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Smartphone Addiction, Cyberbullying Victimization, Quality of Life and Academic Performance among Students

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ABSTRACT:
This study aims to explore the impact of smartphone addiction in relation to cyberbullying victimization, quality of life, and academic performance, among university students. The sample consisted of 310 students, ranging in age from 16 -26. A convenience sampling technique was used to select the sample. Smartphone Addiction Scale-Short Version (SAS-SV), Cyberbullying Scale (CBS), and World Health Organization Quality Of Life Scale-BREF (WHOQOL-BREF) were used for data collection. The results indicated that there is a significant positive correlation between smartphone addiction and cyberbullying victimization ($r = .62$, $p < .01$), as well as significant negative correlations between cyberbullying victimization and quality of life ($r = -.761$, $p < .01$) and smartphone addiction and quality of life also ($r = -.60$, $p < .01$). The results further highlighted the significant distinctions in smartphone addiction and cyberbullying victimization between males and females, showing males have greater smartphone addiction and cyberbullying victimization than females. In addition, the results showed a weak association ($\eta = 0.34$) between smartphone addiction and income.

KEYWORDS:
Smartphone Addiction, Cyberbullying-victimization, Quality of Life, Academic Performance

Introduction

Smartphone is the most astonishing and quickly spreading technology in the current arena. In today's world, the excessive usage of smartphones makes this device an essential digital gadget. Smartphone addiction can be defined as the overuse of smartphones to the extent to which it disturbs the daily lives of users (Soni et al., 2017). Studies have shown that smartphones are being used more by adolescents than adults (Lauricella et al., 2014).

However, Cyberbullying is an important concern for adolescents and is also a contributor to mental illness (McLoughlin et al., 2019). Qudah et al., (2019) defined cyberbullying as repeated, and intentional behaviors such as posting or sending aggressive and harmful pictures or texts through the internet and social networking sites that can cause harm to individuals or groups. Aquino & Bradfield, (2000) define victimization as an individual's self-perceptions of either briefly or repeatedly getting exposed to aggressive actions originating from other individuals.

Furthermore, Cyberbullying affects people in different ways because it depends on many things. Its form, level of exposure, frequency, and the victim's emotional strength, as well as the culture and circumstance (Nixon, 2014). Cyberbullying has many types starting from electronic means to verbally abusing others, spreading rumors, publishing and sharing others' private pictures and videos without their consent, and threatening others (Pawar et al., 2019). According to the study by Extremera et al., (2018), a significant proportion of young people are the victims of cyberbullying globally, with prevalence ranging from 6.5 or 10% to 72%.

Moreover, Quality of life is the person's subjective assessment of their health concerning the sociocultural environment in which they live (Senoglu & Cam, 2015). Moreover, the expression and understanding of a person's well-being and sense of value are referred to as their quality of life (Kumcagiz, 2019). The World Health Organization (WHO) defines quality of life as how people perceive their place in the world in association with the culture, educational system, goals, norms, and objectives of their own lives. Quality of life is broad and complex, influenced by a person's physical and mental health, personal views, and social connections, as well as significant environmental factors (World Health Organization, 2014). Moreover, according to Kumcagiz (2019), quality of life is a person's reaction to physical, psychological, and social disturbances that have an impact on their happiness and satisfaction in living situations.

Moreover, the study of Shi et al., (2023) examined the connections between Chinese college students' quality of life (QOL), physical activity, and smartphone use. Three Chinese universities provided the cohort's 6323 students. The study demonstrated a negative connection ($\beta = -1.375$) between smartphone addiction and QOL. Furthermore, Bochkareva & Strenin, (2021) found that young people are at increased risk of being exposed to some forms of cyberbullying due to the extensive daily use of the internet and smartphones.

Similarly, in Chen et al., (2023) study, a sample of 688 Notre Dame University undergraduates revealed excessive smartphone use is significantly correlated with depression and anxiety. In addition, Demirci et al., (2015) discovered that among a sample of 319 university students in Turkey, those who spend a lot of time on their smartphones have greater levels of sadness and anxiety than those who don't spend so much time on smartphones.

