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The Interplay of Smartphone Addiction, Daily Life Stress, Academic Procrastination, and Physical Activity: A Digital Detox Intervention Study

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ABSTRACT

Excessive smartphone use among university students has been associated with increased stress, academic procrastination, and reduced physical activity, leading to the need for interventions such as digital detox. This study aimed to examine the relationship of smartphone addiction with daily life stress, academic procrastination, and physical activity, as well as the efficacy of a digital detox intervention. A sample of 25 university students screened for smartphone addiction participated in a two-week intervention. Study variables were assessed using the Smartphone Addiction Scale-Short Form Urdu adaptation (Tahir Khalily et al., 2019), Daily Life Stress Response Scale (Debowska et al., 2022), Academic Procrastination Scale (McClosky, 2011), and International Physical Activity Questionnaire (Craig et al., 2003). Data was analyzed through correlation, t-test, and linear regression. Results showed a significant positive correlation between smartphone addiction, daily life stress, and academic procrastination, while its negative correlation with physical activity was weak and nonsignificant. Pretest–posttest comparisons indicated a significant reduction in smartphone addiction, daily life stress, and procrastination levels, alongside a significant increase in physical activity following the detox. These findings confirm that smartphone addiction contributes to stress and academic procrastination, aligning with prior literature. Although its association with physical activity was not statistically significant, the digital detox intervention still produced meaningful improvements across behavioral and psychological outcomes. This study highlights the potential of digital detox programs as effective strategies to reduce problematic smartphone use and promote healthier routines among university students.

Keywords:

Positive perception, altruism, happiness, university students, positive psychology, mediator variable

1. Introduction

The contemporary period can be described as a combination of information and communication. One can now make connections and transmit information more quickly than ever before because of advances in information and communication technology (Hassanzadeh & Rezaei, 2010). With the appearance of devices such as smartphones, the sharing of information and connectivity rapidly changed as people can connect to the internet anywhere and anytime (Kwon et al., 2013). The way of e-learning, leisure activity, finance, and daily life activities has been changed by the different features of smartphones (Kwon et al., 2013).

Students use smartphones for learning with ease and accessibility of learning anywhere; smartphones reduce their boundaries between daily life and smartphone usage (National Information Society Agency, 2012). While it has been used for a variety of reasons initially, smartphone users become more anxious and nervous without their devices and can't stop using their devices, which hinders their daily life (National Information Society Agency, 2012). It has been widely observed that mobile phone users develop an emotional tie to their devices

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to the point where many believe they cannot live without one. Excessive use of mobile phones has been shown in research to have a harmful influence on students' physical and mental health (Igarashi et al., 2008).

As students increasingly rely on digital communication, the risk of developing addiction becomes more pronounced. Moreover, socio-demographic factors and socio-cultural environments significantly influence smartphone addiction. Social networking, gaming, and educational activities contribute to excessive smartphone reliance, particularly among adolescents (Venkatesh & Murthee, 2024). Patterns of smartphone usage, along with environmental and cultural contexts, shape individuals' engagement with their devices, further exacerbating the risk of addiction (Venkatesh & Murthee, 2024).

While problematic smartphone use is seen as a behavioral addiction showing similarities with the addiction of gambling, this diminished ability to control smartphone usage is further characterized by the symptoms of addiction, which consist of tolerance, withdrawal, preoccupation, stress, and adverse functional consequences (Yu et al., 2020). Previous studies have also found that individuals who use social media sites on their smartphones experience psychological issues like stress, anxiety, and depression (Hou et al., 2017; Wilson et al., 2010).

Stress serves as an important predictor of both negative and positive emotional consequences and experiences; positive emotional experiences can lower one's anxiety, depression, and stress levels, while negative emotional experiences can result in a significant increase in stress levels, depression, and anxiety. Risk of addiction and increased risk levels are also the consequences of negative emotional experiences that arise from smartphone addiction (Quiping Cheng et al., 2024). Excessive consumption of smartphones contributes significantly to daily life stress, which can harm one's physical and mental health. Long-term use of smartphones is linked to significant strain in interpersonal relationships, health issues, and a decline in one's psychological health. Additionally, the obsessive nature of using mobile devices frequently leads to decreased productivity, which has a detrimental effect on people's work and academic performance, which further raises stress levels in their lives (Neha pirwani & Atilla Szabo., 2024).

