Faculty of Medical and Health Sciences, University of Poonch Rawalakot
Journal of Pharma and Biomedics
ISSN: 3007-1984(online), 3007-1976 (Print)
https://www.jpbsci.com/index.php/jpbs

# Impact of Mobile Phone Addiction on Mental Health in University Students of Faisalabad

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*Received: May 18, 2025;* *Revised: June 28, 2025;* *Accepted: June 30, 2025*

**A B S T R A C T**

**Background:** The widespread use of mobile phones among university students has raised concerns due to its link with mental health issues like anxiety, depression, stress, sleep problems, and poor social interactions. **Objectives:** To determine the prevalence of mobile phone addiction among university students in Faisalabad and to assess the association between mobile phone addiction and various mental health outcomes, including anxiety, depression, and stress. **Methodology:** Cross-sectional study investigated the relationship between mobile phone addiction and mental health among university students in Faisalabad. A total of 400 students were selected through stratified random sampling from four major universities (100 from each). Data were collected using the Smartphone Addiction Scale-Short Version (SAS-SV) and the Depression, Anxiety, and Stress Scale (DASS-21), along with demographic and phone usage information. Questionnaires were provided in both Urdu and English. Data analysis was performed using SPSS v28, with descriptive statistics and Chi-square tests applied. A p-value of <0.05 was considered statistically significant. **Results:** The study found a high prevalence of mobile phone addiction among university students, with a mean SAS-SV score of 48 ± 2.3, indicating severe addiction. Mental health findings showed 43.75% had mild depression, 49.75% had moderate anxiety, and 45% experienced severe stress. Chi-square analysis revealed significant associations between mobile phone addiction and depression ($x^2 = 18.42$, $p = 0.030$), anxiety ($x^2 = 16.11$, $p = 0.001$), and stress ($x^2 = 17.01$, $p = 0.002$). Addicted students also reported behavioral issues (e.g., irritability, compulsive phone use) and physical symptoms (e.g., wrist/back pain), highlighting both psychological and physical impacts. **Conclusion:** The findings of this study underscored the significant negative impact of mobile phone addiction on the mental health of university students in Faisalabad. High levels of addiction were strongly associated with increased symptoms of depression, anxiety, and stress, as well as physical discomfort and impaired academic performance.

**Keywords:** Mobile Phone Addiction, Mental Health, University Students, Anxiety, Depression, Stress, Faisalabad.

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## INTRODUCTION

Mobile phones have become an essential part of everyday life around the world. Mobile phone addiction has emerged as a growing and significant concern, especially among university students. Excessive mobile phone use among adolescents is strongly associated with various psychological health issues, including sleep disruptions, technostress, low self-esteem, social isolation, and

depression (Alageel et al., 2021). As a result, mobile phone addiction poses numerous health risks for teenagers and young adults, a problem that has acquired attention from researchers across multiple fields (Alhazmi et al., 2018).

Many people addicted to mobile phones often have low self-esteem and poor social connections, leading to a constant need to stay connected. When not using their phones, they may feel anxious, irritable, or experience sleep and physical issues (Ansary et al., 2025). This excessive use is linked to anxiety, depression, insomnia, and an unhealthy lifestyle, with users forming a strong emotional dependence on their devices (Babadi-Akashe et al., 2014). Recent studies widely agree that mobile phone addiction contributes to various psychological health problems, including loneliness, depression, and other psychiatric disorders (Celik et al., 2023). In recent years, empirical research has increasingly focused on examining the link between mobile phone addiction and mental health issues. Some studies identified a significant connection between mobile phone dependence and negative emotional states in adolescents (de Freitas et al., 2021). This finding has been supported by more recent studies, which confirm that excessive mobile phone use negatively affects adolescents' mental well-being, contributing to feelings of loneliness, depression, social anxiety, and other psychological difficulties (Eisanazar et al., 2021).