Further, Wu et al. (2022) found in their study that using phones and the internet for a long time was a risk factor for cyberbullying and the inability to control craving was a cause of phone and internet use for too long. Likewise, in another study, researchers found that extreme use of the internet is associated with a variety of risky internet activities including bullying others online via the internet (Smahel & Blinka, 2012). Raya et al., (2012) also proposed that internet addiction is one of the causes of participation in cyberbullying both as a perpetrator and as a victim.

Another study conducted by Kapatzia (2008) among Greek adolescents between 14-19 years old investigated that during the last two months, 14.7% of the students were victims of cyberbullying once or twice and in the same period 8.6% cyberbullied others once or twice.

Moreover, According to a Malaysian study, pupils who used the Internet for two to five hours a day experienced higher levels of victimization than those who used it for one hour. The frequency of using the internet was also found to be a strong predictor of cyber-victimization and cyberbullying, suggesting that the likelihood of being bullied or bullying someone, increased with the amount of time spent online (Balakrishnan, 2015).

According to a research study by Chung & Shin, (2020) technology use, such as mobile phone addiction, internet addiction, etc., are personal factors, which are directly related to cyberbullying behavior. Li et al. (2020) found in their study that high levels of mobile phone addiction and problematic internet use have a significant association with high levels of bullying victims, whereas Bochkareva & Strenin, (2021) observed higher levels of depression, stress, aloneness, and social anxiety among the victims of cyberbullying. Tözun (2018) examined low self-concept, poor or little life satisfaction, and emotional intelligence among the victims of cyberbullying, which can

then lead to alcohol and drug abuse, suicidal and aggressive tendencies, absenteeism (from school), and poor grades.

Furthermore, Smartphone use has become so common that people are worried about the possible harm they could do to multiple aspects of people's lives, especially students. There is a detrimental association between academic performance and smartphone addiction. According to Kwon et al., (2013) and Lepp et al., (2014), there is a noticeable effect on teenagers and students, respectively, with people choosing to use their smartphones more than to study or attend courses. Karpinski et al., (2013), and Rosen et al., (2013) conducted an additional study that highlighted the negative impacts of mobile use, particularly on academic performance which is exacerbated by multitasking.

Additionally, students today spend far too much time on digital media, leaving them open to the harmful consequences of digital addiction (DA). Previous studies, like those by Foroughi et al., (2022), Kim et al., (2019), and Sumuer & Kasikci, (2022), highlight the pervasive use of digital media and any potential risks. It has been shown that problematic internet use has a poor effect on academic achievement.

Furthermore, it is acknowledged that digital addiction poses a serious risk to the growth and education of future generations because they are exposed to digital devices on a daily basis from an early age (Twenge, 2017; Giedd, 2022).

Moreover, Education experts are concerned about student digital addiction and how it affects their academic performance. Studies conducted by Karakose et al., (2023) highlight the need for a thorough understanding of the relationship between digital addiction and academic accomplishment.

Kim, (2021) found out in their research that the tendency of smartphone addiction increases with lower subjective economic status. This study is in line with the result of another research where there is a higher risk of smartphone addiction among lower subjective social status individuals (Lin & Liu, 2020). Muzamil & Shah's, (2016) study demonstrated that, when socioeconomic status is not taken into account in the model, both traditional and cyberbullying may have a major detrimental effect on kids' academic performance.

Researchers in Pakistan discovered that a significant number of college students were dependent on their smartphones Demirci et al., (2015) In previous studies, it was found that young people in Pakistan have a high rate of smartphone addiction (Khalily et al., 2020). 77% of smartphone users and the majority of mobile phone users are between the ages of 21 and 30 and are more affected and influenced by their devices (Tariq & Irfan, 2019). In Pakistan, smartphone usage by young people is so alarming that some teenagers don't even turn their phones off at night (Ozkaya et al., 2020).