While on the other hand, academic procrastination is a global phenomenon widely observed in university students (Dewitt & Schouwenburg, 2002). Academic procrastination refers to delaying either the completion of the given task or the beginning of the intended task (Blunt et al., 2005). Students who are addicted to social media on their smartphones can experience negative consequences in their academic performance, and many who are addicted to social media are more likely to delay their academic tasks (Steel, 2007). Students tend to procrastinate on their assignments till the end while being preoccupied with social media on their phones even if this delay is associated with negative consequences (Steel, 2007). Academic performance decline is seen in students who are involved in multitasking on their smartphones (Rosen et al., 2013). Thus, academic procrastination reflects a problem in self-organizing performances and postponing the completion of academic tasks and assignments. Especially in this electronic media era, academic procrastination has increased in recent times (Dewitt & Schouwenburg, 2002).

The increased use of smartphones by students does not only affect their academic performance but also affects their social engagement, their mental health, and their physical health (Li WP et al., 2023). This constant need to be on a smartphone can create a hindrance for students to engage in physical activity, i.e., higher levels of smartphone addiction are associated with lower levels of physical activity (Kautianinen et al., 2008). Furthermore, this addiction can trigger a lot of psychological responses such as isolation, depression, and anxiety, which can lead to low energy for physical activity and inactivity (Kautianinen et al., 2008).

While there is a growing need to use social media and other websites even for e-learning, there are no instructions as to how many hours you have to spend on your smartphone devices (Alla et al., 2022). Increased use of social media has led to negative consequences like increased stress and negative social interaction (McDaniel & Radesky, 2018; Nuñez et al., 2020). Even some smartphone users are concerned about their social media use (Jorge, 2019; Kuntsman & Miyake, 2016), as they recognize the potential negative impacts on their mental health and social interactions. Some organizations have even introduced unplugging day for people to avoid using smartphones for the day (Price, 2018; Shlain, 2019; Syvertsen, 2017). The scientific community and public both introduced various terms for the disconnection from the digital world, such as "unplugging," "abstinence," "break," and "detox" (Brown et al., 2020).

"Digital detox" refers to taking a break from their phone and focusing more on their daily life interactions and physical work to reduce stress (Oxford Dictionaries, 2019). Digital detox is a similar concept to fasting, in which people aren't forced to switch off their smartphones; rather, it's a voluntary abstinence from their phones in which they abstain from using their mobile phones and cleanse themselves from all its aspects (Syvertsen & Enli, 2019).

Previously, few intervention-based studies have explored sustainable digital detox strategies among university students, with the majority focusing on short-term effects or isolated outcomes like anxiety. There remains a gap in examining the long-term impact of digital detox on multiple behavioral variables such as academic procrastination, stress, and physical inactivity. To address these gaps, this study implemented a structured (two-week) digital detox intervention among Pakistani university students, targeting multiple behavioral outcomes. It incorporated a follow-up phase to assess the sustained effects of digital detox on smartphone addiction, stress, procrastination, and physical activity. Additionally, smartphone usage patterns were tracked throughout using smartphone DNA (built-in IOS & Android) to provide a deeper analysis of behavioral changes over time.

2. Methodology

2.1. Research Model

The study employed a quasi-experimental within-group pre-test and post-test design, in which all participants received a two-week digital detox intervention, and outcomes were assessed before and after the two-week detox period.

2.2. Research Sample

The sample of 25 female university students who have been currently enrolled in various degree programs was taken by using a convenient sampling technique. In accordance with the inclusion criteria, university students who scored within the addiction range on the Smartphone Addiction Scale, indicating a level of smartphone use consistent with addiction, were included in the sample. We excluded participants who did not meet the threshold for smartphone addiction and who are not currently enrolled as students in the university. Moreover, participants who are already undergoing any behavioral intervention were also excluded. Individuals with any physical conditions limiting physical activity and participants who did not provide informed consent or were unwilling to comply with the intervention protocol were also not made part of the study.