While some studies have explored the relationship between mobile phone addiction and mental health, the precise mechanisms through which mobile phone addiction impacts mental health remain inadequately explored (Gemnani et al., 2023) . This research seeks to investigate the connection between mobile phone addiction and mental health, with a particular focus on its effects on sleep quality, as well as the potential role of social support in influencing both mental health and sleep quality (Hidayat et al., 2025). Addicted individuals often use their phones longer than intended and may hide their usage from others. For many, phones serve as an escape from real-life problems or as a way to cope with loneliness, anxiety, or guilt. In today's digital age, mobile phones are essential for communication, information, and entertainment (Jabbar et al., 2025). However, the excessive and compulsive use of mobile phones has raised serious concerns about its impact on mental health. Studies show that the average person checks their phone over 96 times a day, and young adults spend more than 4.5 hours daily on their devices. This overdependence can lead to a phenomenon known as mobile phone addiction, a behavioral pattern that mirrors other forms of addiction such as gambling or substance abuse (Kaur et al., 2022).

Research has increasingly linked mobile phone addiction to mental health issues including anxiety, depression, sleep disturbances, and decreased attention span. A study found that individuals with high smartphone usage were twice as likely to experience symptoms of depression and anxiety compared to moderate users (Kim HJ et al., 2021). The constant need to check notifications, fear of missing out (FOMO), and reliance on virtual interactions can significantly disrupt emotional well-being and interpersonal relationships. As mobile technology continues to evolve, understanding the psychological consequences of its overuse becomes crucial in promoting healthier digital habits and overall mental health (Kliesener et al., 2022). The broader issue of technology addiction, particularly mobile phone dependency, is significant for several reasons. While technology brings numerous benefits and is essential for modern society, its stimulating nature can lead to excessive use and, eventually, addiction. Young people are particularly susceptible to developing such dependencies, and as a result, issues related to mobile phone addiction, mental health, personality changes, and the role of social dynamics have become key topics of discussion in psychology and sociology. This study aims to explore the relationship between mobile phone addiction on mental health of students of universities of Faisalabad.

## METHODOLOGY

### Study Design

A cross-sectional study was conducted to examine the impact of mobile phone addiction on the mental health of university students in Faisalabad.

### Study Setting

The study setting of this study was Faisalabad. Data was taken from 3 public and 1 private universities of Faisalabad, i.e Government college university, Faisalabad, The university of Faisalabad, National textile University, Agriculture university of Faisalabad.

### Study Population

Study population was students of 4 universities of Faisalabad.

### Data Collection

During data collection 100 respondents were taken from each university. The study was employing a quantitative research design to analyze and interpret the data collected from a different department of university.

### Data collection Tools

Data was gathered through validated questionnaires, specifically the Mobile Phone Addiction Questionnaire (Smartphone Addiction Scale-Short Version [SAS-SV] (Lei et

al., 2020) and a Mental Health Status assessment tool (DASS21) (Malek et al., 2024) which will provide a comprehensive understanding of the relationship between mobile phone use and mental well-being. including the scales, with range of demographic questions and additional inquiries focused on the primary usage of participants' mobile phones and the amount of time spent using these devices.

The first key question asked participants to identify their primary use for their mobile phones. They were given the following options to choose from: social media, Music, Internet, Email, Calling, Texting, or Other. This question aimed to determine how participants generally engage with their mobile devices and to categorize their most common activities.

A second major set of questions sought to explore how much time students spent on non-professional, non-athletic leisure activities using their phones. The activities were categorized into five broad groups, each representing a common use of mobile devices. The response options provided were: None, Less than one hour a day, 1-3 hours a day, 3-5 hours a day, 5-7 hours a day, and More than eight hours a day. This structured approach aimed to quantify participants' engagement with various activities on their phones.

To ensure the reliability and relevance of the tools, the original validated scales were be translated into Urdu and English, allowing for a broader range of participants to understand and engage with the questionnaire in their preferred language. This bilingual translation was also help maintain the accuracy of the responses, considering the linguistic diversity within the student population.

