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## Examining the Relationship Between Social Media Addiction and Loneliness: A Cross-Sectional Study of Pakistani Youth

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### Abstract

In today's world the use of the internet has been increased, causing people to become internet addicts. Research has shown that many people are becoming addicted to social media due to the excessive time they spend on these platforms. In Pakistan, students use social media a lot, and it is often seen that many young people, especially university students experience the loneliness. The aim of this study is to discover how using social media is connected or associated to feelings of loneliness. The study was conducted in Pakistan on the student at different universities in Islamabad. The study is based on Uses and Gratifications Theory and Social Presence Theory. It uses a quantitative cross sectional method to investigate the research process. The data were collected from 404 undergraduate (UG) and postgraduate (PG) students enrolled in different universities in Islamabad using a structured questionnaire. Incorporating the Social Media Addiction Scale (SMAS) and the UCLA Loneliness Scale. The data were analyzed using SPSS including descriptive statistics and Pearson correlation. A significant positive relationship was found between social media usage and feelings of loneliness. While the strength of the relationship was moderate ( $r = 0.305$ ,  $p < 0.01$ ). The study primarily emphasizes that females tend to experience more loneliness compared to males. This study adds to existing research by showing real empirical evidence from a developing country. It also highlights that students should use social media in a balanced way, so it does not harm their mental health and instead supports their overall wellbeing.

**Keywords:** Social Media, Internet Addiction, Loneliness, University Students, Pakistan.

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## Introduction

### 1.1 Background of Study

The concept of "Social media" is currently a topic of extensive conversation in both academic and personal spheres. The increasing use of social media indicates that over 3.5 billion people which was about 45 % of the entire world population are active users of social media (SM) (Hameed & Irfan, 2021). Past studies have indicated that over 90% of university and college students use social media networks regularly. (Siddiqui & Singh, 2016). The younger generation may face serious mental health problems because of the early experience of social media in their lives (Shabnoor & Tajinder, 2006). Ironically it is the social media consumption, making the younger generation the most antisocial (Hameed & Irfan, 2021). Research conducted by (O’Keeffe & Clarke-Pearson, 2021), young people faced cyberbullying, because bullying someone by using social media is easier and young people usually don’t report it.

The term ‘Facebook depression is used for the feeling of depression and overexposure to the social media networking sites (Yoon et al., 2019). According to (Shaw & Black, 2008) uncontrolled or overconsumption of the internet is called internet addiction (IA). It can be said that both are intertwined, (Chen et al., 2022) elaborate that social media addiction is positive impacts the excessive consumption of internet similarly it also has adverse effects on health. Excessively engaging with the internet and social media might push the youth into experiencing feelings of loneliness and isolation. (Smith et al., 2021). Loneliness defines as a contrariety between a person’s actual relationship and the relationship a person wants (Peplau Anne & Perlman, 1981). A book by (Jacqueline & Richard, 2009) argued that we are living in the modern connected worlds, still Americans of the 21<sup>st</sup> century are feeling more lonely in comparison to previous generations.

Depression and loneliness like other parts of the world also affects the youth of Pakistan, (Khan et al., 2021) confirmed that evident symptoms of depression and loneliness exist among university students in the country. Research confirms the prevalence of depression among Karachi youth which has been increasing with time (Imran, 2022). Despite these findings, limited research has specifically examined the relationship between social media usage and loneliness among university students in Pakistan, particularly within the context of Islamabad.

### 1.4 Research Objectives

The research aims to achieve the following primary objectives.

1. To examine the spread of social media addiction in Pakistani university students.
2. Analyzing the persistence of loneliness among university students.
3. To examine how social media usage relates to feelings of loneliness among university students.

### 1.5 Research Hypothesis

Based on the research objective following are the research hypotheses.

- H1.** Social media has an addictive impact on university students.
- H2.** The sensation of loneliness is on the rise among university students.
- H3.** Social media addiction directly influences the loneliness among Pakistani university students.

## Literature Review

### 2.1 Introduction

The swift penetration of the internet in our daily lives can be judged by the fact that 49.7% of the population around the globe had internet access in 2017 (Montag et al., 2018). Social media help people in job hunting through online social media groups, and blogs and act as a successful Job hunting tool (Fieseler et al., 2014). However, alongside these benefits, researchers have increasingly raised concerns regarding the psychological and behavioral consequences of excessive internet and social media use.

Over the past decade, there has been a notable increase in the extensive utilization of the internet among university students. There is a widespread association between social media addiction and mental disorders. (Carbonell et al., 2018). A study has been conducted in Bangladesh to explore the impact of internet consumption among university/ college students. It has been found that students spend 2 to 4 hours daily on internet consumption (Fatema et al., 2020). This growing dependence indicates that social media has become deeply integrated into students' daily routines and social interactions.