Table 1. Frequency and percentages of demographic characteristics of research participants (N = 25)

Characteristics	n	Percentages
Age	M=1.46	SD=.579
Gender		
Female	50	100%
Education		
Undergraduate	8	32%
Masters	14	56%
PMCP	3	12%
Employment status		
Full time students	23	92%
Part-time student/ part-time employed	2	8%
Living Arrangement		
Hostelite	9	36%
Day scholar	16	64%

Table 1 represents the frequency and percentages of demographic characteristics of the study participants. A total of 25 university students participated in the study. The age distribution of the participants showed that 56% ($n=14$) were between the ages of 18 and 24, and 44% ($n=11$) were between the ages of 25 and 35. All participants were female (100%). In terms of education, 32% ($n=8$) were undergraduates, 56% ($n=14$) had completed their master's degree, and 12% ($n=3$) were enrolled in a PMDCP program. Regarding employment status, 92% ($n=23$) of the participants were full-time students, while 8% ($n=2$) were part-time students or part-

time employed. When it comes to living arrangements, 36% ($n=9$) of participants were hostelites, and 64% ($n=16$) were day scholars.

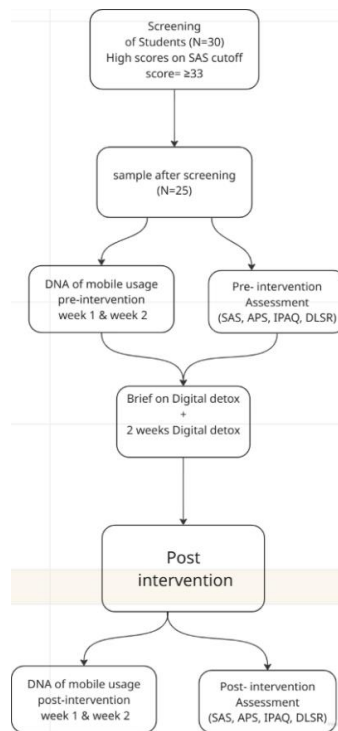


Figure 1. Flowchart of Study Design

2.3. Data Collection Tools

Smartphone Addiction Scale-SF: The Smartphone Addiction Scale-SF (Urdu adaptation) is a valid and reliable measure for smartphone addiction (Kwon et al., 2013). This scale consists of 10 items with a six-point Likert scale (1: “strongly disagree” and 6: “strongly agree”) based on self-reporting. The Cronbach alpha as reported by the authors is 0.08, and construct validity is 0.95 (CFI = 0.95).

Academic Procrastination Scale: This scale is developed to measure academic procrastination by McClosky (2011). It consists of 25 items containing a few reversed items (1, 8, 12, 14, and 25). The scoring option ranges from 1 to 5 (1=Disagree and 5=Agree). The internal consistency coefficient (Cronbach’s alpha coefficient) of the scale given by the author is 0.80 to 0.90, and convergent validity is $r \approx 0.53$ to 0.70.

Daily Life Stress Response Scale: The DSRs is a 30-item stress response measure developed by Debowska et al. (2022) and consists of two subscales, psychological and physiological stress response, which form associations with related external criteria. The psychological stress response factor was more closely related to existing measures of stress than the physiological stress response factor. Cronbach’s α values for psychological and physiological stress responses were .95 to .91, and construct validity is (CFI = 0.93).

The International Physical Activity Questionnaire: The International Physical Activity Questionnaire - Short Form (IPAQ-SF) is a standardized self-report survey developed by Craig et al. (2003). It is designed to assess physical activity levels in adults aged 15–69 years. It provides data on the frequency, intensity, and duration of physical activity performed over the past 7 days across four main activity domains: vigorous physical activity, moderate physical activity, walking, and sitting. Test-retest reliability is 0.08, and criterion validity is $r \approx 0.30$.

