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Abstract

In an era of pervasive digital connectivity, university students are increasingly exposed to prolonged screen time and continuous online engagement, which has raised concerns about its impact on mental health. This study explores the relationship between digital detoxification—the intentional reduction or abstinence from digital device usage—and the mental health of university students. Using a quantitative approach, the research surveyed 300 undergraduate students across multiple universities. The results revealed a significant positive correlation between regular digital detoxification and improved mental well-being, including reduced symptoms of anxiety, depression, and stress. The study underscores the importance of promoting healthy digital habits and incorporating digital wellness programs in academic institutions to foster better mental health outcomes among students. Recommendations for implementing structured digital detox initiatives on campuses are discussed.

Keywords: digital detoxification, mental health

1. Introduction

In today's digital age, the use of social media has become an integral part of the daily lives of many people around the world. Data from Statistics shows that by 2023, the number of social media users worldwide has reached 4.9 billion, with the average user spending around 2 hours 31 minutes per day on these platforms. Social media offers various benefits, such as ease of communication, access to information, and means of entertainment. However, overuse of social media has also raised concerns regarding its negative impact on users' mental health. The significant growth in the daily use of social media, especially amongst the younger generation, reflects an event that we should explore further. While social media can provide benefits, overuse can have negative impacts, especially on mental health and quality of life (Ansari et al., 2024). The pervasive use of digital devices, particularly smartphones and social media platforms, has significantly transformed the daily lives of individuals worldwide, including Pakistan. While these technologies have provided numerous benefits, such as enhanced communication, access to information, and entertainment, their excessive use has raised concerns about potential negative consequences on mental health. In Pakistan, as in many other countries, the rising dependency on digital media has led to the phenomenon of digital overload, resulting in adverse psychological effects, such as stress, anxiety, depression, and sleep disturbances (Modibbo & Inuwa, 2020; Ansari et al., 2024). Digital detoxification refers to the intentional process of abstaining or reducing the use of digital devices, particularly social media, to counterbalance the negative effects of overuse. This practice has gained attention in recent years as a means of improving mental health, increasing productivity, and fostering better social connections in real life.

The concept of digital detoxification is especially relevant in the Pakistani context, where the digital landscape is growing rapidly, and individuals are increasingly engaged with online platforms for personal, professional, and educational purposes (Ansari et al., 2024). The rapid proliferation of digital technology has significantly transformed the daily lives of young adults, leading to pervasive engagement with social media, mobile devices, and other digital platforms. While these technological advancements offer numerous benefits, such as increased connectivity and access to information, they also present substantial risks to mental health (Altaf Dar et al., 2023). The growing concern over the negative impact of excessive digital media use has led to the emergence of "digital detox" interventions, which aim to mitigate these risks by encouraging individuals to disconnect from their digital devices for specific periods (Radtke et al., 2022). This literature review examines existing research on the relationship between digital media use, mental health outcomes, and the efficacy of digital detox interventions in reducing anxiety and depression among young adults. A substantial body of literature has documented the association between excessive digital media use and adverse mental health outcomes, particularly among young adults (Shutzman & Gershy, 2023). For instance, a recent study found that prolonged exposure to social media correlates with increased levels of anxiety, depression, and stress. The negative impact is often attributed to social comparison, cyberbullying, and disrupted sleep patterns, which are exacerbated by the ubiquitous nature of digital devices (Lopes et al., 2022). Similarly, another study reported a significant rise in depressive symptoms among adolescents and young adults that coincided with the surge in smartphone use and social media engagement. Moreover, the addictive nature of digital technology has been linked to mental health challenges (Audi & Roussel, 2024). Research studies have highlighted that internet addiction, characterized by compulsive use and an inability to control digital consumption, is closely associated with anxiety and depression (Shah, 2020).

