

The Consequences of Cyberbullying on the Psychological Well-being of University Students

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Abstract



Advancements in technological tools and the increasing use of social media platforms have led to the wreaking harm of cyberbullying. Cyberbullying is believed to be a significant societal problem that demands serious attention within communities (Heirman & Walrave, 2012). The purpose of the study was to explore the consequences of cyber victimization and cyberbullying on self-esteem, anxiety, and distress among university students. A cross-sectional survey was used on 400 university students studying at the BS level selected by using a convenient sampling technique. Research tools RCBI, BAI-Y, RSES, and BDI-Y were adapted. Scales were adapted contextualized, and pilot-tested. All scales were reliable with acceptable alpha value cyber victimization = 0.90, cyberbullying = 0.90, anxiety 0.83, self-esteem = 0.68, and distress = 0.79. The collected data were tabulated, analyzed, and interpreted using descriptive (frequency & percentage) and inferential statistics (t-test, Regression Analysis). The analysis revealed that anxiety has a positive relationship with cyber victimization and cyberbullying. Likewise, cyber victimization and cyberbullying increase the distress level of students. Moreover, self-esteem is negatively affected by cyber victimization and cyberbullying. Hence, it is concluded that there was a prevalence of cyber victimization and cyberbullying at the university level in Punjab, and cyber victimization and cyberbullying results in high anxiety, lower self-esteem, and a high level of distress. There is a need for collaboration between government agencies and universities to protect students from the occurrence of cyberbullying.

Keywords: University Students, Cyberbullying, Psychological Correlates, Psychological Effects

Introduction

The rapid advances in communication technology have changed the way students communicate with others. Among all other modes of communication, the Internet has become an increasingly popular medium of communication among adolescents (Kowalski, Limber, & McCord, 2018). In the present age, digital technology allows students great access to social networks, WhatsApp, Twitter, Instagram, Snapchat, Facebook, email, instant messages, and text messaging. Along with these positive aspects of communication channels, many negative aspects have also emerged. Youth can use the internet not only for communication purposes but also to interact with others in harmful ways (cyberbullying) while being online (Al-Rafai & Al-Darawsha, 2022).

Cyberbullying is an advancement of traditional bullying that involves the use of technological tools to repeatedly harass victims, especially university students who have more exposure to technology. Bullying can occur by spreading rumors, social rejection & isolation, and verbal aggression leading to physical assault and harassment (Al-Bahadh, 2012). While, cyberbullying includes sending pictures, and videos containing abusive and offensive language and sending abusive electronic messages (Darawsheh, 2023).

Cyberbullying is regarded as an intentional action and it may be repetitive or not. Cyberbullying is done through different technological mediums of communication that include text messages, photos, videos, e-mails, chat rooms, instant messages, phone calls, and social networking sites (Facebook, Whatsapp, Twitter, eBay, Skype, Youtube, Twoo & Bebo, etc). Through the use of the internet cellular phone, or both, an offender can send harmful and embarrassing messages and content to a victim, or to a public forum that can be visited by many users. Tokunaga (2010) regarded cyberbullying as any behavior shown through electronic media that repeatedly communicates aggressive or hostile messages that are intended to inflict discomfort or harm to others. Cheng et al.

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(2020) considered cyberbullying as "repeated aggressive acts committed by a group or individual using technology to deceive and harass a person by revealing personal or embarrassing information about them and sending it to others or sharing explicit photos of them". The behaviors highlighted in the definitions lead to serious psychological consequences more harmful than real situations (Odaci & Cikrikci, 2014).

Unlike traditional bullying, in cyberbullying, bullies are anonymous and can access the victim at any time, anywhere. In addition, in cyberbullying victims cannot escape from the situation, it involves a large number of bystanders. Victims often do not report the experience of cyberbullying due to punitive fears (Olweus, 2019).

In past years, reports of cyberbullying involved threatening or abusive text messages sent through mobiles or emails. Then, Kowalski and Limber (2013) in their study included e-mail, instant messages, chat rooms, websites, and text messages as a means of cyberbullying. Similarly, it was argued by Sittachai (2014) that at present, forms of cyberbullying have diversified to instant messages, chat rooms, and social networks. Nowadays, bullies have access to a wide range of communication mediums in virtual space (Folger, Poole, & Stutman, 2017).