2.4. Data Analysis

Data was analyzed using the SPSS statistical package version 23. Descriptive statistics, including means and standard deviations, were calculated to summarize pretest and post-test scores. Descriptive statistics including frequency and percentage were used to present participant characteristics. Psychometric properties of the Daily Life Stress Response Scale, Academic Procrastination Scale, and Smartphone Addiction Scale-Short Form. To assess the instrument reliability (Cronbach’s alpha), a reliability analysis was conducted. Pearson correlation was computed to measure the nature and degree of relationship between daily life stress response,

academic procrastination, physical activity, and smartphone addiction. A paired-sample t-test was carried out to analyze the mean differences between pre- and post-test results of daily life stress response, academic procrastination, physical activity, and smartphone addiction. Prior to conducting the t-test, its key assumptions were checked and met: (1) the dependent variables were measured on a continuous scale, (2) the differences between paired observations followed a normal distribution, confirmed through the Shapiro-Wilk test and visual inspection via boxplots, and (3) the observations were independent. Linear regression analysis was done to predict or explain the value of daily life stress response with the values of smartphone addiction, academic procrastination with the values of smartphone addiction, and physical activity with the values of smartphone addiction.

2.5. Ethical

Participation in the study was entirely voluntary, and no participant was forced or coerced into taking part at any stage. Prior to data collection, informed consent was obtained from all participants, ensuring they were fully aware of the study’s purpose, procedures, and their rights. Participants were explicitly informed of their right to withdraw from the study at any point without facing any consequences. Importantly, the intervention involved no additional digital devices or external applications beyond what was already in use by the participants, thus maintaining the integrity of the detox process. The participants were cooperative, respectful of the research protocol, and demonstrated a clear understanding of their role, which contributed significantly to the smooth execution of the study while upholding high ethical standards. Privacy and confidentiality have been carefully enforced by anonymizing data and securely storing any personal information. Any pain caused by limited digital access will be monitored, and individuals who are distressed will receive assistance. Participants shall be selected in a fair manner, ensuring that no vulnerable or overburdened groups are disproportionately impacted. Finally, the study will undergo review by an ethics committee or Institutional Review Board (IRB) to ensure adherence to ethical research standards and to safeguard participant welfare.

3. Findings

Table 2 presents the descriptive statistics (mean and standard deviation) of the variables considered in the study and the correlation matrix showing the relationships between these variables (N = 25).

Table 2. Mean, Standard Deviation, and Correlation Matrix Among Study Variables (N = 25)

	M	SD	1	2	3	4
Daily life stress	40.18	20.01	-			
Academic procrastination	72.80	23.53	.504**	-		
Physical activity	1.94	.866	.090	-.206	-	
Smartphone addiction	26.30	7.02	.373**	.445**	-.064	-

Note: *p<, 0.05, **p < 0.01

Table 2 displays significant positive relationships among daily life stress, academic procrastination, and smartphone addiction. Daily life stress was positively correlated with academic procrastination while also positively correlated with smartphone addiction. A significant positive correlation was also observed between academic procrastination and smartphone addiction ($r = .44, p < .05$). Similarly, the findings reveal a weak non-significant relation of physical activity with smartphone addiction ($r = -.06, p > .05$).

Table 3. Paired Samples t-Test Results for Pretest and Post-test Scores on Smartphone Addiction, Daily Life Stress, Academic Procrastination, and Physical Activity (N = 25)

Variables	Pre-test(N=25)		Post-test(N=25)		t	p	95% CI		Cohen’s d
	M	SD	M	SD			LL	UL	
Smartphone Addiction	29.88	6.876	22.72	5.168	4.649	.000	3.981	10.339	0.93
Daily Life Stress Response	48.60	20.26	31.76	16.107	2.826	.009	4.540	29.140	0.57
Academic Procrastination	83.48	19.33	60.52	20.589	4.155	.000	11.555	34.365	0.83
Physical activity	1.68	0.90	2.20	0.76	-2.18	.040	-1.01	-0.03	0.44

Table 3 displays the results of the paired-samples t-test, showing significant reductions in smartphone addiction, daily life stress, and academic procrastination from pretest to post-test. Smartphone addiction scores also decreased significantly in the post-test scores, from M = 29.88, SD = 6.88 to M = 22.72, SD = 5.17, $t(24) = 4.65, p < .001, 95\% CI [3.98, 10.34]$. Daily life stress scores decreased significantly in the post-test scores

from $M = 48.60$, $SD = 20.26$ to $M = 31.76$, $SD = 16.11$, $t(24) = 2.83$, $p = .009$, 95% CI [4.54, 29.14]. Moreover, academic procrastination scores also decreased significantly in the post-test scores ($M = 83.48$, $SD = 19.33$ to $M = 60.52$, $SD = 20.59$, $t(24) = 4.16$, $p < .001$, 95% CI [11.56, 34.37]). While physical activity scores significantly increased from $M = 1.68$, $SD = 0.90$ to $M = 2.20$, $SD = 0.76$, $t(24) = -2.18$, $p = .040$, 95% CI [-1.01, -0.03]. These results indicate a significant improvement across all variables following the intervention.