Another study conducted by (Knibbe & Luchies, 2013) found that the average student dedicates up to 2 hours daily to using Facebook. Thus, time consumption on the internet impacts the social and academic life of a student. According to a study (Akar, 2015), people using the internet for more than 40 hours or above in a week will be considered internet addicts. The study mentioned the cause of extensive online engagement, i.e., developmental needs, education and learning, entertainment, and lastly for social life. The study's results distinctly highlight the influence of gender on internet usage, revealing that boys tend to utilize the internet more extensively than girls.

A study has found an inverse relationship between age and internet addiction (Heo et al., 2014), which means young people are more inclined toward internet addiction. (Koyuncu et al., 2014) conducted a study in 2014 to see if there was a link between internet addiction and loneliness in school students. The finding of the study showed that internet addiction is a crucial problem among students. According to a study (Jiang, 2014), among internet user, people under 30 years of age hold 58.2 % of the total volume of the internet. Another study confirmed that young people in school and college consume social media more and making them internet addicts due to the easy availability of mobile, laptops, or computers. The study associates internet addiction with a decrease in self-esteem and self-confidence, causing loneliness among young people (Jiang, 2014).

#### 2.5.2 Difference between Addiction and Habit:

It is important to draw a line between addiction and habit. Habit act as a fundamental element in behavior formation, it is a phenomenon in which a person automatically behaves as per cues in their surrounding (Gardner, 2015). After the formation of a habit, people take actions as per the predefined instructions or without a well-decided conscious decision (Volpp & Loewenstein, 2020). Whereas addiction involves any behavior or consumption that makes you feel excited or rewarded, by doing it again (Healthline, 2019). Specifically, internet addiction is associated with the prolonged use of mobile phones and other electronic gadgets. The practice led to several physical and mental illnesses.

### 2.7 Social Media

Social media can be defined as, a computer-mediated technology for sharing concepts, data and information virtually amount communities, usually including social sites like Facebook,

Instagram, and Twitter (Smith et al., 2021). Statistics suggest that One-third of the world's population is on social media (Kircaburun et al., 2020). Facebook is the most popular social media platform in the world, with over 2.9 billion users. It is followed by YouTube, WhatsApp, Instagram, WeChat, and TikTok (Statista, 2022). Social media is a part and parcel of today's internet and modern society, it has changed the communication style among communities (O'Day & Heimberg, 2021a). Social media addiction relates to mental health issues, which means that a higher addiction level to social media in a student caused higher depression (Haand & Shuwang, 2020). However, in addition to the fact mentioned above, FoMO is also associated with depression.

### **2.7.2 Social Media Impacts on Loneliness and Depression**

A study conducted in Pakistan found that a significant number of students use the social networking site Facebook for more than one hour per day. This finding suggests that social media addiction is a problem in Pakistan (Mahmood et al., 2022). According to a study (Demir, 2016), there is a positive significant relationship between loneliness and depression also internet addiction acts a mediational role. It also mentions a positive relationship between depression and loneliness. According to (Erzen & Çikrikci, 2018) about 350 million people around the globe are in depression. Past research pointed to the fact that over internet usage of the internet or SMN causes negative impacts on human psychological and mental health. Similarly, a study by (Seidler et al., 2022) resulted that loneliness is greatly associated with the use of social networking sites, the study explains that it may occur when real contact decreases and virtual contact increases by using social networking sites. A research in Lebanon aimed to find out the relationship between SM and loneliness. The study's findings once again confirmed the association between social media use and loneliness. Moreover, the study mentions that loneliness is not only linked to social media usage pattern but also have certain implications. Loneliness promotes stress or anxiety which in turn produces or boosts the fear of isolation or social rejection (Youssef et al., 2020).

## **2.9 Loneliness**

Loneliness is a negative feeling and it is considered a contrariety between a person's actual relationship and the relationship a person wants (Peplau Anne & Perlman, 1981). Loneliness is a response to a particular absence that a person requires or associates with something, experiencing loneliness can cause unpleasant and depressing outcomes (DiTommaso et al., 2003). (Haroon et al., 2020) conducted a study on social media and psychological adjustment whilst taking spirituality as the mediating variable, the study resulted in similar kinds of findings by mentioning the relationship of social media with depression and anxiety as significant and positive. According to (Bertha, 2020) every three out of five adults feel loneliness. According to the Cigna survey, 73% of the people who participated in the survey feel lonely. The study also mentioned that among those who feel lonely, most people use social media excessively.

### **2.9.1 Impact of Loneliness**

SM has many advantages, including the fastest flow of information and connectivity. A study by (mangla et al., 2020) showed results, found some adverse impacts of social media on society. The study mentioned, the social media app WhatsApp caused bad impacts on education, daily life routine, and behavior, as the highly addictive app makes it difficult to control. Loneliness is associated with something positive, for example, it provides a deeper understanding of yourself (self-awareness), sometimes being alone can help you be creative by providing you the exploration and concentration power (Özdemir, 2008). A study conducted by (Diehl et al., 2018) found that

loneliness is prevailing among university students, moreover, students are experiencing emotional loneliness in contrast to physical loneliness.