Moreover, a study conducted by Shafiq & Batool, (2023), examined the prevalence of bullying and victimization among 608 adolescents (16–19 years old) in Sarai Alamgir's public and private hospitals. The results of the Adolescent Peer Relationship Inventory showed that bullying rates were, respectively, 47.7%, 28%, and 24.3% for victims and 57.2% low, 21.1% moderate, and 21.7% high. Three important risk factors—gender, family structure, and type of institution—accounted for 19% of the variance. Bullying victimization rates were greater among higher among public college students.

However, Ates et al., (2018) found a negative correlation between cyber victimization and cyberbullying perpetration and family support. According to Vazsonyi et al., (2017) research study, higher levels of mother and paternal closeness were shown to be strongly connected with decreased levels of cyberbullying. So, Indirect cyber victimization can be linked to parental neglect (Hong et al., 2018). A higher likelihood of indirect cyber victimization was linked to higher degrees of family dysfunction and parental violence. In addition, direct cyber victimization was linked to family dysfunction, parental abuse, and parental neglect (Chen et al., 2018). However, rejection by parents at Time 2 was significantly predicted by bullying and victimization at Time 1 (including both traditional and

cyberbullying offenses and victimization) (Stavrinides et al., 2018). It was found that children who experienced cyberbullying had worse parent-child relationships (Bjereld et al., 2017). Similarly, those who had a bad relationship with their parents were more likely to become cyber victims, (Mobin et al., 2017).

Moreover, the Problematic smartphone use theory is proposed by researchers which contends that excessive usage of social media and other digital media is directly associated with problematic smartphone use and represents a type of psychological or behavioral dependence on smartphones (Panova & Carbonell, 2018). Use of mobile phones in socially or physically unsuitable conditions, such as when operating a vehicle, is included in the category of problematic smartphone use, as is an obsession with mobile communication and spending excessive amounts of time or money on them. Excessive use can harm users' relationships and their mental and physical health, and it can make them anxious if they become disconnected from their phone or if the connection is weak. Preschool children and young adults are at a greater risk for problematic smartphone use (Csibi et al., 2021).

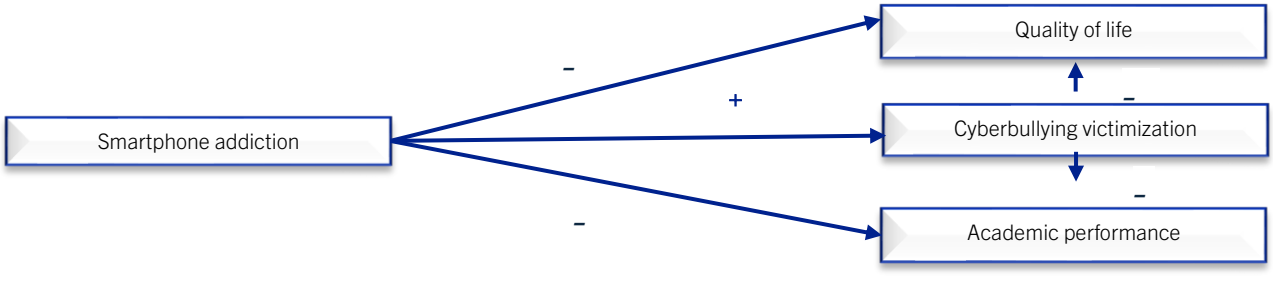
Past research findings show that the social and personal lives of the users of smartphones and the internet can seriously be affected by the overuse of these technologies. Through this study, we can highlight the negative effects of smartphone addiction.

It is also found that students' smartphone addiction is also one of the causes of hindrance to their academic activities and their overall growth and performance (Karki et al., 2020). In this regard, Qudah et al., (2019) emphasize that most university students use smartphones negatively means they use their cell phones for lying, cyberbullying, and providing incorrect information about their places, and some of them are also cyber-bullied due to the extensive use of smartphones. Excessive smartphone use seriously affects users' academic and personal lives. It is prevalent in young people. So it's crucial to investigate the relationship between excessive smartphone use and cyberbullying victimization among young people because adolescence is the building block of every nation. Ultimately, this research will encourage adolescents to use smartphones carefully and improve their Quality of life, which is crucial for the growth of a country.

