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Cyberbullying and its Relationship with Smartphone Addiction

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Abstract

Smartphone and internet overuse can result into severe problems in users' personal and social lives. In this backdrop, the present study aims to find the relationship between cyberbullying and smartphone addiction among BBA students. Participants were 123 males and 157 female students whose ages ranged from 17 to 29 years. The questionnaire with Smartphone Addiction Scale- Short Version (SAS-SV) and Revised Cyber Bullying Inventory-II (RCBI-II) were used to assess the smartphone addiction and cyberbullying respectively by using a convenience sampling method. The cyberbullying perpetration was reported by nearly 30% respondents and more than 60% respondents were victimized by cyberbullying. The password hacking and sending embarrassing and hurtful messages were common in cyberbullying. The study found that male students were significantly involved in cyberbullying perpetration. The study further revealed that time spent on smartphone in a day was significantly associated with both cyberbullying perpetration and cyberbullying victimization. This study found significantly positive correlation between smartphone addiction, cyberbullying perpetration and cyberbullying victimization. These results suggest the need to develop educational programme to educate the students to use smartphone effectively and safely to prevent cyberbullying.

Keywords: cyberbullying, internet, perpetration, smartphone addiction, victimization

Introduction

The most astounding and quickly spreading technology available today is the smartphone. Data from Global System for Mobile communication Association (GSMA) intelligence showed that there were 40.58 million cellular mobile connections in Nepal in January 2022 (Kemp, 2022). Studies have shown that toddlers to teenagers use smartphone more than the older populace, although its ownership increases with age (Lauricella, Cingel, Blackwell, Wartella & Conway, 2014). The increasing use of smartphone by adolescents in the world today makes this convenient device an essential digital gadget. The continuous use of something for the sake of relief, comfort, or stimulation, which often

causes cravings when it is absent, is defined as addiction by the World Health Organization. Smartphone addiction has been defined as the overuse of smartphones to the extent that it disturbs users' daily lives (Soni et al., 2017).

According to data presented by Kemp (2022), the internet users in Nepal have increased by 822 thousand (7.7 per cent) between 2021 and 2022, the number of social media users were 13.70 million (45.7 per cent of total population) while internet penetration rate was 38.4 per cent (11.51 million) of the total population in January 2022. Kepios analysis reveals that social media users in Nepal increased by 700 thousand (5.4 per cent) between 2021 and 2022 (Kemp, 2022).

Overuse of smartphones and the internet can seriously impact on users' social and personal lives. The person who uses smartphone excessively may develop addiction like symptoms. A smartphone user may exhibit depression, trance, withdrawal, inability to control a craving, and anxiety (Chiu et al., 2013). Excessive use of smartphone by the students bring several disruptions in their everyday life activities. These can be like the loss of attention at work, disruption in regular meals, decrease in output, breakdown in social relationships, along with the coexistence of psychological and physical issues such as wrist pain, neck stiffness, blurred vision, and disturbances in sleeping patterns are some of the disruptions as mentioned by (Sohn et al., 2019). Smartphone addiction has been investigated among students reporting hindrance to academic activities and overall growth and performance (Karki et al., 2020). In this regard, Qudah et al. (2019) asserts in his argument that university students' usage of smartphones is mostly of a negative nature; they use smartphones for lying, providing incorrect information about their places, and for cyberbullying.

Cyberbullying refers to behaviors such as sending or posting harmful and aggressive texts or pictures via the internet and social networking sites; it is repeated, and intentional harm is caused to individuals or groups (Qudah et al., 2019). Cyberbullying affects people differently depending on its form, frequency, level of exposure, the victim's emotional fortitude, as well as the culture and context (Nixon, 2014).

Kowalski uses the General Aggressive Model (GAM) to explain cyberbullying (Kowalski et al., 2014). GAM outlines the process via which cyberbullying victims can turn into cyberbullying perpetrators. Cyberbullying is a stressful experience for cyberbullying victims and depletes limited psychological resources such as self-control of victims. Besides, it gradually decreases in subsequent self-control performance and increases on the tendency to react impulsively as cyberbullying perpetrator. The Frustration-Attack Hypothesis further claims that a person's frustration might result in a "state of readiness" for attack behavior, which can also be triggered by other people's attacks and an attack habit that has been formed (Berkowitz et al., 2016). As a result, cyberbullying victims are

more likely to harbor the intention to bully others, that is, to assert their dominance in an aggressive manner to demonstrate their strength (Reijntjes et al., 2010).