It is also important to understand that loneliness is becoming a health concern among students, particularly the university or college students, (Hysing et al., 2020) wanted to explore the demographic impacts on loneliness among students, and the results showed high levels of loneliness for both adolescents and aged students. According to a study (Danneel et al., 2018), adolescents and young people are particularly who are exposed to the negative or harmful effects of loneliness. It means that young students are vulnerable to experiencing the impacts of loneliness.

### **2.9.2 Loneliness and Social Media**

Studies investigate the link between SM and loneliness have shown mixed results. Some studies suggest that using SM for online communication can enhance social support and self-esteem while reducing loneliness and depression (Shaw & Gant, 2002). However, other studies have found that social media use can lead to social isolation and decreased well-being (Kim, Larose, & Peng, 2009).

A study conducted by (Ryan & Xenos, 2011) revealed that those who use Facebook are more extraverted and self-centered and possess less loneliness as compared to the people who are not Facebook users. Similarly, the findings of the another study concluded that people suffering from loneliness and social anxiety engage online and use social media to find out the social support, this can help them reduce loneliness (O'Day & Heimberg, 2021b). Alternatively, a study by (Hunt et al., 2018) that investigated SM, loneliness, and depression. This study showed that there is a significant relationship between social media and loneliness. A study suggests that reducing social media use to approximately 30 minutes per day may lead to notable improvements in well-being. Another research conducted to find out the effects of SM (social media) usage on well-being and loneliness. The research chose Instagram, Twitter, and Facebook as social media sites. The findings of the study reveal that all three SM were linked to loneliness and negative well-being. Whereas loneliness is highly dependent on the time consumed on the SM (Ye et al., 2021).

### **2.10 Internet consumption in Pakistan**

It's important to investigate the usage pattern of social media in Pakistan. A study conducted in Lahore (Pakistan) (Naureen et al., 2022), focuses on the role of SM and mental wellbeing. The study's findings revealed that most participants were engaged in social media consumption for more than 10 hours per day, which is a cause for concern. Moreover, people consume social media for entertainment purposes, similarly, 3/4 of participants regularly checked their notifications which causes disturbance in work and study.

In study (Shah et al., 2021) highlight positive aspects, such as increased self-expression and social connectivity. Furthermore, the study also revealed that 61% of students prefer to use WhatsApp as social media app for connecting and sharing. Similar findings were concluded from another study on the use of social media during the political crises in Pakistan. The finding of this study explained that SM gives a platform for self-expression, this helps students to share their feelings thus enhances confidence among students. At the time of crisis social media helps as an exist way cause release in tension (Shaheen, 2008). A study analyzed the usage of smartphones and their impacts on the psychological well-being of students in Lahore. A research showed that there is a negative impact of smartphone usage on students causing stress and other psychological problems (Tariq et al., 2019). These mixed findings suggest that the role of social media in influencing psychological well-being remains inconclusive, particularly in the Pakistani context.

## **2.11 Research Gap**

Despite the growing body of literature on social media usage and its psychological effects, there remains a lack of focused empirical research examining the direct relationship between social media addiction and loneliness among university students in Pakistan. Furthermore, existing studies often present mixed or contradictory findings, highlighting the need for further investigation. Therefore, this study aims to address this gap by examining the association between social media addiction and loneliness among university students in Islamabad, providing context-specific empirical evidence.

## **2.12 Theoretical Framework**

Theoretical framework has a pivotal role in conducting research. A theoretical framework acts as a foundation or base for knowledge, which means that all the knowledge will be generated or constructed from the base with a proper structure (Grant & Osanloo, 2014). The study investigates how social media usage influences loneliness among university students.

### **2.12.1 Uses and Gratifications Theory**

This theory was first presented by Katz and Blumler (1974). The uses and gratifications theory focuses on figuring out why people choose to use specific forms of media, what desires or needs drive them to do so, and what satisfactions they gain from using these media platforms. Essentially, it seeks to understand the reasons behind people's media preferences and the benefits they derive from engaging with different types of content (Kasirye, 2021). The theory is based on the five basic assumptions. As people choose the communication media that best suits their needs, they play an active role in the decision-making process. In other words people are active users and choose media which can fulfill their requirements or gratify their needs (Eginli & Neslihan, 2018). People use social media for various reasons, i.e., socializing, seeking information, spending leisure time, enjoying entertainment, and seeking relaxation. They select communication media that meet their requirements, offering utility for communication, convenience, expressing viewpoints, sharing information, and gaining knowledge about others (Whiting et al., 2011). In the context of this study, university students who experience loneliness may use social media to fulfill their need for social connection and interaction. However, excessive reliance on social media for these needs may unintentionally contribute to increased feelings of isolation, rather than reducing loneliness.