Numerous previous cross-sectional studies (Kim et al., 2018; Spears et al., 2015) have connected cyberbullying involvement to a variety of detrimental psychological effects. According to the research findings of Selkie et al., (2015) study, a variety of harmful offline coping behaviors, including increased drug and alcohol use, are considered negative consequences of cyberbullying on mental health. Smith, (2019) and Welsh et al., (2017) reported that this can put adolescents, particularly females, at higher risk for harassment, sexual assault, and forced sexual relationships. This study will raise awareness of the particular gender that experiences higher levels of smartphone addiction and cyberbullying victimization.

Given the detrimental behavioral and psychological impacts of cyberbullying victimization on young people, there is a need to investigate the consequences of cyberbullying victimization on all domains of an individual's life and determine the prevalence of smartphone addiction and cyberbullying victimization among adolescents. However, due to the literature gap on the association between smartphone addiction, cyberbullying victimization, academic achievement, and quality of life among adolescents in Pakistan, it is crucial to investigate this association.

Conceptual Framework



Methodology

Objectives

The following are the objectives of the current study:

- To investigate the effects of smartphone addiction.
- To find out the frequency and percentage of smartphone addiction.
- To establish a link between smartphone addiction and quality of life.
- To investigate the effects of cyberbullying victimization.
- To find out the frequency and percentage of cyberbullying victimization.
- To find out whether the cyberbullying victims have a low or high quality of life.
- To explore the relationship between smartphone addiction and cyberbullying victimization.
- To investigate the overall relationship between smartphone addiction, cyberbullying victimization, and quality of life among university students.

Hypotheses

- There will be an inverse relationship between smartphone addiction and quality of life.
- There will be an inverse relationship between cyberbullying victimization and quality of life.
- There will be a positive association between smartphone addiction and cyberbullying victimization.
- Males are likely to be scored high on the smartphone addiction scale as compared to their counterparts.
- The prevalence of cyberbullying victimization will be high in females as compared to males.
- Smartphone addiction will be positively associated with income.

Instruments/Tools

World Health Organization Quality of Life scale-BREF (1998)

The WHOQOL-BREF is developed for young individuals. This is a 26-item questionnaire with general health and Quality of life questions having four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items). The WHOQOL-BREF shows satisfactory internal reliability Cronbach's alpha for physical quality of life (0.79), psychological (0.82), social relationships (0.81), and environmental well-being (0.83) (Suárez et al., 2018). Moreover, each question is individually assessed using a 5-point Likert-type scale.

Smartphone Addiction scale-short Version (SAS-SV), *Kwon et al., (2013)*

The Smartphone Addiction scale-short version (SAS-SV) generated by Kwon et al. in 2013, this scale will be utilized to assess the vulnerability of smartphone overuse and addiction in young people. It consists of ten items, each of which will be assessed on a 6-point Likert scale. According to Noyan et al., (2015), using principal components analysis, the SAS-SV is a one-dimensional factor structure that explains 46.3% of the total variation. According to Noyan et al., (2015), reported the Cronbach Alpha reliability coefficient $\alpha = 0.87$.

Cyberbullying Scale (CBS), *Stewart et al. (2014)*

The Cyberbullying Scale (CBS) was created by Stewart et al. (Stewart et al., 2014). It is a comprehensive self-report tool that is used to assess victimization from cyberbullying. Its purpose is to address the shortcomings of earlier versions of the scale. It asked participants to list the electronic channels (such as text messages, social media websites, etc.) they had used to bully others and the channels they had been the targets of bullying in two broad questions. The next set of questions consisted of 14 items that asked the participants how frequently they had become victims of various sorts of cyber-victimization in the past few months. The young participants scored each item form questions No. 3 through 16 on a 5-point Likert-type scale that ranged from 0 (never) to 4 (all the time). Summing the individual raw scores for items 3 through 16 yields the total score. Higher ratings suggest a higher

frequency of cyberbullying victim experiences. Strong psychometric qualities were exhibited by the CBS, including significant positive correlations with associated variables of loneliness, sadness, and anxiety, and great internal consistency (Cronbach's α =.94).