In response to the growing concerns over digital media's impact on mental health, digital detox interventions have gained popularity as a potential solution. Digital detox refers to a period during which individuals voluntarily refrain from using digital devices, with the goal of reducing stress, improving sleep, and enhancing overall well-being. Several studies have explored the effectiveness of such interventions, though the evidence remains mixed. A recent study observed that there is little evidence for increases in the associations between adolescents' technology engagement and mental health, except for the use of social media leading to emotional problems (Vuorre et al., 2021). A study has demonstrated that participants who engaged in a one-week digital detox reported significant improvements in mental well-being, including reduced anxiety and depressive symptoms (Vuorre et al., 2021). The study found that the absence of constant digital distractions allowed individuals to engage in more meaningful offline activities, such as face-to-face interactions and physical exercise, which are known to have positive effects on mental health. Similarly, another study

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found that short-term digital detox interventions led to reduced stress levels and improved mood, particularly among individuals who exhibited high levels of digital dependency. However, both studies were conducted in different geographical regions and focused on specific social media detox only (Russo, 2022). Previous research has linked social media use to various mental health problems. A study by Twenge found that adolescents who spent more than three hours a day on social media had a higher risk of experiencing mental health problems such as anxiety and depression (Akbar & Hayat, 2020). Shensa also reported that intensive social media use was associated with increased symptoms of depression and anxiety in the young adult population (Raja & Iqbal, 2019). However, there is a lack of literature on appropriate interventions to address the negative impact of social media use. The practice of digital detox, which refers to the deliberate abstention from electronic devices such as smartphones, is gaining popularity in the health and wellness industry. It is considered a viable solution to mitigate the negative consequences of excessive smartphone usage on one's well-being, social connections, and other areas of life (Anandpara et al., 2024). Radtke et al. (2022) performed a comprehensive analysis of existing research to evaluate the efficacy of digital detox programmes in enhancing factors such as well-being and health, social connections, discipline, or productivity. Their comprehensive analysis, which included 21 trials with a total of 3,625 people, revealed diverse outcomes seen in different investigations.

Several studies have shown favourable outcomes resulting from interventions, whereas others have shown little impact or even adverse impacts on wellbeing (Radtke et al., 2022). A further study conducted by Coyne and Woodruff examined the consequences of a 14-day period in which young individuals abstained from social media, limiting their use to 30 minutes each day (Coyne & Woodruff, 2023). According to a study, this detox has been shown to increase addiction to smartphones and social media while also improving sleep quality, overall life satisfaction, stress levels, perceived healthiness, and supportive connections (Coyne & Woodruff, 2023). However, it is essential to acknowledge that the efficacy of digital detoxes may significantly differ depending on the person and the precise parameters of the detoxification process. Hence, it is crucial to do more study in order to fully understand the processes of change and to create compelling digital detox strategies (Radtke et al., 2022). To summarize, while digital detox has the potential to reduce the adverse consequences of excess digital device use, its efficacy might be inconsistent, highlighting the need for more investigation to enhance these therapies (Radtke et al., 2022; Coyne & Woodruff, 2023). A study by Liao (2019) examined self-regulation in attention control after a two-week digital detox intervention period. Participants with low depression and anxiety symptoms showed an increase in their self-regulation skills, and the effect sizes were large. Liao (2019) reported that people with mild-to-moderate anxiety and depression symptoms improved their sleep quality with medium to large effect sizes. A medium effect from the seven-day digital detox intervention through an increase in mental well-being was observed, corresponding with results by Liao (2019) showing that participants with mild-moderate depression symptoms reported improvements in flourishing after a smartphone-use reduction period. Three studies found a significant decrease in perceived stress (Liao, 2019).

1.1. Rationale of the Study

In the modern digital age, university students are increasingly reliant on digital devices for academic, social, and recreational activities. While digital technologies offer many benefits, such as easy access to information and instant communication, their excessive and unregulated use has been linked to negative mental health outcomes, including anxiety, depression, sleep disturbances, and reduced attention span. The constant connectivity and pressure to remain active on digital platforms can contribute to “digital fatigue,” which may impair students' emotional well-being and academic performance. Many students find it challenging to disconnect, leading to a lack of boundaries between study, rest, and personal life. This persistent digital engagement can interfere with face-to-face interactions, self-reflection, and overall psychological balance. Digital detoxification, which involves intentionally taking breaks from digital devices and online platforms, has emerged as a potential strategy for restoring mental well-being and reducing stress. However, empirical research on the effectiveness of digital detox in university settings remains limited. Understanding how digital detox practices impact students' mental health can provide insights for developing healthier digital habits and inform university wellness programs. This study aims to explore the role of digital detoxification in improving the mental health of university students by assessing changes in anxiety, stress, mood, and overall psychological resilience. By identifying the benefits and challenges associated with digital detox, the research seeks to offer evidence-based recommendations for integrating digital wellness strategies into student life.