Bullying, its causes, and its effects have long been documented by researchers and educators. Cyberbullying is becoming a critical problem, especially for students. Cyberbullying emerged in Pakistan due to the rise in technology use. People in Pakistan are less attentive to cyber security and its harmful effects (Ahmad & Kamran, 2017).

The form of bullying called "Cyberbullying" is associated with several negative physical and emotional as well as psychological consequences (Mukhtar et al., 2023). These effects include depression, anxiety, low self-esteem, distress, headaches, stomachaches, tiredness, delinquency, truancy, sadness, fatigue, social isolation, poor appetite, skin problems, sleep disorders, bed-wetting, suicidal ideation, suicidal attempts and even suicide (Ahmad & Kamran, 2017; Darawsheh, 2023; Gohal, Alqassim, Eltyeb, & Rayyani, 2023; Kowalski, Limber, & McCord, 2018; Shafiq & Naem, 2019). The current study intends to explore the psychological consequences of cyberbullying at the university level.

Purpose of the study

The study focuses on the psychological consequences of cyberbullying and cyber victimization on the well-being of university students. The study aims to explore the consequences of cyberbullying on anxiety levels, self-esteem, and distress among university students, as cyberbullying is becoming an increasingly critical problem for university students and the whole society (Ali & Shahbuddin, 2022).

Objectives of the Study

The objectives of the study are to:

1. Investigate the ratio of cyber bullies and cyber victims.
2. Measure the consequence of cyber victimization and cyberbullying on the self-esteem of university students.
3. Determine the consequence of cyber victimization and cyberbullying on the anxiety of university students.
4. Explore the consequence of cyber victimization and cyberbullying on distress among university students.

Research Questions

This study will contribute to the existing literature on the cyberbullying in following ways:

1. What is the ratio of cyber bullies and cyber victims in universities?
2. What are the consequences of students' involvement in cyber victimization and cyberbullying on self-esteem?
3. Do cyberbullying and cyber victimization affect anxiety among students?
4. How do cyberbullying and cyber victimization affect the distress level of university students?

Literature Review

The rapid use of social media platforms is becoming the most favored source of communication among youth (Darawsheh, 2023). This trend of socialization has given rise to cyberbullying (Gohal, Alqassim, Eltyeb, & Rayyani, 2023). Many researchers have defined cyberbullying in different ways varying in intensity and degree of cyberbullying and tools used for cyberbullying. Cyberbullying is an umbrella term. Hartzler (2021) defined cyberbullying as "unwanted aggressive behavior with an

imbalance of power, occurring repeatedly, and executed through digital devices". This definition is useful because of its simplicity and it includes intentional actions, intensity, and most of the electronic means (Computer, cell phones, etc.) through which cyber bullying can be carried out.

Unique characteristics of cyberbullying involve anonymity, accessibility, punitive fears, bystanders, and disinhibition. The children who cyberbully others are often unknown. It can take forms of harassment, identity theft, deception, and reputation damage (Al-Brashidiyah, 2020; Al-Otaibi, 2019). It allows cyberbullies access to cyber any time of the day or night. Moreover, cyberbullying is not usually reported by the victims. And, bystanders in the cyber world can be in large numbers even in millions. Secrecy of the bully usually leads children to engage in negative behavior, that they may not show face to face (Mukhtar et al., 2023).

An evolution in technology has given rise to cyberbullying worldwide. Chat rooms were soon introduced after the advent of the internet. Online platforms e.g. chat rooms provided youth with a public forum to attack one another (Subrahmanyam & Greenfield, 2008). Chat rooms were soon accompanied by instant messenger. Instant Messenger is an online program developed for communication, providing teenagers access to public chat rooms, one-on-one conversations, and private talks. The creation of group-specific chat rooms is another feature of this program. This forum allowed the youth to gossip. Shiels (2003) opined, "The advent of cell phones in the late 1960s and early 1970s changed the way people communicated". Cell phones were not popular among the youth in that period. But the second generation of digital network cell phones made it available to the majority of the youths' hands. Electronic platforms and social networking sites use have risen and students are using them to exchange written material, photos, videos, and other content (Al-Zbon & Abu Saalik, 2014).