### **2.12.2 Social Presence Theory**

Social presence theory was presented by John Short, Ederyn Williams, and Bruce Christie in their 1976 research paper titled "The Social Psychology of Telecommunications" (Whiting et al., 2011). Social presence is the degree to which people feel connected to others during communication, even if they are not physically present. The Social Presence theory suggests that different types of media can make you perceive others as physically present to varying degrees. This is because some media can transmit visual and verbal cues like body language, facial expressions, voice tone, etc., which make you feel more connected to others. However, other media might lack these cues, resulting in a weaker sense of presence (Calefato & Lanubile, 2010). When a communication medium makes you feel closer to others, you'll be happier with the interaction. So, the more connected you feel through the medium and can get more satisfaction. The theory helps us to understand the why and how a person chooses a specific media. According to (Kang, 2007) Social Presence theory suggests that online interactions are less complex and require less creativity compared to face-to-face communication. This is because online communication lacks many nonverbal cues that we use in face-to-face conversations. So, in online interactions, expressing and understanding oneself

become more vivid and straightforward. In simple terms, for some people, choosing social media over social gatherings can lead to increased loneliness. By becoming more active online, they may drift away from their social circle, gradually feeling disconnected and isolated.

## **Research Methodology**

### **3.2 Research Design**

A research design includes a plan or framework that was specifically devised to find out the answers to a particular research question or problem (Helen, 2015). It is an action plan that includes investigative strategies for proposed research (Islamia, 2016). The study is quantitative in nature, producing the findings of the research in numerical or some measurable forms. Quantitative research refers to empirical research that counts something in both data collection and analysis (Rahman, 2016). It is helpful in providing the detail data by numbers and observations, also it is useful in testing the relationship between variables (Zhu et al., 2020). The data collected for this research was using survey method. The survey is a method of data collection from a predefined sample of respondents by asking them multiple questions (Ponto, Ph.D., APRN, AGCNS-BC, AOCNS®, 2015).

The sample size for this study was 404 students, including both undergraduates and postgraduates (UG & PG) from Islamabad. The reason for the selection of the city is its diversity. Islamabad is the capital city and most diverse metropolis (Hassan et al., 2016). A convenient sampling method was used for the study purpose. The technique involves all those respondents who are conveniently available for the research (Galloway, 2005). There is no specific pattern involved in this technique. The technique is very useful and convenient, major importance of the technique can be described from the fact that it is simple, less costly, and quick (Stratton, 2021). It is important to evaluate the resources, i.e., time and cost for a study. This was another main reason for the selection of this sampling technique.

### **3.3 Data Collection**

The data collection techniques are designed to produce objective, reliable, and numerical findings. The important data collection methods in quantitative research include direct observation, survey, or questionnaire (Allen-Meares & Lane, 1990).

In this study, data were collected through online questionnaires (Google Forms). Online data collection is an effective method for reaching a large and diverse population efficiently (Lefever et al., 2007).

The questionnaire was divided into three sections:

1. Demographic information (age, gender, education, etc.)
2. Social Media Addiction Scale (SMAS)
3. UCLA Loneliness Scale

#### **3.4.1 Social Media Addiction Scale (SMAS):**

To assess social media addiction among university students, a scale was adopted (Al-Menayes, 2015). The Social Media Addiction Scale (SMAS) is a 14-item self-report measure that assesses the severity of social media addiction. Respondents indicate their level of agreement with each item on a 5-point Likert scale, ranging from 5 (strongly agree) to 1 (strongly disagree). The SMAS

has been shown to have good validity and reliability, and it has been used in a variety of research studies.

### **3.4.2 UCLA Loneliness Scale**

UCLA Loneliness Scale (Russell, 1972) will be used to assess loneliness among students. The scale is a 20-item self-report measure that assesses social media addiction. Respondents indicate how often they engage in certain behaviors related to social media use on a 4-point Likert scale, ranging from 1 (never) to 4 (often). The scale has good internal consistency, with Cronbach's alpha coefficients ranging from 0.89 to 0.94. It also has good test-retest reliability, with a correlation coefficient of 0.73.

### **Demographic Variables**

Demographic variables are important in the research process. Many demographic variables have significant effects on the behavior of the people, these variables include age, income, gender, education, sex, family background, and marital status (Kumar, 2014). The following study will ask about the demographics, including age, marital status, the program of study, and level of education.

### **Data Analysis**

We analyzed the data using SPSS (Statistical Package for the Social Sciences) and summarized the results with descriptive statistics, such as frequencies and percentages. To highlight the participants' demographics, we calculated descriptive statistics for the whole sample. The findings are shown in tables with numbers and percentages of the total scores from the SMAS and UCLA scales. We also used a Pearson product-moment correlation to investigate the link between social media addiction and loneliness.

## **Data Analysis and Results**

In this chapter, we present our data analysis and key findings. We begin with descriptive statistics to gain an overview of the data, identifying averages, spreads, and any outliers. We utilize the Pearson correlation coefficient so that the connections between different variables and their importance can be examined. Many researchers claim that the median split technique helps to reveal concealed trends when individuals look at information from various angles. Through the application of specific methods, the chi-square test is applied to investigate categorical variables and their links because understanding these ties is necessary. Comprehensive descriptions, along with charts, graphs, and tables, will demonstrate the outcomes of this study while providing clarity for the audience. The data analysis was completed with SPSS version 27 because this tool provides accurate calculations.