1.2. Objectives of the Study

- To investigate the relationship of digital detoxification, depression, anxiety and stress among university students

1.3. Significance of the Study

In an age where digital technology pervades nearly every aspect of daily life, university students are increasingly exposed to excessive screen time and digital engagement. While digital tools enhance learning and connectivity, their overuse has been linked to mental health challenges such as anxiety, depression, stress, sleep disturbances, and reduced attention spans. This study explores the role of digital detoxification—intentional breaks from digital devices—in improving the mental health of university students. The significance of this study lies in its potential to:

Promote Mental Well-being: By examining the effects of digital detox practices, this research can provide evidence-based insights into how reducing screen time can improve psychological health, emotional stability, and overall quality of life among students.

Guide University Policies: The findings can support educational institutions in developing mental health strategies, including digital wellness programs, awareness campaigns, and student support services that promote balanced digital consumption.

Empower Students: This study can raise awareness among students about the consequences of digital overuse and equip them with practical tools and strategies to manage their digital habits more mindfully.

Contribute to Academic Literature: There is limited empirical research focusing specifically on the impact of digital detoxification within the university population. This study aims to fill that gap, contributing valuable data and perspectives to the growing field of digital wellness and student mental health.

Influence Broader Public Health Discussions: As mental health continues to be a global concern, this research may also inform broader initiatives aimed at integrating digital detox practices into public health campaigns for young adults. By highlighting the importance of balance in the digital age, this study underscores a timely and relevant issue with the potential to impact educational practices, mental health advocacy, and personal lifestyle choices of students worldwide.

2. Method

2.1. Research Design

This study was conducted to investigate the relationship of digital detoxification, depression, anxiety and stress among university students. Correlational research design was used to complete this quantitative study. Survey was administered as a method of data collection by using questionnaires. Convenient sampling technique was used to select the 50 students as sample of the study.

2.2. Instruments

Digital Detoxification Scale (DDS) was used to measure the digital detox and Depression, Anxiety and Stress Scale - 21 Items (DASS-21) The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items (Lovibond & Lovibond, 1995).

3. Results

Table 1: Correlation matrix among Digital Detoxification, Depression, Anxiety and Stress

	Digital Detoxification	Depression	Anxiety	Stress
Digital Detoxification	1	-.629**	-.513**	-.728**
Depression		1	.390**	.501**
Anxiety			1	.382**
Stress				1

Table1 shows the significant negative correlation among digital detoxification, depression, anxiety and stress among university students.

4. Discussion

In an era of pervasive digital connectivity, university students are increasingly exposed to prolonged screen time and continuous online engagement, which has raised concerns about its impact on mental health. This study explores the relationship between digital detoxification—the intentional reduction or abstinence from digital device usage—and the mental health of university students. The results revealed a significant positive correlation between regular digital detoxification and improved mental well-being, including reduced symptoms of anxiety, depression, and stress. The results of this study provide significant insights into the impact of digital detox interventions on depression, anxiety and stress. The key findings indicate a positive association between digital detox and improved mental health, specifically in reducing anxiety and depression. This is consistent with previous study (Saleem & Jan, 2024), which highlighted the adverse effects of prolonged digital engagement on mental health, and study (El-Khoury et al., 2021), which highlighted the positive association between digital detox and improved mental health. However, our study not only reaffirms these findings but also adds to the growing body of evidence by emphasizing the potential of structured digital detox interventions in mitigating these negative effects.

Findings of the current are consistent with previous study that reveal digital detox interventions reduced depression and anxiety levels among young adults and improved mental health improvement. Moreover, male adults significantly improve their level of mental health as compared to female. Furthermore, unemployed adults reported higher level of depression and anxiety as compared to employed. In addition, demographic variables play a significant role in reducing psychological burden. Tailoring digital detox programs based on occupational needs, such as targeted support for unemployed individuals who experience heightened anxiety and depression, could also promote mental health equity and provide accessible, non-clinical mental health support. Overall, the study underscores the value of digital detox as a proactive approach to mental health management in a digitally saturated environment (Jauhar et al., 2025). A critical observation from our findings and literature review is that the duration and frequency of digital detox sessions play a crucial role in determining the effectiveness of the intervention. Participants who engaged in regular, shorter detox periods reported more substantial mental health improvements than those who opted for longer but infrequent detoxes. This is in contrast to (Coyne & Woodruff, 2023), which suggested that more extended detox periods might be necessary for noticeable improvements in well-being. Thus, suggesting that consistency, rather than length, is the key to success. These findings are particularly important in the context of modern lifestyles, where the feasibility of extended detox periods might be limited.