Over the past few decades, the most used communication mode among university students is the Internet (Darawsheh, 2023). University students and teens have become more advanced users of technology and lead others in technology use. This technological sense of university students can become an opening to expose them to disgusting activities e.g. pornography, violence, drugs, and cyberbullying as no supervision is done (Gohal, Alqassim, Eltyeb, & Rayyani, 2023; Mukhtar et al., 2023). Although technological advances provide a lot of benefits e.g. in the teaching and learning process, they can also be used as a powerful tool to harm others.

Imran (2014) reported unique dressing sense, unknown reason by the gang of girls living nearby, vulgar comments, aggression, break-up with a guy, opposite gender attraction, defeat, jealousy, revengefulness, misuse of photos, lack of parental control and family politics as reasons of cyberbullying and cyber victimization indicated by Swedish and Pakistani students.

Although research has focused on the perception of males and females about victimization and perpetration, there is variation between cyberbullying findings regarding gender. Gender differences were not statistically significant in the psychological effects of cyberbullying (Darawsheh, 2023; Mubasher, Malik, & Mahmood, 2023; Mukhtar et al., 2023). Likewise, Patchin and Hinduja (2016) found no interaction between gender and cyber victimization. Huang and Chou (2010) reported that male students were more likely to be cyberbullies than female students. That finding was consistent with the research completed by Calvete, Orue, Estevez, Villardon, and Padilla (2010) in which males showed more frequent use of cyberbullying than females. Baker (2009) found that male students had more experience of cyberbullying and cyber victimization than females. However, males were more likely to bully and cyber harass others than females. Contrarily, Herry, and Mulvey (2022) concluded that girls tend to be more cyber victims.

It is observed that children go through many negative psychological consequences if they are victimized through cyber means. Frustration and sadness as well as confusion, anxiety, guilt, depression, distress, shame, self-harm, and leaving friends are consequences of cyberbullying that victims experience (Gohal et al., 2023). Among above mentioned consequences of cyberbullying, depression has drawn the most attention of researchers (Ali & Shahbuddin, 2022). Gohal et al. (2023) found that more female victims felt frustrated or angry than male victims. Children who are victims of cyberbullying show negative reactions that are similar to those reported by victims of conventional bullying (Foody et al., 2015). It can be concluded that the effects of cyberbullying are more harmful than those of conventional bullying because the victim cannot escape (Mukhtar et al., 2023). Cyberbullying becomes permanent after the entry of students into the cyber world, students may

experience victimization for a long time which leads to depression and other forms of mental disorder (Ali & Shahbuddin, 2022).

Cyberbullying has been associated with many emotional, psychological, and behavioral effects (Darawsheh, 2023; Shafiq & Naeem, 2019). The consequences of cyberbullying include low self-esteem, anxiety, sadness, fear, embarrassment, depression, anger, absenteeism, low academic achievement, violation of others, and suicidal ideation (Bartolini, Bilancini, & Pugno, 2013; Begotti, Tirassa, & Acquadro, 2017). Moreover, physical and mental effects of cyberbullying may vary with the nature of victim (Hinduja & Patchin, 2007).

Increased anxiety levels among victims are one of the other possible effects of cyberbullying. The research suggested that individuals report feeling anxious when cyber-bullied (Begotti, Tirassa, & Acquadro, 2017). Because of the belief that there is no escape from the perpetrator, cyber victims may feel anxious (Gohal et al., 2023). This belief may result in hopelessness and lack of control, which can develop feelings of anxiety, fear, and nervousness (Hellfeldt, Romero, & Andershed, 2019). Cyber victims may feel anxious because they believe that if they tell anyone, their parents will impose restrictions on communication tools use (Folger, Poole, & Stutman, 2017). Victims usually do not have support when confronted with cyberbullying and face cyberbullying incidents alone at their homes (Hellfeldt, Romero, & Andershed, 2019). Another reason for anxiety is having no power to stop cyberbullying (Smith et al., 2008).