### **Descriptive Statistics**

Table 1 gives a simple view of 404 students from different universities in Islamabad who joined this study about social media and loneliness. Most participants were male (55.4%), while females were 44.1%, and a very small number (0.5%) chose other. Age-wise, many students were between 23–25 years (45.3%) and 19–22 years (41.1%). Only a few were 27 or above (13.1%), and very few were under 18 (0.5%). Most of them were single (93.3%), and only a small number were married (5.9%), while 0.7% marked other. In education level, just over half were undergraduates (51.5%), almost half were postgraduates (47.3%), and only 1.2% were PhD students. About study programs, students came from Engineering (33.4%), Natural Sciences (32.2%), Social Sciences (29.2%), and a small group from Health Sciences (5.2%).

**Table 1: Characteristics of study participants**

<b>Characteristics</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
Male	224	55.4
Female	178	44.1
<b>Age</b>		
Under 18	2	.5
19-22	166	41.1
23-25	183	45.3
27- Above	53	13.1
<b>Marital Status</b>		
Single	377	93.3
Married	24	5.9
Other	3	.7
<b>Educational Level</b>		
Undergraduate	208	51.5
Postgraduate	191	47.3
Ph.D.	5	1.2
<b>Study Program</b>		
Engineering	135	33.4
Social Sciences	118	29.2
Natural Sciences	130	32.2
Health Sciences	21	5.2
Total	404	100

**Social Media Addiction:**

The social media addiction scale (SMAS) consisted of 14 statements. Table 2 showed the descriptive analysis of the participant's responses. We used 5-point Likert Scale ranging from Strongly Disagree to Strongly agree. About 39.1% of respondents strongly agree they use social

media more than intended, suggesting a risk of addiction. Moreover, 50.8% of the participants feel that life becomes boring without it. This shows the integration of social media into daily routines for relaxation and connection. Around 44.8% report neglecting schoolwork due to social media, while other 27.3% people get irritated when interrupted using social media. Only 8.4% agree that days pass without needing it, indicating its time consuming nature. About 41.8% struggle with sleep disturbances after using social media, supported by research linking screen time to sleep issues. Many studies confirm that spending time on screen can disturb sleep cycle which can cause multiple psychological issues (Samaha & Hawi, 2016). Furthermore, family complaints about social media use affect 34.6%, and 20.5%, this shows the concern over reducing usage and suggesting dependency. Only 9.2% believe their grades decline due to social media, while 77.5% avoid using it while driving. 3% cancel social meetings for social media, showing awareness of its impact on real-life relationships. 10.1% often think about social media when away from it, and 60.6% notice increased usage over time.

From the descriptive analysis it can be said that social media has become an important part of people's everyday lives. It influences behavior, emotions, and daily routines of people in different ways. The findings also suggest that many individuals tend to spend longer hours on social media than intended, which can sometimes affect their studies, sleeping habits, and overall daily activities. In some cases, participants also reported behaviors that may be unsafe, such as using social media while driving.

These results showed the increasing influence of social media in modern life and underlined the need to encourage more balanced and responsible use. They also show the importance of creating awareness about how excessive social media usage can gradually affect both personal and academic life.

**Table 1:** *Social Media Addiction Scale responses of the participants*

	SD	D	N	A	SA
1. I often find myself using social media longer than intended	25 (6.2%)	33 (8.2%)	20 (5.0%)	168 (41.6%)	158 (39.1%)
2. I often find life to be boring without social media	43 (10.6%)	80 (19.8%)	76 (18.8%)	121 (30%)	84 (20.8%)
3. I often neglect my schoolwork because of my usage of social media	60 (14.9%)	71 (17.9%)	92 (22.8%)	116 (28.7%)	65 (16.1%)
4. I get irritated when someone interrupts me when I'm using social media	88 (21.8%)	126 (31.2%)	78 (19.3%)	74 (18.3%)	38 (9.4%)
5. Several days could pass without me feeling it when I am using social media <sup>a</sup>	34 (8.4%)	85 (21.0%)	97 (24.0%)	101 (25.0%)	87 (21.5%)
6. Time passes by without me feeling it when I am using social media	16 (4%)	41 (10.1%)	69 (17.1%)	147 (36.4%)	131 (32.4%)
7. I find it difficult to sleep shortly after using social media	63 (15.6%)	94 (23.3%)	78 (19.3%)	104 (25.7%)	65 (16.1%)
8. My family complain frequently of my preoccupation with social media	77 (19.1%)	106 (26.2%)	81 (20%)	78 (19.3%)	62 (15.3%)
9. I will be upset if I had to cut down the amount of time, I spend using SM	106 (26.2%)	124 (30.7%)	91 (22.5%)	57 (14.1%)	26 (6.4%)
10. My school grades have deteriorated because of my social media use	111 (27.5%)	106 (26.2%)	74 (18.3%)	76 (18.8%)	37 (9.2%)