Table 4. Comparison of Smartphone Usage Before and After Intervention (N = 25)

Smartphone usage	Pretest usage		Post test usage	
	Frequency	Percentage	Frequency	Percentage
1. less than 1hr	0	0.0%	2	8.0%
1-2 hours	5	20%	14	56.0%
3-4 hours	6	24%	9	36.0%
5 or more	14	56%	0	0%
Total	25	100%	25	100%

Table 4 displays the frequency and percentage of daily smartphone usage among participants before and after the intervention. Prior to the intervention, many participants (56%, $n = 14$) reported using their phones for 5 or more hours per day, while only 20% ($n = 5$) used them for 1–2 hours. After the intervention, no participants reported using their phones for 5 or more hours, indicating a substantial reduction in excessive use. The proportion of participants using their phones for 1–2 hours per day increased significantly to 56% ($n = 14$). Additionally, 8% ($n = 2$) of participants reduced their usage to less than 1 hour per day, a category that had no participants before.

Pre-test and Post-test Mean Scores Across Study Variables

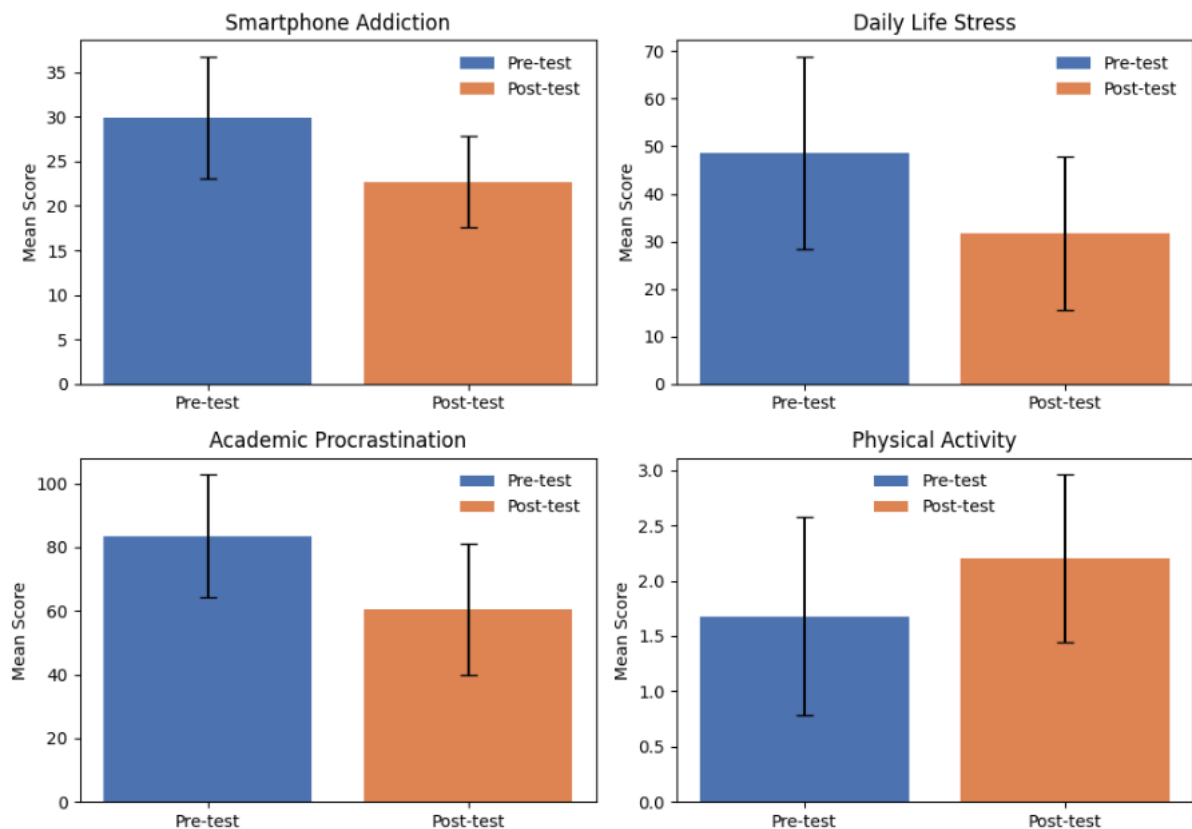


Figure 2. Pretest and Post-Test Mean Score Changes Across Study Variables Following Digital Detox Intervention