Literature on cyberbullying has indicated that bullying has a negative effect on identity formation (Darawsheh, 2023). The association that has been focused on is the impact of cyberbullying on self-esteem. Rosenberg (1965) regarded self-esteem as "a favorable or unfavorable attitude toward the self." likewise, Leary and Downs (1995) regarded self-esteem as an inner depiction of social rejection or acceptance and a psychological estimate evaluating the degree of social inclusion or exclusion of a person. Cenat et al. (2014) also found that youths bullied using the internet presented a somewhat higher prevalence of low self-esteem compared to victims of other forms of bullying. The reasons behind this relationship between bullying and self-esteem are unclear and less agreed upon. There exists an ambiguity about whether one with low self-esteem is more victimized or the victim has low self-esteem (Olweus, 1993).

Not surprisingly, literature highlights cyber involvement like conventional bullying, is associated with considerable discomfort and distress. The relationship between school bullying and psychological impairment (depression, suicidal ideation & suicide) has increased concerns about how various kinds of psychological distress are linked to online bullying (Klomek et al., 2010).

Consequences associated with traditional bullying (e.g., anxiety, self-esteem, distress) are also found related to cyberbullying and cyber victimization by many researchers (Rahmaputri, Setiasih, & Kesumaningsari, 2022; Carvalho, Branquinho, & Matos, 2020). These effects of cyberbullying have yet to be systematically researched in Pakistan.

Methodology

A quantitative approach was used to collect the data through a cross-sectional survey about the consequences of cyberbullying on self-esteem, anxiety, and distress of university students through a scales-based questionnaire.

Sample and sampling technique

All the public universities in Punjab, Pakistan were the target population of the study. A sample of 400 BS students (Males = 166 and Females = 234) was selected from three public universities. A convenient sampling technique was used to select the representative sample from the population.

Data collection tool

A questionnaire was constructed to collect the data to be used for analysis. The first section of the instrument included different personal and demographic items (age, gender, university, semester, cyberbullying experience & place of bullying).

Revised Cyberbullying Inventory (RCBI) devised by Baker and Kavut (2010) was used to measure cyber victimization and cyberbullying. RCBI was found reliable with a Cronbach alpha coefficient value of .92 for the Bully scale and .80 for the Victim scale.

The Beck Youth Anxiety Scale (BAI-Y) developed by Aeron Beck (2005) was used to measure the anxiety level of students.

Rosenberg (1989) developed the Self-esteem Scale (RSES) to measure self-esteem. This measure of self-esteem is found highly valid and reliable repeatedly, with Cronbach alpha coefficient scores ranging from .84 to .95 (Sinclair et al., 2012).

To measure depression Beck Depression Inventory (BDI-Y) was used. BDI-Y consists of 20 depression symptoms. Further, 4 items were developed using symptoms of physical health problems identified by Fekkes et al. (2004). Self-injury was assessed by the item developed by Schneider et al., (2012). "How many times did you hurt or injure yourself on purpose? (For example, by cutting, burning, or bruising yourself on purpose)".

Reliability of the instrument

The scales used for the construction of the instrument were adapted according to the objectives of the study. Since the questionnaire of this study consisted of five scales; therefore, Cronbach Alpha was computed for each scale initially on the sample of 100 students during the phase of pretesting of the research instrument by using SPSS v.20. The Cronbach alpha value of all scales was more than the standardized alpha value of the scale i.e. .70. As deletion of some items was improving the alpha value, those items were not included in the final questionnaire. The data from pilot testing were analyzed on a computer using SPSS version 20. Values of Cronbach Alpha were as under:

	Value of Cronbach’s Alpha
Cyber victimization	0.906
Cyberbullying	0.901
Anxiety	0.833
Self-esteem	0.684
Distress	0.794

Data Analysis

To explore the consequences of cyberbullying on self-esteem, anxiety, and distress of university students Regression analysis was run for both cyberbullying and cyber victimization as independent variables. Self-esteem, anxiety, and distress were regressed to measure the consequences of cyberbullying and cyber victimization.