Sample

The sample consisted of 310 students and 16-26 age range students were considered in the current study.

Sampling Technique

Our study used a convenience sampling technique which is the most common technique. We selected the representatives of the population for the sample.

Inclusion Criteria

The study area of this research was to see smartphone addiction in relation to cyberbullying-victimization, quality of life, and academic performance. College and university students will be the best option to approach students aged 16-26 years. Both male and female students were included. So, the study was conducted in colleges and universities.

Exclusion Criteria

As this study had a specific population of youth, so, the students of the primary, middle, and secondary students, students below age 16 and above 26 were excluded. The students who were unwilling to participate were also excluded.

Procedure

The questionnaires were distributed with informed consent to the sample. With the supervision of researchers, the above questionnaires were administered during a regular class period. The student's participation was voluntary and confidential (their identity will be protected). They didn't receive any kind of reward or compensation for completing the questionnaires. The study objectives and the method to complete the scales were explained by the researchers to the participants. Scale completion took approximately 10-15 minutes. After collecting the completed scales from participants, the researchers codified the questionnaires for statistical treatment. Once all the data was collected from the sample, analysis of the collected data was run on the SPSS software (version 25).

Results

The present study sought to examine the association of smartphone addiction with cyberbullying victimization, quality of life, and academic performance among university students. SPSS (version 25) was used to analyze the data:

Table 1

Psychometric Properties of Scales

Scales	K	M	SD	α
SAS-SV	10	37.12	11.83	0.899
CBS	16	53.52	15.09	0.915
WHOQOL-BREF	26	73.75	23.84	0.963

Note: N=No. Of items. M=Mean. SD=Standard Deviation. α =Cronbach's alpha reliability.

Table 2 shows the psychometric properties of the scales that were used in the present study. The Cronbach's α value for Smartphone Addiction Scale-Short Version (SAS-SV) was .899 (>.60), for the Cyberbullying Scale (CBS) was .915 (>.60), and for the World Health Organization Quality Of Life Scale-BREF (WHOQOL-BREF) was .963 (>.60). This indicates a high internal consistency of the scales.

Table 2

Correlation between Smartphone Addiction, Cyberbullying Victimization and Quality Of Life.

	SA	CBV	WHOQOL
SA	1	-	-
CBV	.629**	1	-
WHOQOL	-.606**	-.761**	1

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

Note: SA= Smartphone addiction, CBV= Cyberbullying victimization, WHOQOL= World Health Organization Quality of Life.

Table 2 represents a significant positive correlation (.629**) between smartphone addiction and cyberbullying victimization. Whereas, there is a significant negative correlation (-.761**) between cyberbullying victimization and quality of life. However, there is a moderate negative correlation (-.606**) between smartphone addiction and quality of life.

Table 3

Association of Academic Achievement with Smartphone Addiction.

			Value
Nominal by Interval	Eta	Percentage/CGPA of the participant (academic performance). Dependent	.38
		SA Dependent	.18

Note: SA= Smartphone addiction

In Table 3, the Eta value shows the association of Smartphone addiction with academic performance measured in terms of the Percentage/CGPA of the participant. The value of Eta for smartphone addiction is 0.384, suggesting a weak association between Smartphone addiction and academic performance.

Table 4

Association of Academic Achievement with Cyberbullying Victimization.

			Value
Nominal by Interval	Eta	Percentage/CGPA of the participant (academic performance). Dependent	.371
		CBV Dependent	. 182

Note: CBV= Cyberbullying victimization

In Table 4, the Eta value shows the association of cyberbullying victimization with academic performance measured in terms of the Percentage/CGPA of the participant. The value of Eta for cyberbullying victimization is 0.371, suggesting a weak association between the cyberbullying victimization and academic performance

Table 5

Gender Difference among Smartphone Addiction and Cyberbullying Addiction.