Each item in the questionnaires was rated using a five-point Likert scale, where respondents were indicating their level of agreement or disagreement with each statement. The scale was ranged from 1 (strongly disagree) to 5 (strongly agree), ensuring a robust measurement of mobile phone addiction and mental health status. The data gathered provided insights into how excessive use of mobile phones correlated with psychological stress, anxiety, depression, and other mental health concerns commonly experienced by university students.

**Inclusion and Exclusion Criteria**

The inclusion criteria for this study were university students from Faisalabad, aged between 18 to 30 years, who are enrolled in any undergraduate or postgraduate program at a university in Faisalabad. Only students who actively use mobile phones were considered eligible participants, as the study specifically aims to assess mobile phone addiction (Mayerhofer et al., 2024). The exclusion criteria were students who are not available during the data collection period was be excluded, as their participation is necessary for obtaining valid results. Participants who are already receiving mental health treatment or have been diagnosed with serious mental health disorders (such as schizophrenia or bipolar disorder) were excluded to avoid bias in the results (Ojeniyi et al., 2025). Students who were not willing to participate or provide consent were excluded from the study to ensure that only those who voluntarily agree to take part in the research are included.

**Statistical Analysis**

The collected data was analyzed using the Statistical Package for the Social Sciences (SPSS), version 28.0. Descriptive statistics summarized the sociodemographic characteristics of the respondents. Discrete variables, including age, gender, academic year, and socioeconomic status, were analyzed in terms of frequencies and percentages to provide an overview of the sample population. The scoring of the Mobile Phone Addiction Questionnaire (SAS-SV) and the Mental Health Status scale (DASS21) was conducted according to the respective scoring systems. The responses were coded and entered into SPSS for further analysis.

To investigate the relationships between mobile phone addiction and mental health outcomes, as well as sleep quality and perceived social support, inferential statistical tests were applied. A Chi-square test was used to assess the association between categorical variables, such as mobile phone addiction (classified as addicted or non-addicted) and mental health status, sleep quality, and perceived social support. A p-value of $< 0.05$ was considered statistically significant.

**Ethical Considerations**

Ethical approval was granted by the GCUF Pakistan Research and Ethics Committee. Informed consent was obtained, and participants were informed of the study's purpose, their rights, and the option to withdraw at any time. Anonymity and confidentiality were strictly maintained.

## RESULTS

**Demographic Characteristics of Study Participants**

The sample is predominantly male (68.25%) compared to female participants (31.75%). Most participants fall within the 18-21 age group (42.25%), with fewer participants in older age groups. Regarding department most participants are from the Sciences (33%) and Management (28.75%) departments. Departments like Engineering (12.5%) and Literature (23.5%) have a smaller representation.

The sample consists largely of undergraduates (73.5%), followed by graduate students (24.5%) and a small percentage of postgraduates (2%). The four universities

represented are equally distributed (25% each). This broad distribution allows for a more generalized view of mobile phone use and its mental health impact across different educational settings.

Table 1: Demographic characteristics of study participants.

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| Gender | | |
| Male | 273 | 68.25 |
| Female | 127 | 31.75 |
| Age | | |
| 18-21 | 169 | 42.25 |
| 22-25 | 114 | 28.5 |
| 26-29 | 74 | 18.5 |
| 30 | 43 | 10.75 |
| Department | | |
| Sciences | 132 | 33 |
| Management | 115 | 28.75 |
| Literature | 94 | 23.5 |
| Engineering | 50 | 12.5 |
| Other | 9 | 2.25 |
| Study Program | | |
| Undergraduate | 294 | 73.5 |
| Graduate | 98 | 24.5 |
| Postgraduate | 8 | 2 |
| University | | |
| Government College University Faisalabad | 100 | 25 |
| The University of Faisalabad | 100 | 25 |
| National textile University Faisalabad | 100 | 25 |
| University of Agriculture Faisalabad | 100 | 25 |

The mean score of Smartphone Addiction Scale-Short Version [SAS-SV] was 48 ±2.3 that indicate severe smart phone addiction figure 1.