Table 1

Demographic Profile of the Respondents

Demographic Variables	n	%
Gender		
Female	234	(58.5)
Male	166	(41.5)
Age		
Less than 20 year	187	(46.8)
20-25 years	213	(53.3)
University		
LOG	142	(35.5)
GCUF	151	(37.8)
UOS	107	(26.8)
Semester		
1 st	95	(23.8)
3 rd	111	(27.8)
5 th	92	(23.0)
7 th	102	(25.5)

Table 1 shows the demographic information of the students. Responses are shown in the form of frequency and percentage. Among 400 respondents 58.5 % were female and 41.5 % were male. Age of 46.8 % of the students was less than 20 years and age of 53.3 % of students were between 20 to 25 years. It can be seen from Table 1 that 35.5 % of the students belong to the University of Gujarat and students from Government College University Faisalabad and University of Sargodha were 37.8 % and 26.8 % respectively. It is shown in Table 1 that students from the 1st semester were 23.8 %, from the 3rd semester 27.8 %, from the 5th semester 23.0 %, and the 7th semester 25.5 %.

Table 2

Demographic Profile of the Respondents Regarding Cyberbullying

Demographic Variables	n	%
Cyberbullying Experience		
Yes	194	(48.5)

No	206	(51.5)
Category of cyberbullying		
Cyber victims	101	(52.1)
Cyberbullies	93	(47.9)
Place of Cyberbullying		
Home	71	(36.6)
Hostel	30	(15.5)
Department	40	(20.6)
Playground	20	(10.3)
Library	15	(7.7)
Cafeteria	7	(3.6)
Any other place	11	(5.7)

As shown in Table 2 48.5 % of students have experienced cyberbullying either as a cyber victim or as a cyber bully. On the other hand, 51.5 % of students do not have any cyberbullying experience. Among those who have experienced cyberbullying, 52.1 % were cyber victims and 47.9 % were cyberbullies. Of those who have been cyber victimized, or who have cyberbullied others, 36.6 % experienced it at home. Among others, 15.5 % faced it at a hostel, 20.6% at the department, 10.3 % at the playground, 7.7 % at the library, 3.6 % at the cafeteria and 5.7 % experienced it at any other place.

Table 3

Group Differences in Cyber victimization and Cyberbullying experience concerning Gender

Variables	Female		Male		df	t-value
	M	SD	M	SD		
Cyber Victimization	25.78	10.63	27.66	10.51	398	-1.747
Cyberbullying	26.33	10.60	27.27	11.36	398	-.851

*p ≤ 0.05

The difference in cyber victimization and cyberbullying experiences of females and males is shown in Table 3. Females (M = 25.78, SD = 10.63) and males (M = 27.66, SD = 10.51) are equally cyber victimized, $t(398) = -1.747, p > 0.05$. Both females (M = 26.33, SD = 10.60) and males (M = 27.27, SD = 11.36) have been equally cyberbullied, $t(398) = -.851, p > 0.05$.

Table 4

Effect of Cyber Victimization on Anxiety, Self-esteem, and Distress among Students

	Model 1			Model 2			Model 3		
	Anxiety			Self-esteem			Distress		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	5.52***	.64		31.49***	.53		16.56***	.96	
Cyber Victimization	.13***	.023	.27	-.054**	.019	.1	.18***	.03	.26
R^2	.07			.02			.07		
F	33.25			8.40			29.75		

*p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001

Linear Regression Analysis was done to find the consequences of cyber victimization on Anxiety, Self-esteem, and Distress among students. Results in Table 4 show that in model 1 cyber victimization has a significant effect on the anxiety of students, $B = .13, t(398) = 5.76, p < 0.001$. Cyber victimization also explained a significant proportion of variance in anxiety level, $R^2 = .07, F(1, 398) = 33.25, p < .001$. It is concluded that the anxiety of cyber victims increases by 0.13 points, as the cyber victimization increases to one point.

In model 2, the effect of cyber victimization on self-esteem is shown. Cyber victimization significantly predicts the self-esteem of students, $B = -.05, t(398) = -2.90, p < 0.01$. A significant proportion of change in self-esteem is explained by cyber victimization, $R^2 = .02, F(1, 398) = 8.40, p < .01$. It is concluded from the analysis that as students are more cyber victimized, their self-esteem decreases. It is concluded from the analysis that as self-esteem of cyber victims decreases by 0.054 units as cyber victimization increases by one unit.