11. I often use social media while driving.	238 (58.9%)	75 (18.6%)	46 (11.4%)	28 (6.9%)	17 (4.2%)
12. I often cancel meeting my friends because of my occupation with social media.	235 (58.2%)	92 (22.8%)	39 (9.7%)	26 (6.4%)	12 (3%)
13. I find myself thinking about what happened in social media when I am away from them	115 (28.5%)	94 (23.3%)	79 (19.6%)	75 (18.6%)	41 (10.1%)
14. I feel my SM usage has increased significantly since I began using time	25 (6.2%)	47 (11.6%)	87 (21.5%)	148 (36.6%)	97 (24%)

*SD “strongly disagree”, D “disagree”, N “neutral”, A “agree”, SA “strongly agree” a Reverse scoring.*

Table 2 shows the responses of participants regarding different behaviors linked with social media addiction. Overall, the results suggest that a considerable number of participants spend more time on social media than they originally intended. Many participants agreed that they lose track of time while using social media, and a large proportion also felt that their social media usage has increased over time.

Looking at the data, it becomes clear that social media plays a role in how people handle everyday routines. Some participants said they struggle to fall asleep, pointing to online platforms as part of the reason. When asked about school tasks, quite a few mentioned distractions tied to scrolling habits. On the topic of frustration, answers split - some felt annoyed, others did not. Family members bringing up concerns came up often, though not everyone agreed it was frequent. Emotional ties to apps showed mixed feelings across the group.

### Median Split

The study used a median split method on the Social Media Addiction Scale (SMAS) and the UCLA Loneliness Scale. The Students were classified into two different groups, “Addicted” and “Non-addicted,” based on a median score of 42. The Results showed that 56.2% of students were non-addicted, while 43.8% were in the addicted group. This indicates that a large number of students still have signs of social media addiction. Overall, this result points out that social media is affecting the daily life and well-being of many participants.

**Table 2: Median Split, Social Media Addiction Scale (SMAS)**

	Frequency	Percentage
<b>Non-Addicted</b>	227	56.2
<b>Addicted</b>	177	43.8
Total	404	100

Similarly, median split was applied on Loneliness scale (UCLA). According to table 4 most of the people 213 (52.7%) are lonely whereas 191 (47.3%) are non-lonely

**Table 3: Median Split, Loneliness Scale (UCLA)**

	Frequency	Percentage
<b>Lonely</b>	213	52.7
<b>Non-Lonely</b>	191	47.3
Total	404	100

**4.5 Social media addiction and the characteristics of study participants:**

The study examines the relationship between social media addiction and participants' characteristics using media split and crosstab evaluations. Table 5 reveals that there is no significant relationship between addiction and traits like Age, Gender, Marital Status, Education, and Study Program. As it can be seen that for Age, the value of  $X^2$  is 2.910, with a P value of 0.405. Similarly, for Gender, the  $X^2$  value is 3.403, and the P value is 0.182 as both the values are exceeding the 0.05 which is the significance level. Similarly, Marital Status ( $P = 0.237$ ), Education ( $P = 0.162$ ), and Study Program ( $P = 0.272$ ) also showed no significant associations. These findings indicate that none of the examined variables significantly influence addiction status within the sample.

**Table 4: Social media addiction and the traits of the participants**

	Non-Addicted	Addicted	$X^2$	P-value
<b>Age</b>				
Under 18	0	2	2.910	0.405
19-22	91	75		
23-25	105	78		
27-Above	31	22		
<b>Gender</b>				
Male	122	102	3.403	0.182
Female	105	73		
Other	0	2		
<b>Marital Status</b>				
Single	216	161	2.880	0.237
Married	10	14		
Other	1	2		
<b>Education</b>				
Undergraduate	113	95	3.639	0.162
Postgraduate	113	78		
PhD	1	4		
<b>Study Program</b>				

Engineering	79	56	3.902	.272
Social Sciences	58	60		
Natural Sciences	79	51		
Health Sciences	11	10		
<b>Total</b>	<b>227</b>	<b>177</b>		

#### 4.6 Loneliness Scale (UCLA):

Table 6 highlights participants' responses on the UCLA Loneliness Scale, which measures feelings of social connectedness through 20 questions. Approximately 50.5% of respondents "Sometimes" feel in tune with those around them, indicating a moderate sense of connection. Similarly, 37.9% "Sometimes" feel a lack of companionship, reflecting occasional feelings of isolation. Notably, 60% agreed they often feel alone, yet 29.5% "Always" feel part of a group of friends, showing contrasting perceptions of solitude and inclusion. Around 40.3% "Sometimes" feel commonality with others, while 59.4% believe they lack closeness to anyone, signaling weakened social ties. Additionally, 37.1% "Sometimes" feel left out, and 38.9% "Sometimes" find companionship when needed, underscoring a mix of periodic isolation and social accessibility among participants.