Table 2 data indicates a strong link between mobile phone use and various negative effects. Around 42.5% of participants strongly agreed that phone use affects their concentration, suggesting reduced focus and potential harm to academic or professional performance. Physical issues were also reported, with 47.25% experiencing wrist or back pain, likely due to poor posture or overuse. Signs of dependency are evident, as 51.25% feel irritable without their phone, and 37.5% often think about their smartphone. Additionally, 30.5% stated they would never give it up, highlighting addictive tendencies. Habitual behaviors were also common, 36.5% constantly check their phones, and 35.5% use them longer than intended. Lastly, 24.25% said others have pointed out their excessive phone use. Overall, the findings suggest that many participants show clear signs of mobile phone overuse and addiction, affecting both their mental and physical well-being.

Table 2: Assessment of mobile phone use among study participants.

| Variable | Frequency n (Percentage %) | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Disagree n (%) | Disagree | Weekly Disagree | Weekly Agree | Agree | Strongly Agree |
| Difficulty in Concentration | 10 (2.5) | 12 (3) | 14 (3.5) | 93 (23.25) | 101 (25.25) | 170 (42.5) |
| Feeling Pain in wrist | 14 (3.5) | 43 (10.75) | 53 (13.25) | 101 (25.25) | 97 (24.25) | 92 (23) |

| | | | | | | |
|---|---|---|---|---|---|---|
| or back | | | | | | |
| Irritable without mobile phone | 10 (2.5) | 7 (1.75) | 14(3.5) | 33 (8.25) | 131 (32.75) | 205 (51.25) |
| Feeling impatient with mobile phone | 19 (4.75) | 17 (4.25) | 43 (10.75) | 103 (25.75) | 111 (27.75) | 107 (26.75) |
| Smart phone thoughts | 17 (4.25) | 19 (4.75) | 12 (3) | 109 (27.25) | 93 (23.25) | 150 (37.5) |
| Never give up using smart phone | 18 (4.5) | 24 (6) | 32 (8) | 88 (22) | 116 (29) | 122 (30.5) |
| Consistently checking smart phone | 22 (5.5) | 13 (3.5) | 41 (10.25) | 93 (23.25) | 85 (21.25) | 146 (36.5) |
| Using smart phone longer than intended | 15 (3.75) | 24 (6) | 22 (5.5) | 79 (19.75) | 118 (29.5) | 142 (35.5) |
| People told me for too much mobile phone use | 12 (3) | 16 (4) | 50 (12.5) | 66 (16.5) | 159 (39.75) | 97 (24.25) |

The Depression, Anxiety, and Stress scale (DASS21) assesses the psychological impact of factors like mobile phone use.

**Depression**

The majority of participants fall in the "Mild" category (43.75%), followed by "Normal" (24.25%). The "Moderate" group (24.75%) also represents a significant portion. Only a small percentage fall into the "Severe" and "Extremely Severe" categories, suggesting that while depression is a concern for some participants, it is not overwhelmingly severe across the entire sample figure 1.

**Anxiety**

A substantial number of participants (49.75%) are in the "Moderate" anxiety category, with nearly 15% reporting "Severe" or "Extremely Severe" anxiety. This high rate of anxiety might be associated with mobile phone use, given that smartphone overuse has been linked to increased anxiety and stress levels figure 2.