In model 3, cyber victimization is a predictor and distress is the dependent variable. It was found that cyber victimization significantly affects the distress level of students, $B = .18, t(398) =$

5.45, $p < .001$. Variation in distress is significantly explained by cyber victimization, $R^2 = .07$, $F(1, 398) = 29.75$. One unit increase in cyber victimization increases distress among students by 0.18 units. Hence, it is concluded that as students are more cyber victimized, their distress of them increases.

Table 5
Effect of Cyberbullying on Anxiety, Self-esteem, and Distress among Students

	Model 1		Model 2			Model 3			
	Anxiety		Self-esteem			Distress			
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	6.04***	.64		31.17***	.524		16.55***	.94	
Cyberbullying	.11***	.02	.242	-.042*	.018	-.114	.183***	.03	.27
R^2		.058		.013			.073		
F		24.72		5.23			31.34		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 5 indicates the consequences of cyberbullying on anxiety, self-esteem, and distress among students. Model 1 explains that cyberbullying significantly increases the anxiety among students, $B = .11$, $t(398) = 4.97$, $p < .001$. The consequences of cyberbullying on anxiety are also significantly explained by the predictor, $R^2 = .05$, $F(1, 398) = 24.72$, $p < .001$. The findings show that one one-unit increase in cyberbullying increases anxiety among students by 0.11 units.

In model 2, the effect of cyberbullying on the self-esteem of students is shown. It was found that cyberbullying decreases the self-esteem of the students, $B = -.04$, $t(398) = -2.28$, $p < .05$. Cyberbullying also explained a proportion of variance in self-esteem, $R^2 = .01$, $F(1, 398) = 5.23$, $p < .05$. It is concluded that one unit increase in cyberbullying decreases self-esteem of students by 0.042 units.

Model 3 illustrates the relationship between cyberbullying and distress among students. It was concluded that increasing cyberbullying incidents, increases the distress among students, and vice versa, $B = .18$, $t(398) = 5.59$, $p < .001$. The proportion of change in distress is also explained by cyberbullying, $R^2 = .07$, $F(1, 398) = 31.34$, $p > .001$. Hence, a unit increase in cyberbullying increases distress among students by 0.18 units.

Findings

The study was conducted to investigate the prevalence of cyber victimization and cyberbullying. Furthermore, the study intended to explore the consequences of cyberbullying on the anxiety, self-esteem, and distress of university students. The key findings of the study are discussed as under:

- More than half of students respond that they have never experienced cyberbullying. While approximately half of students were found to have experienced cyberbullying either as cyber victims or cyberbullies. Among those who had cyberbullying experience, cyber victims were more than cyber bullies.
- Of those who have been cyber victimized, or who have cyberbullied others, 36.6 % experienced it at home. Among others, 15.5 % faced it at the hostel, 20.6% at the department, 10.3 % at the playground, 7.7 % at the library, 3.6 % at the cafeteria, and 5.7 % experienced it at any other place.
- Males and females had equal experience of cyberbullying. Both have been equally victimized. Moreover, cyberbullies are equally present in males and females. Males are cyber bullies as well as females. Furthermore, the cyber victimization rate does not differ as the age increases. Cyberbullies can be of any age. Age does not affect cyberbullying or cyber victimization.
- Results of the study showed that anxiety of cyber victims increases, as cyber victimization increases. The self-esteem of cyber victims becomes lower as cyber victimization increases and vice versa. As students are more cyber victimized, distress increases.
- Results about the consequences of cyberbullying on anxiety, self-esteem, and distress among students were similar to those of cyber victims. In the case of cyber bullies, cyberbullying significantly increases anxiety among students. Cyberbullying decreases the self-esteem of cyber bullies. This means that the self-esteem of cyber bullies decreases, as they bully others. Moreover, it was concluded that increasing cyberbullying incidents increases distress among cyberbullies, and vice versa.

Discussion

Ever increasing use of technology and social media is giving rise to cyberbullying practices. A study was conducted to explore the consequences of cyberbullying on the anxiety, self-esteem, and distress of university students. The study explains the possible consequences of cyberbullying.