Overall results reveal important insights into individuals' feelings of social connectedness. About half of the respondent's experience moderate connection and understanding with others, while a significant portion occasionally feels isolated or lacks companionship. Interestingly, some individuals feel alone at times but still find belonging within friend groups. Addressing social support gaps and promoting meaningful relationships could enhance overall social well-being.

**Table 5: Loneliness Scale and participants' responses**

	Never	Rarely	Sometimes	Always
1. How often do you feel that you are "in tune" with the people around you? <sup>a</sup>	24 (5.9%)	118 (29.2%)	204 (50.5%)	58 (14.4%)
2. How often do you feel that you lack companionship?	70 (17.3%)	117 (29.0%)	153 (37.9%)	64 (15.8%)
3. How often do you feel that there is no one you can turn to?	80 (19.8%)	108 (26.7%)	133 (32.9%)	83 (20.5%)
4. How often do you feel alone?	48 (11.9%)	114 (28.2%)	153 (37.9%)	89 (22%)
5. How often do you feel part of a group of friends? <sup>a</sup>	54 (13.4%)	90 (22.3%)	141 (34.9%)	119 (29.5%)
6. How often do you feel that you have a lot in common with the people around you? <sup>a</sup>	56 (13.9%)	139 (34.4%)	163 (40.3%)	46 (11.4%)
7. How often do you feel that you are no longer close to anyone?	64 (15.3%)	100 (24.8%)	158 (39.1%)	82 (20.3%)

8. How often do you feel, your interests and ideas are not shared by those around you?	52 (12.9%)	106 (26.2%)	162 (40.1%)	82 (20.3%)
9. How often do you feel outgoing and friendly? <sup>a</sup>	28 (6.9%)	94 (23.3%)	177 (43.8%)	105 (26%)
10. How often do you feel close to people?	40 (9.9%)	134 (33.2%)	160 (39.6%)	70 (17.3%)
11. How often do you feel left out?	44 (10.9%)	129 (31.9%)	150 (37.1%)	81 (20%)
12. How often do you feel that your relationships with others are not meaningful?	73 (18.1%)	118 (29.2%)	138 (34.2%)	75 (18.6%)
13. How often do you feel that no one really knows you well?	39 (9.7%)	111 (27.5%)	127 (31.4%)	127 (31.4%)
14. How often do you feel isolated from others?	50 (12.4%)	111 (27.5%)	154 (38.1%)	89 (22%)
15. How often do you feel you can find companionship when you want it? <sup>a</sup>	52 (12.9%)	123 (30.4%)	157 (38.9%)	72 (17.8%)
16. How often do you feel that there are people who really understand you? <sup>a</sup>	54 (13.4%)	131 (32.4%)	156 (38.6%)	63 (15.6%)
17. How often do you feel shy?	53 (13.1%)	100 (24.8%)	162 (40.1%)	89 (22%)
18. How often do you feel that people are around you but not with you?	37 (9.2%)	91 (22.5%)	173 (42.8%)	103 (25.5%)
19. How often do you feel that there are people you can talk to? <sup>a</sup>	35 (8.7%)	115 (28.5%)	159 (39.4%)	95 (23.5%)
20. How often do you feel that there are people you can turn to? <sup>a</sup>	37 (9.2%)	130 (32.2%)	139 (34.4%)	98 (24.3%)

**a= reversed scoring question**

#### **4.7 Loneliness and the participants' traits**

A chi-square test was conducted to examine the relationship between loneliness and participants' traits, including age, gender, education, marital status, and study program. A significant positive association was found between age and loneliness ( $p$ -value = 0.005,  $X^2 = 12.898$ ), with participants aged 19-22 reporting higher loneliness levels. Gender also showed a significant relationship ( $p$ -value = 0.031), with females feeling lonelier than males, while marital status ( $p$ -value = 0.053) showed a borderline but non-significant association with loneliness ( $p = 0.053$ ), which does not meet the conventional significance threshold of  $p < 0.05$ . Therefore, no definitive conclusion can be drawn about the influence of marital status on loneliness. Similarly, no significant relationship was found between loneliness and education or study program, suggesting these factors do not influence loneliness levels.

Overall, the findings showed that age and gender have a significant influence on loneliness levels among participants. Younger participants (especially in the 19-22 and 23-25 age groups) and female participants tend to experience higher levels of loneliness. While the relationship with marital status approaches significance, education and study programs do not seem to play a significant role in determining loneliness.

**Table 7:** *Relationship between loneliness and participants' traits*

	<b>Non-lonely</b>	<b>Lonely</b>	<b>X<sup>2</sup></b>	<b>P-value</b>
<b>Age</b>				
Under 18	2	0	12.898	0.005
19-22	63	103		
23-25	94	89		
27-Above	32	21		
<b>Gender</b>				
Male	119	105	6.979	0.031
Female	71	107		
Other	1	1		
<b>Marital Status</b>				
Single	173	204	5.868	0.053
Married	17	7		
Other	1	2		
<b>Education</b>				
Undergraduate	91	117	3.869	0.145
Postgraduate	96	95		
PhD	4	1		
<b>Study Program</b>				
Engineering	69	66	1.777	.620
Social Sciences	53	65		
Natural Sciences	61	69		
Health Sciences	8	13		
<b>Total</b>	<b>191</b>	<b>213</b>		

#### **4.8 Correlation between the Social media addiction and Loneliness:**

The correlation between social media addiction and loneliness was analyzed using the Pearson correlation test, which revealed a significant positive relationship ( $r = 0.305$ ,  $p = 0.001$ ). This moderate association suggests that as social media addiction increases, loneliness also tends to

rise. However, it's important to note that correlation does not imply causation, and other factors may influence both variables.