Figure 2 illustrates the difference in mean scores during pre-test and post-test outcomes of study variables following a digital detox intervention (N = 25).

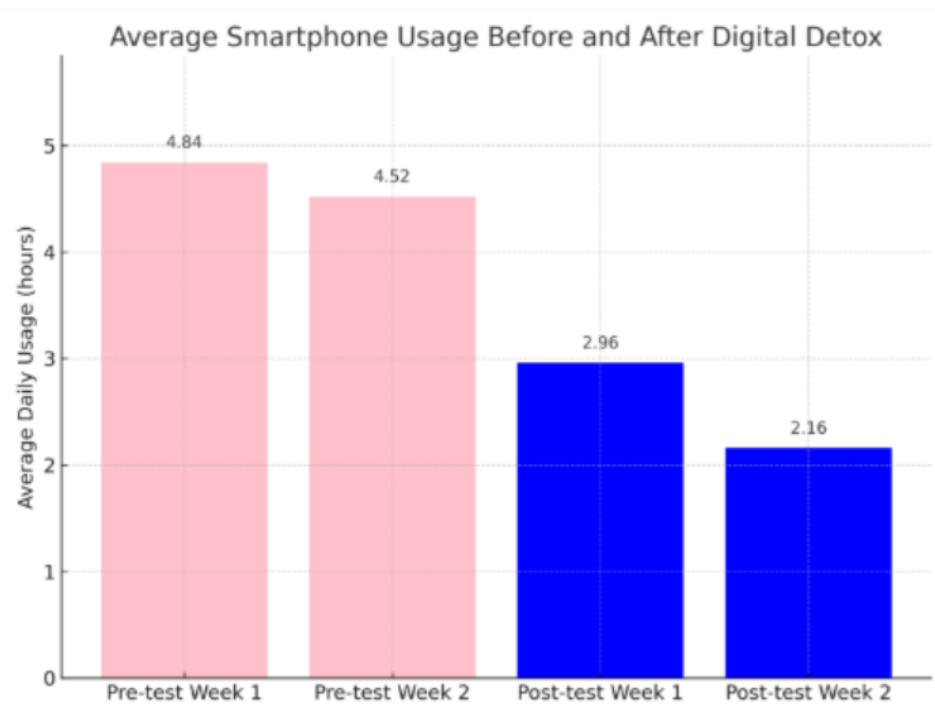


Figure 3. *The Smartphone Usage of Pre-Test Week 1 and Week 2 and Post-Test Week 1 and 2*

This figure presents the average smartphone usage (in hours) of participants (n=25), recorded across two consecutive weeks before (Pre-test Weeks 1 and 2) and after (Post-test Weeks 1 and 2) the implementation of a digital detox intervention. A noticeable decline in smartphone usage is observed post-intervention, indicating the potential effectiveness of the detox strategy in reducing screen time and promoting healthier digital habits.

4. Discussion

The present study, exploring the relationship of smartphone addiction to daily life stress, academic procrastination, and physical activity: efficacy of digital detox among university students, was designed to investigate how targeted digital disconnection could influence students' well-being and habits in terms of academic procrastination and daily life stress levels. To our knowledge, this is one of the very few interventional studies to examine the efficacy of limited-time digital detox on various psychological domains of university students.