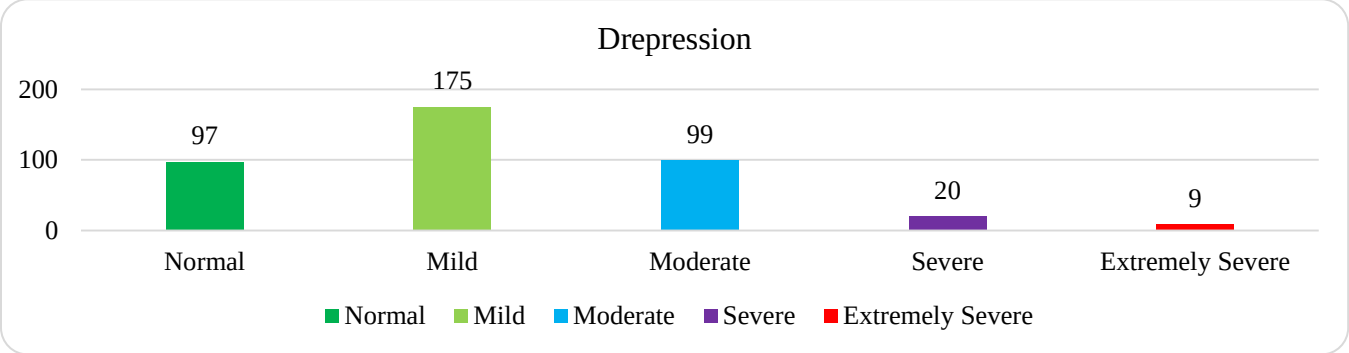


Figure 1: Percentage of depression among study participants.

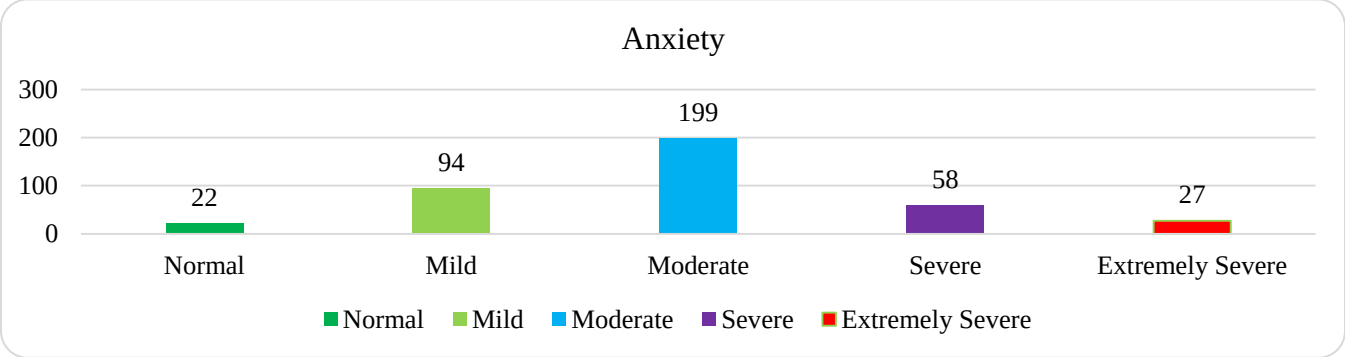


Figure 2: Percentage of anxiety among study participants.

**Stress**

Stress levels are quite high, with 45% of participants categorized as "Severe," and another 30.5% in the "Moderate" category. This suggests that mobile phone use might be contributing to high stress levels, as studies have shown that constant connectivity and social media use can exacerbate stress. A significant proportion of participants show symptoms of anxiety, depression, and stress, particularly in the moderate to severe ranges. Given the high usage and dependency on smartphones, it's possible that mobile phone use is contributing to or exacerbating these mental health issues figure 3.