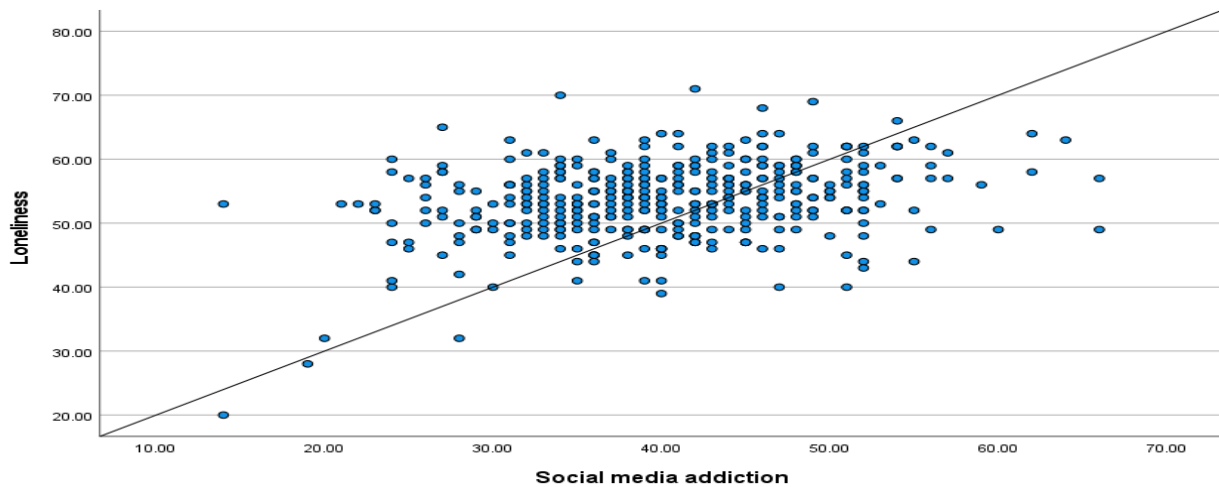
**Table 6:** *Pearson Correlation (Social media addiction and loneliness)*

	SMAS	UCLA
SMAS (Correlation)	1	0.305**
Sig. (2-tailed)		<.001
N	404	404

\*\* . Correlation is significant at the 0.01 level (2-tailed)

More vividly the results can be seen through Fig 1. It can be said that both the variables have an association between them. However, the association between the variables is moderate. This means that as social media addiction increases, loneliness also tends to increase. Figure 1 illustrates this moderate positive association more vividly, further supporting the finding that higher social media addiction tends to correspond with higher loneliness levels among the participants.

**Figure 1:** *Social media addiction and loneliness*



### Conclusion

This study investigated the relationship of social media addiction with loneliness among university students of Islamabad. The results showed that social media addiction and loneliness were relatively common among the participants. It was found that about 43.8% of participants were addicted to social media, while 52.7% of participants reported feelings of loneliness. The study also found that there was a significant positive correlation between social media addiction and loneliness ( $r = 0.305$ ,  $p < 0.001$ ). This shows that participants with high social media addiction were more likely to experience loneliness.

On the basis of demographic variable certain differences were also found. Younger participants, especially those aged between 19 and 22 years, reported higher levels of loneliness. Similarly, female participants were lonelier than male participants. However, the study did not show a significant relationship between social media addiction and demographic variables such as age, gender, marital status, education and study programs. The results align with prior research (Khola et al., 2016) (Naureen et al., 2022) while contradicting some aspects of theoretical frameworks

such as the uses and gratification theory and social presence theory. Heavy use of social media seems to help people meet some social needs, but at the same time it can also make them feel more alone, which may affect students' mental health. Following simple steps like reducing social media use to about 30 minutes a day (Hunt et al., 2018) can help in lowering these effects and support healthier habits.

There are some limitations in this study, even though the findings are still useful. First, the sample is only taken from students of Islamabad. Because of this, results may not fully apply to students in other cities or different populations. The study is also cross-sectional in nature. Data was collected at just one point of time, not over a longer period. So it becomes a bit difficult to clearly understand the link between social media addiction and loneliness over time. Another thing is, the data is self-reported. Students answered based on their own opinion and feelings, so there is always chance that some answers are not fully accurate or complete.

In future studies, this topic can be explored more using longitudinal research. It will help to understand better how social media addiction and loneliness develops and changes with time.

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