Based on the above presented facts, the present study has aimed to find relationship between smartphone addiction and cyberbullying among undergraduate students of BBA in Kathmandu district. The study has focused in assessing the cyberbullying and its association with gender, age group and smartphone using pattern.

Methods

As the present study intended to explore the relationship between smartphone addiction and cyberbullying, this study opted an online-based cross-sectional research among the BBA students in Kathmandu district, Nepal. The structured questionnaire with consent statement was prepared in google form and distributed the link through email to collect the data. The population of this study were the students of Bachelor in Business Administration (BBA) studying in odd semesters of eight colleges in Kathmandu district. Out of approximate students (N=2500), 400 students with a view to represent students from all semesters, sections and gender in each college were randomly selected by using convenience sampling method. The google form link was circulated to 400 BBA students of odd semesters. Initially, 312 students of odd semesters filled-up data, whereas after omitting incomplete data and exclusion criteria, overall 280 respondents (70%) with 123 males and 157 females were recorded on a web-based Google sheet form, and then analyzed.

The Smartphone Addiction Scale-Short Version (SAS-SV) with Cronbach's alpha 0.911 (Kwon et al., 2013) was used to assess the level of smartphone addiction. Participants expressed their opinion for each item over a 6-point scale, ranging from 1 (strongly disagree) to 6 (strongly agree), devised with higher score which indicates problematic smartphone use. A different normal range is identified for males and females. Males are considered to be addicted if scores are higher than 31 whereas females are addicted if scores are higher than 33 (Kwon et al., 2013). In regards to Revised Cyber Bullying Inventory-II (RCBI-II) which was developed by Topcu & Erdur-Baker (2017) has 10 items and two scoring columns. The participants rated each item twice (once for reporting cyberbullying experience in an "I did it" column and once for reporting cyber victimization experience in an "It happened to me" column) on a 4-point rating scale (1 = never, 2 = once, 3 = twice or three times, 4 = more than three times). One sample item is "sending embarrassing or hurtful messages." The lowest possible score is 10 and the highest possible score is 40, where higher scores indicate more frequent cyberbullying and cyber victimization. The Cronbach's alpha coefficients were .80 for the cyber victimization part and .79 for the cyber- bullying part (Topcu & Erdur-Baker, 2017).

Data analysis was conducted using IBM SPSS Statistics (version 25) and Microsoft Excel 2019. After data collection, the data were cleaned and prepared for final analysis by Microsoft Excel 2019. Descriptive statistics such as frequencies and percentages were carried out, whereas T- test and ANOVA were used to determine the relationship between the independent variables and dependent variables. Correlation was used to determine the relationship between smartphone addiction and cyberbullying.

Results and Discussion

Prevalence of Cyberbullying

The study included 43.93% (n=123) male and 56.07% (n=157) female students of BBA with mean age of 20.84 ± 1.74 years (range 17-29 years) in this study. According to the collected data, nearly 30% (n=83) respondents had cyberbullied others and 61.4% (n=172) respondents became cyber victimized by others (See Table 1). Similar to this study, thirty-two unique studies carried out reported prevalence of cyberbullying perpetration ranging between 1% and 41% whereas fifty-five unique studies reported prevalence of cyberbullying victimization ranging between 3% and 72% (Selkie, False & Moreno, 2016). The prevalence of cyberbullying perpetration and cyberbullying were inconsistent across studies because of the variation in time frames that included measurement in "last 30 days", "past couple of months" and "the last year". Different instruments using a range of terms were used. "Cyberbullying", "cyber aggression", "internet harassment", "online aggressive behavior" and "electronic bullying" are the prominent terms used in the studies. Various assessment tools contained between 1 and 11 items on cyberbullying perpetration and cyberbullying were used in the previous studies (Selkie, False & Moreno, 2016).

