed, according to which working students are more likely to consider their mobile phone essential for their work.

According to our further investigation, those who primarily use their mobile phones are more likely to measure their screen time than those who prefer laptops. In addition, it was also confirmed that those who are disturbed by not having their mobile phone with them are more likely to feel addiction or anxiety without the device. This suggests that the mobile phone is not only present in their lives as a tool, but also forms a kind of emotional and psychological relationship with it.

The relationship between leisure activities and screen use has also been proven. Those who regularly exercise or read spend less time on their phones than those who do not engage in more "traditional" leisure activities. This finding suggests that leisure activities can play an important role in the development of telephone usage habits.

However, it is worth mentioning that our sixth hypothesis, which related to the fact that the participants may feel worse due to excessive phone use when using TikTok intensively, was not confirmed. Among the results, a surprising fact is that people who use TikTok intensively feel less bad about excessive phone use. This somewhat contradicts the previous research finding that TikTok is more addictive, especially among Generation Z. As a result, further research may be needed to understand why the effect of TikTok use differs from that of other social media platforms among participants.

Overall, based on the tested hypotheses, we obtained valuable information about the correlations between the use of mobile phones and the students' lifestyles, which may be relevant for further research. Given the potential long-term effects, it's crucial for students to develop strategies to manage their phone usage effectively. This can include setting specific times for phone use, using apps that monitor and limit screen time, engaging in regular physical activity, and prioritizing face-to-face interactions over digital communication. Educational institutions and mental health professionals can play a key role in raising awareness and providing resources to help students maintain a healthy balance between their digital and non-digital lives. Further steps on the topic of applicability and research:

- Parental information: It is recommended to provide parents with information about the signs of problematic smartphone use and its possible effects on the child's mental health. This can help parents recognize and deal with problem behavior early and seek professional help if needed.
- Health care support: Health professionals should be prepared to provide assistance in managing problematic smartphone use and related symptoms of anxiety and depression. It is important that health systems consciously prepare for this problem and provide adequate resources to provide appropriate assistance.

Acknowledgments

None.

Conflicts of Interest

None.

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