Findings of this study indicated that daily life stress levels are positively correlated with higher levels of academic procrastination and smartphone addiction. This association suggests that people who experience greater stress levels are more likely to delay academic tasks and tend to engage with their smartphones. These findings align closely with the previous literature stating that smartphone addiction in students leads to academic procrastination, which further links it to daily life stress (Lin et al., 2020; Yang et al., 2024). University students experience stress due to the demanding nature of their study routines and academic tasks, which lead them to psychological consequences, including anxiety, depression, lack of emotional regulation, and maladaptive coping mechanisms (Bamuhair et al., 2015; Dyrbye et al., 2006). In order to escape these negative consequences, students turn to smartphones and delay their academic tasks despite being aware of the consequences (Ayşe Numanoğlu et al., 2023; Esichaiku et al., 2016). Academic procrastination was also positively correlated with daily life stress and smartphone addiction, which suggests that excessive usage of smartphones by students leads them to task avoidance, which in turn increases their stress levels. These findings are consistent with prior studies stating that smartphone addiction is negatively associated with students' academic performance globally, as students who are addicted to their phones tend to spend less time on study-related material or interests (Amaez & Baert, 2020) due to its nature of offering various interactive functions. Students are more tempted toward smartphones than completing their academic tasks, which further impairs their daily life functioning and psychological well-being (Odaci H & Kalkan M, 2010; Tian Y et al., 2025).

In contrast, findings of the study reveal a weak, non-significant, and inverse association between physical activity and smartphone addiction, which suggests that smartphone addiction may not directly impact physical activity in this sample. These findings also suggest that this relationship is not a direct behavioral effect but rather indirect. While smartphone addiction has a significant impact on the psychological outcome, it showed no direct impact on overt behaviors related to physical health. Many studies reported a significant inverse relationship between physical activity and smartphone addiction with larger sample sizes and other psychological mediators, for example, motivation, resilience, and self-control (Ayşe Numanoğlu et al., 2022; 2024; Yanbin et al., 2023), while a few recent studies also reported a weak correlation between smartphone addiction and physical activity. These findings partially align with the previous literature stating a complex, indirect, or bivariate relationship between smartphone addiction and physical outcome. (Zitong Zhao et al., 2025; Ding et al., 2025). From a self-regulation perspective, excessive smartphone use impairs emotional regulation and goal-directed behaviors, which is why academic procrastination and stress are directly affected by smartphone addiction more than physical activity (Qinghe Wang et al., 2024).

While on the other hand, our primary aim was to check the efficacy of digital detox intervention in reducing smartphone addiction levels, which would lead to significant reduction in daily life stress levels and academic procrastination levels from pretest to post-test. We observed significant decreases in scores of smartphone addiction levels, daily life stress levels, and academic procrastination levels, which indicate significant improvements across all three variables following the digital detox (Paige & Sarah, 2023). The intervention produced medium-to-large effects across smartphone addiction, daily life stress, and academic procrastination, indicating that the digital detox led to substantial reductions in problematic smartphone use, stress levels, and procrastination behaviors, highlighting its practical relevance for improving students' self-regulation and well-being. This change is extremely interesting, especially when viewed from the clinical aspect of human behavior. Our findings are of paramount importance as they show how even a limited break from smartphones can bring about significant positive change in overt behavior (physical activity) and covert behaviors (daily life stress, academic procrastination) in the student population. Despite the modern technological advancements and convenience provided by smartphones, public concern regarding its negative consequences and academic concerns regarding the academic performances have also mounted in recent years. These findings align with the previous literature that indicates that smartphones have the tendency to impair the daily life functioning of their users, not to mention their various effects on the health and well-being of the individuals consuming their content on a daily basis without any balance between their online self and offline self (Beranuy et al., 2009; Lepp et al., 2014).

Similarly, another important finding was a significant increase in physical activity after digital detox, which is consistent with literature showing that significant changes from pretest to post-test in smartphone addiction have a positive impact on physical activity (Lin et al., 2022). The small-to-moderate increase in physical activity indicates that short-term digital detox interventions may encourage more activity. These findings align with previous studies on university students, which reveal that higher smartphone addiction was significantly associated with a decrease in the average number of daily walking steps ($\beta = -0.883$, $p < 0.001$), indicating that smartphone addiction has been found to be significantly associated with lower levels of physical activity among university students, indicating that excessive use may contribute to a more sedentary lifestyle (JUMDC, 2023). Similarly, another study conducted at Umm Al-Qura University found that students with high levels of smartphone addiction were significantly more likely to exhibit physical inactivity, increased body weight, and musculoskeletal complaints (Al-Hadlaq et al., 2022).