Table 1

Cyberbullying among the Respondents

Category	Number of respondents (n)	Percentage of respondents (%)	Mean (x)	Mean (M)
Cyberbullying perpetration	83	29.6	14.19	11.24
No Cyberbullying perpetration	197	70.4	10.00	
Cyber-victimized	172	61.4	15.36	13.29
No Cyber-victimized	108	38.6	10.00	

The table 2 below depicted the most occurring behavior in cyberbullying : taking over the password of someone's account and sending embarrassing and hurtful massages in both cyberbullying perpetration and cyberbullying victimization. The current study showed 11.07% (n=31) of respondents took over the password of other's account whereas about 37.85% (n=106) respondents were victimized by hacking account by others. Likewise, 13.21% (n=37) respondents sent embarrassing and hurtful messages to others and 37.14%

(n=104) respondents were victimized by hurtful massages. Threating and insulting were other common behaviors in cyberbullying.

Table 2

Prevalence of Cyberbullying

Item	Cyberbullying perpetration		Cyberbullying victimization	
	N	%	N	%
Taking over the password of someone's account	31	11.07	106	37.85
Using someone's account without his/her permission and publishing humiliating posts	7	2.5	21	7.5
Threatening someone	21	7.5	63	22.5
Insulting someone	20	7.14	61	21.78
Sending embarrassing and hurtful messages	37	13.21	104	37.14
Sharing an inappropriate photo or a video of someone without his/her permission	12	4.3	34	12.14
Sharing a secret with others without the permission of the owner	10	3.5	39	13.93
Spreading rumors	19	6.8	51	18.21
Creating an account on behalf of someone without letting him/her know and acting like the account's owner	9	3.2	28	10
Creating a humiliating website	3	1.07	5	1.78

Cyberbullying and Gender

These days, both boys and girls grow up in a digital environment where they often connect with one another *(*Wu et al., 2022). Cyberbullying was found almost equal in victimization in this study. The research conducted by Pontes et al. (2018) showed that girls are more likely to be bullied. Some studies have reported that across a range of educational settings, females are more likely than males to be victimized in cyberbullying (Smith et al., 2019).

Table 3

Cyberbullying and Gender

	Sex	N	Mean	SD	T	Sig. (2-tailed)
Cyberbullying perpetration	Male	123	12.43	5.046	5.208	.000**
	Female	157	10.31	.659		
Cyberbullying Victimization	Male	123	13.50	5.910	.602	.548
	Female	157	13.13	4.570		

Note. ***Significant in T-test at p<0.001

The table 3 above depicts that the mean score in cyberbullying victimization in male (13.50) and in female (13.13) was almost equal. There was no significant difference

between male and female in cyberbullying victimization, t(278)=.602, p=.548, despite male (M= 3.5, SD=5.910) attaining scores than female (M=13.13, SD=4.570). Additionally, the environment in which cyberbullying might happen is different for boys and girls. On WhatsApp, Facebook, Snapchat, and Instagram, cyberbullying targets more young women than ever before. Boys were more likely to be abused on YouTube, in online multiplayer games, on Xbox, and on PlayStation (Foody et al., 2020).

There are contradictory findings about the role of gender in cyberbullying as boys are more likely to be engaged in bullying behavior (Wu et al., 2022). A meta-analysis of 39 articles and 100 effect sizes found that males were more likely to be engaged in cyberbullying perpetration than females in Asian countries (Sun et al., 2016). This study found male (M=12.43, SD=5.046) compared to female (M=10.31, SD=.659) demonstrated significantly perpetrated in cyberbullying, t(278) =5.208, p=.000. When boys are cyberbullied, they are more prone to start bullying others online, while girls are more likely to hide their emotions (Wu et al., 2022).

Cyberbullying and Smartphone Using Duration

The study showed that the participants who used smartphone relatively less had scored lower than average in cyberbullying perpetration and cyberbullying victimization. There was a significant effect of smartphone daily use duration on cyberbullying perpetration at the P< 0.01 level for the three conditions [F(5,274) = 3.178, p = .008]. There was a significant effect of smartphone daily use duration on cyberbullying victimization at the P < 0.01 level for the three conditions [F(5,274) = 4.7833, p = .000].