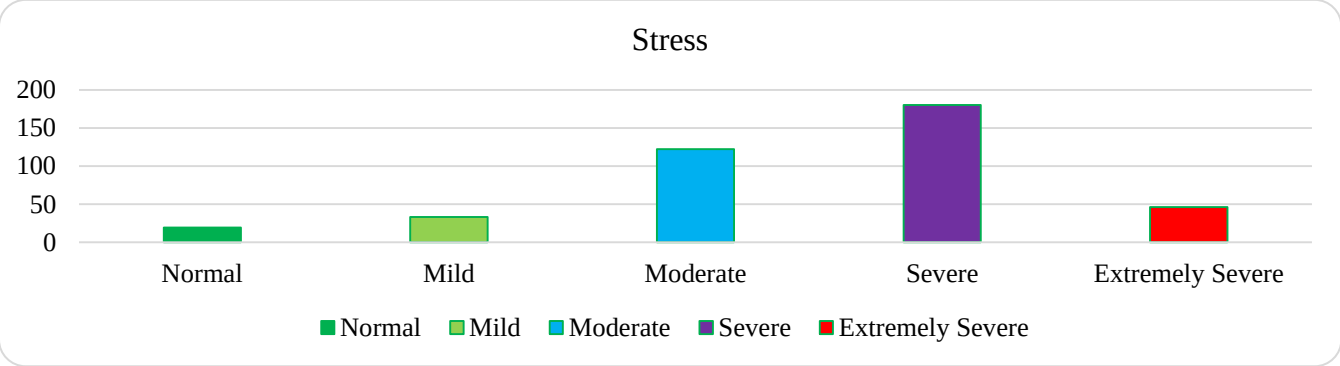


Figure 3: Percentage of stress among study participants.

Table 3: DASS21 scoring.

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| Depression | | |
| Normal | 97 | 24.25 |
| Mild | 175 | 43.75 |
| Moderate | 99 | 24.75 |
| Severe | 20 | 5 |
| Extremely Severe | 9 | 2.25 |
| Anxiety | | |
| Normal | 22 | 5.5 |
| Mild | 94 | 23.5 |
| Moderate | 199 | 49.75 |
| Severe | 58 | 14.5 |
| Extremely Severe | 27 | 6.75 |
| Stress | | |
| Normal | 19 | 4.75 |
| Mild | 33 | 8.25 |
| Moderate | 122 | 30.5 |
| Severe | 180 | 45 |
| Extremely Severe | 46 | 11.5 |

Table 4 presents the results of a chi-square analysis investigating the association between mobile phone addiction and various aspects of mental health, including depression, anxiety, and stress. The chi-square test for depression indicates a significant association between mobile phone addiction and the presence of depressive symptoms, with the p-value of (0.030). This suggests that mobile phone addiction is statistically related to higher levels of depression. Specifically, individuals with mobile phone addiction are more likely to report depressive symptoms compared to those without such addiction. The test for anxiety reveals a highly significant association between mobile phone addiction and anxiety (p-value = 0.001), which showed statistically significance association between mobile phone addiction and anxiety. This strongly suggests that individuals with mobile phone addiction are

more likely to experience anxiety compared to those without addiction.

The analysis for stress shows a statistically significant relationship between mobile phone addiction and stress (p-value = 0.002). This result suggests that mobile phone addiction is positively associated with increased stress levels. Individuals who are addicted to their mobile phones are more likely to report higher levels of stress compared to those who are not addicted. A strong association occurs between mobile phone overuse (e.g., difficulty concentrating, irritability, compulsive checking, longer-than-intended use) and symptoms of anxiety and stress. These behaviors suggest that excessive smartphone use may be indicative of addictive patterns, which have been linked to negative mental health outcomes, such as heightened anxiety and stress.

Table 4: Association of mobile phone addiction and mental health.

| Variable | Df | $x^2$ | p-value |
|---|---|---|---|
| Depression | 18.42 | 4 | 0.030 |
| Anxiety | 16.11 | 2 | 0.001* |
| Stress | 17.01 | 4 | 0.002* |

*Significant at p-value <0.05, where df is degree of freedom while x2 is value of chi-square

## DISCUSSION

This study explored the relationship between mobile phone addiction and mental health issues specifically anxiety, depression, and stress among university students. As mobile phone use becomes increasingly embedded in everyday life, concerns about its psychological effects are growing, particularly among young adults. The findings provide insight into the prevalence of mobile phone addiction and its association with mental health outcomes.

The study revealed a high level of mobile phone addiction among participants, as indicated by a mean score of 48 ± 2.3 on the Smartphone Addiction Scale-Short Version (SAS-SV). Many students reported addictive behaviors such as compulsive checking, irritability without their phones, and difficulty limiting screen time. These behaviors align with previous research identifying such habits as signs of smartphone dependency (Phukan et al., 2022).

One key finding was that 36.5% of students strongly agreed they habitually checked their phones. This compulsive behavior is often linked to the instant gratification provided by social media notifications, reinforcing a cycle of dependency. Studies suggest this habit increases anxiety, with users experiencing distress when unable to check their devices (Sarhan et al., 2024).