	Female		Male		*t*	*df*	Sig. (2-tailed)	Mean difference	Std. Error difference	95% Confidence interval of differences	
		SD	M	SD						Lower	Upper
SA	33.1	11.20	41.3	11.02	-6.494	307.8	.000	-8.201	.263	-10.686	-5.716
CBV	47.2	13.39	60.0	13.97	-8.278	306	.000	-12.863	.553	-15.921	-9.806

Note: SA= Smartphone addiction, CBV= cyberbullying victimization, M= mean, SD= standard deviation, t= t value, df= degree of freedom.

Table 5 compares the SAS for males and females. There were significant differences (t (307.8) = -6.494, p=.000) in the scores with the mean score for males (M= 41.3, S.D= 11.02) and females (M= 33.1, S.D= 11.20). Results show that in terms of smartphone addiction, there is a significant difference between males and females.

Moreover, the table also compares the CBV for males and females. There were significant differences (t (306) = -8.278, p=.000) in the scores with the mean score for males (M= 60.0, S.D= 13.97) and females (M= 47.2, S.D= 13.39). Results also show that in terms of cyberbullying victimization, there is a significant difference between males and females.

Table 6

Association of Socio-Economic Status with Smartphone Addiction

			Value
Nominal by Interval	Eta	Socio-economic status of the participant. Dependent	.344
		SA Dependent	.155

Note: SA= Smartphone addiction

In Table 6, the Eta value shows the association of Smartphone addiction with Socioeconomic status measured in terms of Percentage/CGPA of the participant. The value of Eta for smartphone addiction is 0.344, suggesting a weak association between Smartphone addiction and Socioeconomic status.

Discussion

Results of the current study shed light on the relationship of smartphone addiction with cyberbullying victimization, quality of life, and academic performance among university students. Table 1 represents the descriptive of demographic variables. All three scales' reliability was good as shown in Table 2. The findings from the correlation analysis which was presented in Table 3 reveal significant positive correlations between the variables smartphone addiction and cyberbullying victimization ($r = .629$, $p < .01$), as well as significant negative correlations between cyberbullying victimization and quality of life ($r = -.761$, $p < .01$) and between smartphone addiction and quality of life ($r = -.606$, $p < .01$). These results suggests that the higher the levels of smartphone addiction, the greater will be the experiences of cyberbullying victimization, which in turn lowers the quality of life.

Moving on to the other variable academic performance, Tables 4 and 5 demonstrate weak associations between smartphone addiction ($\eta = 0.384$) and cyberbullying victimization ($\eta = 0.371$) with the variable Percentage/CGPA. Furthermore, gender differences, as presented in Table 6, highlight the significant distinctions in smartphone addiction and cyberbullying victimization between males and females. Males had greater smartphone addiction and cyberbullying victimization than females according to our findings. Moreover, Table 7 shows a weak association ($\eta = 0.344$) between smartphone addiction and income.

Our results supported hypothesis 1 and this finding aligns with existing literature. A harmful impact of extreme smartphone use on various aspects of individuals' well-being was found by some researchers in their studies (Twenge & Campbell, 2018; Elhai et al., 2017). So, the negative association designates that as smartphone addiction increases, the quality of life tends to decrease among university students. Additionally, studies of Rozgonjuk et al., (2018) and Kim et al., (2018) also have emphasized the potential adverse effects of the addiction to smartphones on psychological well-being, social relationships, and physical health. For instance, continual engagement with smartphones, including social media and entertainment applications, may lead to social isolation, sleep disturbances, and increased stress levels (Lepp et al., 2014; Demirci et al., (2015). Such negative outcomes then contribute to a diminished overall quality of life.

The findings of this study also affirmed our hypothesis that there will be an inverse relationship between cyberbullying victimization and quality of life and this aligns with previous studies. The negative impact of cyberbullying (perpetration or victimization) on mental or psychological health, social relationships, and self-esteem was found in previous literature as well (Wang et al., 2018). Hence, victims of cyberbullying often experience increased levels of stress, anxiety, and depressive symptoms, which ultimately contribute to a diminished sense of overall well-being (Campbell et al., 2019).