Table 4

Cyberbullying and Smartphone Using Duration

		N	Mean	SD	F	Sig
Cyberbullying perpetration	1-2 hours	19	10.21	.631	3.178	.008**
	2-4 hours	64	10.59	1.035		
	4-6 hours	88	10.35	4.441		
	6-8 hours	68	10.99	2.668		
	8-10 hours	21	11.84	7.116		
	More than 10 hours	20	13.33	.813		
Cyberbullying Victimization	1-2 hours	19	10.68	1.565	4.733	.000***
	2-4 hours	64	11.52	2.232		
	4-6 hours	88	13.49	5.736		
	6-8 hours	68	14.10	5.266		
	8-10 hours	21	14.85	8.499		
	More than 10 hours	20	16.14	4.626		
Cyberbullying and start a day with smartphone						
Cyberbullying perpetration	No	97	11.14	3.301	.115	.735
	Yes	183	11.30	3.659		
Cyberbullying Victimization	No	97	12.31	4.696	5.405	.021*
	Yes	183	13.81	5.380		

Note. *** Significant in ANOVA test p<0.001, **=p<0.01 and *=0.05

The study found that 70.35% (N=197) participants used smartphone more than 4 hours daily. The study showed about 15% (N=41) had scored more than average in cyberbullying perpetration whereas about 70% (N=197) participants scored more than average in cyberbullying consequent to their victimization. This result indicated that using smartphone for longer time was vulnerable to cyberbullying perpetration and victimization. The study found that about 65% (N=183) participants turn on their smartphone immediately after they wake up in the morning. The mean score of cyberbullying perpetration and cyberbullying victimization, who used smartphone immediately after they wake up, were found 11.30 and 13.81 respectively which were higher than their average. There was no significant effect of using smartphone early in the morning on cyberbullying perpetration, [F (1, 278) = 0.115, p = .735] but there was significant effect of using smartphone immediately after they wake up on cyberbullying victimization, [F(1,278) = 5.405, p = .021].

Table 4 displays the duration of smartphone use effects on cyberbullying perpetration and cyberbullying victimization. This study found that smartphone and internet use for longer period time caused by inability to control craving was a risk for cyberbullying which supported the previous study by HwaJin & Wanju (2021).

Relationship between Cyberbullying and Smartphone Addiction

Table 5 given below reveals the relationship between smartphone addiction and cyberbullying. There was a significant positive relationship of smartphone addiction with cyberbullying perpetration, [r(278)=.252, p=.000] and with cyberbullying victimization, [r(278)=.262, p=.000].

Table 5

Relationship between Cyberbullying and Smartphone Addiction

	1	**2**	**3**
Smartphone Addiction	1	-	-
Cyberbullying Perpetration	.252**	1	-
Cyberbullying Victimization	.262**	.642**	1

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

This study reveals that there was significant relationship between cyberbullying perpetration and cyberbullying victimization, [r(278)=.642, p=.000]. This finding is in line with the previous study of Li et al. (2020) & Wu et al. (2022). In regard to smartphone addiction and cyberbullying victimization, Li et al., (2020) adds *h*igh levels of problematic internet use and smartphone addiction are strongly correlated with the high rate of cyberbullying victims.

Irrespective of smartphone addiction explained above, the current study also showed the significant correlation between cyberbullying victimization and cyberbullying

perpetration [r(278)=.642, p=.000]. This result is strongly supported by Salazar (2021) when he writes 'adolescent cyberbullying victimization is a predictor of cyberbullying'; likewise when Ijachi's (2019) study results 'children who experience cyberbullying exhibit more aggressive behavior', the above is equally obvious.

There is no direct evidence currently, to support the positive estimation of cyberbullying victimization on perpetration among adolescents, the present study suggests a hypothesis that cyberbullying victimization is positively correlated with perpetration. Thus, the cyberbullying victimization and perpetration play a role in the smartphone addiction.

Conclusion

The current study shows that there is a correlation between smartphone addiction and cyberbullying victimization and perpetration among college students. In other words, college students who are very dependent on their smartphones are more likely to experience cyberbullying themselves and to turn the tables on others. Therefore, it's important to pay attention to the negative responses to cyberbullying among college students, particularly on among adolescents who are smartphone addicts. Moreover, it seems obvious to provide them with the appropriate guidance to deal with the situation and lessen its effects.

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