Mental health analysis using the Depression, Anxiety, and Stress Scale (DASS-21) showed concerning patterns. Nearly half of the participants (49.75%) reported moderate anxiety, while another 21.25% experienced severe to extremely severe levels. Depression was less severe but still notable, with 43.75% reporting mild symptoms and around 25% experiencing moderate levels. These findings support prior research suggesting a strong association between excessive phone use and increased anxiety, stress, and depression (Singh et al., 2023).

The emotional effects of mobile phone addiction were also evident. Many participants reported irritability, mood swings, and impatience—signs of emotional dependency on smartphones. These symptoms suggest that mobile phone addiction does not only affect behavior but also negatively impacts emotional regulation and mental well-being (Squires et al., 2021). Although depression levels were generally lower than anxiety or stress, the presence of mild to moderate depression among many participants is still significant. It suggests that while mobile phone addiction may not be the sole cause, it likely contributes to poor mental health alongside other factors like personal history, academic stress, and social environment (Tangmunkongvorakul et al., 2020).

Social media use was identified as a major driver of addiction. Platforms such as Instagram, Facebook, TikTok, and Twitter contribute to smartphone overuse through their highly engaging and socially validating features. Constant exposure to idealized content can lead to feelings of inadequacy, loneliness, and low self-esteem, especially among youth. The fear of missing out (FOMO) also keeps users online longer than intended, further increasing their screen time and emotional fatigue (Yang et al., 2023). Sleep disruption is another major concern. Late-night screen use often affects sleep quality and duration, which in turn worsens mental health. Many participants also reported physical discomfort such as wrist and back pain, likely due to prolonged use in poor postures. This physical strain may contribute to overall distress, creating a feedback loop between mental and physical health issues (Yogesh et al., 2024, Zarei et al., 2021).

Demographically, most participants were male (68.25%)

and aged 18–21 (42.25%), consistent with research showing young males are more prone to smartphone addiction. These results are aligned with other study conducting in universities (Zhong et al., 2022). Students from academic disciplines like Sciences and Management were more represented, suggesting these fields may be linked to higher stress and reliance on smartphones as coping tools. Sam findings were found in previous study (Zhu et al., 2025). While this study offers valuable insights into the relationship between mobile phone addiction and mental health, several limitations need to be considered. First, the sample size, although adequate for the scope of the study, was relatively small and predominantly composed of university students. This narrow demographic limit the generalizability of the findings, as mobile phone addiction may manifest differently across various age groups, professions, and socioeconomic backgrounds.

## CONCLUSION

The findings of this study underscored the significant negative impact of mobile phone addiction on the mental health of university students in Faisalabad. High levels of addiction were strongly associated with increased symptoms of depression, anxiety, and stress, as well as physical discomfort and impaired academic performance. These results aligned with global research highlighting the detrimental effects of excessive mobile phone use on young adults' mental well-being. Given the high prevalence and severe mental health implications identified, there was an urgent need for targeted interventions and awareness programs within academic institutions to address mobile phone addiction. Strategies such as digital literacy education, mental health counseling, and promoting healthy smartphone usage habits could be instrumental in mitigating the adverse effects observed. Future research should explore longitudinal impacts and the effectiveness of specific intervention strategies to provide a comprehensive understanding of how to support students in maintaining both their academic performance and mental health in the digital age.

## AUTHOR'S CONTRIBUTION

Muhammad Usman Tayyab Butt: Original Draft Writing, Research Conduction; Ali Siftain: Conceptualization and Supervision; Mehwish Fayaz: Data analysis, Result Writing; Dr. Sultan Ayaz: Review and Editing.

## DATA AVAILABILITY

Data will be available upon request to the corresponding author.

## DECLARATION OF COMPETING INTEREST

The authors declare that they have no conflicting financial interests or personal relationships that could have influenced the research presented in this paper.

## FUNDING

No funding agency, it was self-funded Research.

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