The Qudah et al., (2019) study aligns the research findings, showing that cyberbullying is viewed as a kind of abuse and criminal activity that arises from smartphone applications that provide access to the Internet.

In research findings, the value of Eta for cyberbullying victimization is 0.371, suggesting a weak association between cyberbullying victimization and academic performance. As the study findings of Okumu et al., (2020) show the type of bullying and the psychological effects it causes on a victim are both significant predictors of academic achievement.

Moreover, research findings revealed that there were significant differences (t (307.8) = -6.494, p=.000) in the scores with the mean score for males (M= 41.3, S.D= 11.02) and females (M= 33.1, S.D= 11.20). Results show that in terms of smartphone addiction, there is a significant gender difference favoring males. This finding coincides with the previous studies. For example, the study of Aljomaa et al., (2016), shows significant gender differences in smartphone addiction. Similarly, In Bisen & Deshpande, (2016) study it's observed that dependency and use of smartphone apps and internet is more in males than females.

The hypothesis 4 was not supported by the results of the current study. The results are contrary to the findings of previous research by Rosen et al., (2013), who explored the influence of smartphone use on academic performance and found a negative relationship between total phone use and GPA. While the research conducted by Lepp et al., (2015) found no significant correlation between the variables academic performance and smartphone usage among college students. The study suggested that the impact of smartphones on academic outcomes might be influenced by various factors, including the purpose and context of smartphone use.

In addition, academic performance is a multifaceted concept or a complex construct that can be influenced by various factors, including study habits, motivation, time management, and cognitive abilities. While smartphone addiction may impact some of these factors, its overall effect on academic performance might be overshadowed by the interplay of multiple variables. Also, there could be moderating factors that influence the association or relation of smartphone addiction with academic performance. For instance, individual differences, such as self-discipline, resilience, and learning styles, might mitigate the detrimental effects of addiction to smartphones on academic outcomes. These factors might not have been adequately considered or addressed in the study, which can be the cause of contrary results.

It was hypothesized in our study that cyberbullying victimization's prevalence is higher in females as compared to males and our findings didn't support this hypothesis. The results are contrary to the findings of previous research by Beran & Li, (2007) who found that female adolescents are more likely to be the victims of cyberbullying. However, the study of Wu et al. (2022) regarding the role of gender in cyberbullying suggests that boys are more likely to be engaged in bullying behavior. Previous research by Kowalski, gender disparities in cyberbullying victimization is not always clear-cut, as noted (Limber & Agatston, Agatston2012). Some studies have shown no discernible gender differences, while others have observed greater victimization rates among females. The intricate dynamics of cyberbullying imply that gender alone may not be a decisive factor in predicting victimization rates.

Similarly, Patchin and Hinduja, (2018) emphasized that cyberbullying victimization is influenced by numerous factors beyond gender, including social dynamics, online behaviors, and individual vulnerabilities. In conclusion, while the hypothesis theorized higher cyberbullying victimization rates in females, the results of the

current study align with the complexity and variability observed in the broader literature. The discussion emphasizes the need to move beyond simplistic gender-based assumptions and consider the intricate interplay of factors influencing cyberbullying dynamics.

The hypothesis proposing a positive association between smartphone addiction and income was not supported by the findings of the current study. Contrary to the expected relationship, the findings indicated no significant correlation between smartphone addiction and income levels among university students. Several studies provide insights into the complex dynamics between smartphone use and income. The results are contrary to the findings of previous research by Roberts et al., (2015), who conducted a study investigating the link between income and smartphone usage intensity. Their findings revealed a positive relationship, indicating that individuals with higher incomes are more likely to engage in intensive smartphone use. The study suggested that economic affluence contributes to the adoption of smartphones as essential tools for communication, work, and entertainment. While, research conducted by Lachmann et al., (2018) explored the relationship between the use of smartphones and socioeconomic status (SES) in a sample of German adults. The study found no direct association between income and smartphone usage patterns. Instead, it highlighted the role of other factors, such as education and occupation, in shaping smartphone behaviors.