Therefore, as per the findings of the present study, we contribute important evidence on how smartphone addiction influences daily stress, academic procrastination, and physical activity and demonstrate the practical value of a digital detox intervention among university students. By combining self-report measures with objective tracking tools, it offers a multidimensional view of students' digital behaviors and well-being. This intervention proved effective in reducing smartphone addiction and improving daily functioning even within a short period, highlighting its potential as a low-cost, scalable approach for student mental health promotion. Moreover, the inclusion of mobile phone DNA collected over the period of two consecutive weeks during the pre- and post-intervention periods adds strength to the study's ability to evaluate sustained effects over time. The structured nature of the detox program, tailored to the academic context, further enhances its ecological validity and applicability in real-life settings.

Despite study contributions, several methodological constraints should be considered for future studies. This study is limited by a small, all-female sample and partial reliance on self-reported data. The result may not extend to male students, so future studies should include both genders to enhance validity and generalization. The study design, a within-group pretest and post-test design without a control group, may limit causal inferences and control over any confounding variable as compared to the experimental study. Future research should involve larger, more diverse populations and incorporate detailed digital metrics to enhance behavioral insights. Examining mediating factors such as time management and academic pressure may further clarify how smartphone use affects student well-being and performance.

4. Conclusion

This study explored the relationship of smartphone addiction to daily life stress, academic procrastination, and physical activity while also examining the impact of digital detox intervention among university students. Our findings revealed that smartphone addiction was significantly associated with higher levels of academic procrastination and daily life stress, supporting previous research that highlights the psychological impact of smartphone addiction. Although the correlation between smartphone addiction and physical activity was weak and not statistically significant, the digital detox intervention still produced meaningful improvements in both the pretest and posttest scores of smartphone addiction and physical activity levels. The digital detox intervention demonstrated promising effectiveness in reducing smartphone addiction and improving daily habits, even over a short period. These results highlight its potential as a practical, low-cost strategy to promote healthier digital behaviors among university students. Furthermore, even short-term, intentional detox from social media applications and smartphone use can lead to beneficial changes in students' daily routines and well-being. These findings offer valuable guidance for developing targeted digital wellness interventions, equipping educators and policymakers with evidence-based strategies to support students' mental health, academic focus, and balanced lifestyle in an increasingly connected world.

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Appendix A

Table A1. Multiple DNA readings of (Pre-test and post-test) mobile phone usage of participants (N=25)

Participants no.	DNA of mobile phone usage (no. of hrs)	DNA of mobile phone usage (no. of hrs)	DNA of mobile phone usage (no. of hrs)	DNA of mobile phone usage (no. of hrs)
	Pretest week 1	Pretest week 2	Post-test week 1	Post-test week 2
#1	4	5	3	1
#2	4	4	3	3
#3	3	2	3	Less than 1
#4	5	5	2	2
#5	7	7	4	3
#6	8	5	3	2
#7	5	6	4	3
#8	6	4	3	2
#9	4	3	2	1
#10	2	3	2	2
#11	5	5	3	2
#12	9	5	4	3
#13	3	6	3	3
#14	8	7	4	2
#15	3	2	2	2
#16	8	9	4	2
#17	3	2	1	2
#18	5	6	3	1
#19	4	2	2	Less than 1
#20	4	5	3	3
#21	3	2	2	2
#22	5	4	3	3
#23	5	5	4	4
#24	3	4	3	2
#25	5	5	4	3

Table A1 displays the average daily smartphone usage (in hours) for 25 participants measured over two consecutive weeks before (pre-test) and after (post-test) a digital detox intervention. Usage was recorded for week 1 and week 2 of the pre-test period, as well as for Week 1 and Week 2 of the post-test period. Overall, most participants demonstrated a notable decrease in smartphone usage following the detox period. In several cases, post-test usage dropped to 2 hours or less, and in some instances, to less than one hour per day. This decline suggests a potential behavioural shift in digital consumption following the intervention.