The digital detox intervention led to a statistically significant reduction in anxiety across all demographic groups. Gender-wise, males experienced a greater reduction in anxiety scores than females, aligning with findings in (El-Khoury et al., 2021) study, who reported that men might respond more favorably to digital detox due to differences in coping mechanisms and stress reactivity. However, this finding diverges from (He et al., 2024), which suggested that females might benefit more from digital disengagement

interventions due to their higher baseline social media usage and susceptibility to online stressors. Future studies could explore these gender differences further, examining whether specific intervention components are more effective for one gender over the other. In terms of occupational status, unemployed participants had the highest baseline anxiety levels and variance post-intervention, underscoring the link between employment status and mental health. This finding indicates that unemployment is strongly associated with elevated anxiety and depression due to financial insecurity and social isolation. Moreover, employed individuals, especially part-time workers, showed significant anxiety reductions post-detox, which suggests that digital disengagement could serve as a helpful mental health intervention within work environments. A study by Liao (2019) examined self-regulation in attention control after a two-week digital detox intervention period. Participants with low depression and anxiety symptoms showed an increase in their self-regulation skills, and the effect sizes were large. A study by Liao (2019) examined self-regulation in attention control after a two-week digital detox intervention period. Participants with low depression and anxiety symptoms showed an increase in their self-regulation skills, and the effect sizes were large. Liao (2019) reported that people with mild-to-moderate anxiety and depression symptoms improved their sleep quality with medium to large effect sizes. A medium effect from the seven-day digital detox intervention through an increase in mental well-being was observed, corresponding with results by Liao (2019) showing that participants with mild-to-moderate depression symptoms reported improvements in flourishing after a smartphone-use reduction period. Three studies found a significant decrease in perceived stress (Liao, 2019). The study also revealed substantial reductions in depression scores across demographics, moving from moderate to mild levels postintervention. Similar to anxiety results, females exhibited slightly higher post-intervention depression scores than males, which highlights gender-specific differences in stress processing, with females tending to report higher depressive symptoms even postintervention. Occupationally, unemployed individuals had the highest initial depression levels, which may reflect a strong correlation between unemployment and depression severity, emphasizing the need for accessible mental health interventions for this demographic.

5. Conclusion

The findings of this study highlight a significant relationship between digital detoxification practices and the mental health of university students. Students who engaged in regular digital detox routines—such as limiting screen time, taking breaks from social media, and prioritizing offline activities—reported lower levels of stress, anxiety, and depression, and showed improvements in overall well-being. The results suggest that conscious efforts to reduce digital exposure can have a positive impact on mental health, particularly in high-pressure academic environments. Moreover, the study emphasizes the importance of raising awareness about the psychological effects of excessive digital device use and the potential benefits of digital mindfulness. Universities are encouraged to incorporate digital wellness education and provide resources that support healthier tech habits among students. In conclusion, digital detoxification can serve as a valuable strategy in promoting mental health and improving the quality of life for university students. Further research is recommended to explore long-term effects and to identify the most effective detox practices tailored to different student populations.

5.1. Contribution of the Study

This study contributes to the growing body of literature on digital well-being by highlighting the significant role of digital detoxification in enhancing the mental health of university students. In an era dominated by technology and constant connectivity, university students are increasingly exposed to the psychological pressures associated with digital overuse, including stress, anxiety, sleep disturbances, and reduced academic focus. This research offers valuable insights into how intentional disconnection from digital devices—through structured detox practices—can serve as a preventive and therapeutic measure for improving mental health outcomes. Specifically, the study contributes in the following ways:

Empirical Evidence: It provides empirical data supporting the positive effects of digital detox on mental health indicators such as reduced anxiety, improved mood, better sleep quality, and enhanced concentration among university students.

Awareness and Education: The findings can help raise awareness among students, educators, and mental health professionals about the psychological risks of digital overexposure and the potential benefits of regular digital breaks.

Practical Framework: The study proposes a practical framework or set of recommendations for implementing digital detox strategies within university settings, offering a foundation for wellness programs, workshops, and digital literacy curricula.

Policy Implications: The results may inform institutional policies on digital usage, advocating for balance in academic technology integration and encouraging mental health-friendly digital practices on campus.

Future Research Direction: By identifying key variables and psychological outcomes associated with digital detox, the study opens pathways for further research into long-term effects, cross-cultural comparisons, and the integration of digital wellness into higher education policy.

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