Similarly, Dhir et al., (2018) found that smartphone usage is prevalent across different socioeconomic backgrounds, emphasizing the need to consider factors beyond income, such as personal preferences, lifestyle, and cultural influences. In modern-day society, smartphones have become global across various income levels. People from diverse socioeconomic backgrounds own and use smartphones, diminishing the traditional distinctions between higher and lower-income groups. Also, parents in those families with low economic status have difficulty controlling their child's excessive smartphone use, because due to financial issues, they work for a longer time and ultimately have fewer opportunities to spend time with their kids after their school classes or leisure activities and their child's spend more time alone, which then increases the use of smartphones by their child's.

Implications

The implications of this thesis carry significant weight for universities, educators, policymakers, and students themselves by addressing a very important aspect. To address smartphone addiction universities should consider implementing support programs, especially such programs that focus on maintaining a balance between technology use and well-being. Furthermore, to help students manage their smartphone behaviors and cope with cyberbullying experiences, counseling services could incorporate strategies to help them. The observed gender differences in smartphone addiction and cyberbullying victimization in the results suggest the need for gender-specific interventions in universities. In addition, awareness campaigns and support structures tailored to the distinctive challenges faced by male and female students can also foster a safer campus environment.

To support students in managing or balancing their smartphone use without compromising their academic performance, educators and academic institutions should explore strategies such as integrating digital literacy programs into the curriculum or creating guidelines for responsible technology use. Likewise, policymakers could use these findings or results to inform guidelines for educational institutions regarding the use of smartphones on campuses or at home. Additionally, to create a safer online environment for students those policies which are

addressing cyberbullying prevention and intervention can be strengthened.

In light of our findings, the current research emphasizes the importance of considering the long-term well-being of students. To provide a supportive atmosphere where students feel equipped to navigate the challenges associated with smartphone use, institutions should incorporate mental health awareness and well-being initiatives that can contribute. In essence, these implications call for a comprehensive approach to student well-being, blending educational, technological, and mental health perspectives.

Limitations

- The study's sample is drawn by using a convenience sampling technique, the use of any probability sampling technique is more appropriate.
- Also the reliance on self-reported measures, such as smartphone addiction, quality of life, and cyberbullying victimization scales, leads to the possibility of response bias. Due to perceived societal norms participants of the study may provide socially desirable responses or underreport their certain behaviors.
- The study focuses on a specific age range i.e., 16-26 years, which may not fully account for developmental differences within this group. The experiences and also the impact of smartphone use and cyberbullying could vary among younger and older individuals within the chosen age range.
- Lastly, the sample of the study was small in size which can affect the generalizability.

Suggestions for Future Research

- Future research should employ a more diverse sampling strategy.
- Also, the sample size should involve a larger sample size in order to increase the generalizability of the findings.
- Then, by conducting longitudinal studies, future research can allow the examination of changes over time and help establish causal relationships between the study variables. This could provide more valuable insights into the long-term impact of these factors on students' quality of life and academic performance.

These limitations and suggestions aim to guide future research endeavors toward a more nuanced and comprehensive exploration of the relationships between the study variables identified in the present study.

Conclusion

In conclusion, the findings highlighted the significant impact of smartphone usage on students' well-being and academic performance. It was obvious that higher smartphone addiction correlated with lower quality of life, emphasizing the need for interventions to promote a balanced use of technology usage. Additionally, the study shed light on the dominant role of cyberbullying victimization, with a prominent gender difference means males experience higher rates. This highlights the importance of addressing online harassment like bullying as a part of comprehensive student support programs. Moreover, the gender inequalities in smartphone addiction and cyberbullying experience rates emphasize the requirement of interventions to address specific needs in institutions. The study also studied the socio-economic aspect, indicating a weak association between smartphone addiction and income. This suggests that in smartphone use patterns economic factors play a role, demanding consideration in designing support initiatives in institutions. Overall, this research provides a groundwork for understanding the complexities surrounding smartphone use in university students, paving the way for future interventions and policies aimed at enhancing students' well-being and academic success in an increasingly digital world of today.

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