As the use of technology is on the rise in Pakistan, it was found that almost all students have access to the internet. This may be due to the reason that the percentage of teens using the internet has increased dramatically since the year 2000 (Mitchell, Ybarra, & Finkelhor, 2007). Students can access the internet anywhere via computers or cell phones. This seems to have also increased the cyberbullying rate. Most parents do not impose restrictions on their children's use of the Internet (Rahmaputri, Setiasih, & Kesumaningsari, 2022). Some parents restrict the use of the internet by their children. It can be concluded that students have more freedom now in their internet use and online activities. The rising access to the internet is giving rise to cyberbullying incidents. In this way, anyone can be victimized online as well as one can cyberbully others easily.

More than half students among the students reported that they had never experienced cyberbullying. Contrarily, approximately half of the students were found to have experienced cyberbullying either as cyber victims or cyberbullies. The number of cyber victims and cyber bullies is increasing day by day with the rapid technological advances (Ahmad & Kamran, 2019).

Cyber victimization creates psychological problems for the cyber victims. Cyber victimization results in high levels of anxiety and distress. It also decreases the self-esteem of cyber victims. Cyber victims socially exclude themselves. They become anxious about the future. They feel scared and do not like to talk to anyone. Cyberbullying becomes permanent after the entry of students into the cyber world, students may experience victimization for a long time which leads to depression and other forms of mental disorder (Maurya, Muhammad, Dhillon, & Maurya, 2022). The key findings of the current study are consistent with the previous studies carried out by Skilbred-Fjeld, Reme, and Mossige (2020), Mukhtar et al., (2023), and Gohal, Alqassim, Eltyeb, and Rayyani (2023).

Not only do cyber victims go through different negative consequences, but cyberbullies are also adversely affected by cyberbullying. Cyberbullies are also characterized by high anxiety, low self-esteem, and more distress than non-bullies. Many other studies found that cyberbullying is associated with feeling unsafe at school, externalizing problems, suicidal ideation, and less empathic responsiveness (Litwiller & Brausch, 2013; Litwiller & Brausch, 2013; Nixon, 2014; Pelfrey & Weber, 2014; Sourander et al., 2010; Steffgen, Konig, Pfetsch, & Melzer, 2011; Wang, Iannotti, & Luk, 2012).

Conclusion

Based on the findings of the study, it is concluded that cyberbullying is present in Pakistan, and the ratio of cyber victims is more than cyber bullies. Cyber bullies and cyber victims are present in equal ratios in males and females. Gender does not affect involvement in cyber victimization and cyberbullying. According to students' responses, cyber victimization and cyberbullying have serious effects on their health, anxiety, self-esteem, and distress. Anxiety has a positive relationship with cyber victimization and cyberbullying. Rising cyber victimization increases anxiety among students. Self-esteem is negatively affected by cyber victimization and cyberbullying. Cyber victims as well as cyber bullies tend to have lower self-esteem after the cyberbullying incident. Distress was measured by symptoms of depression, health problems, and self-injury. Responses showed that cyber victimization and cyberbullying increases distress among students. In a nutshell, it is concluded that cyber victimization and cyberbullying results in high anxiety, lower self-esteem, and a high level of distress. Still, there is a question of whether low self-esteem, high anxiety, and distress lead to cyberbullying and cyber victimization or cyberbullying and cyber victimization result in low self-esteem, high anxiety, and distress. From the present study, it is clear that cyberbullying is a two-way phenomenon, it does have effects on cyber victims as well as cyberbullies. Further research is needed to study the cyberbullies' side of cyberbullying incidence.

Recommendations

Keeping in view the results of the study recommendations of the study are as follows:

1. This study informed about the prevalence of cyberbullying and cyber victimization in Pakistani universities. It is highly recommended that policymakers and program developers be aware the students about the prevalence of cyberbullying through specific programs and social media platforms.

2. Keeping in view the serious effects of cyberbullying reported in the current study, parents, educational institutions and other concerned departments with cybercrime should take preventive measures accordingly.
3. A similar type of research study needs to be conducted at private educational institutions in Pakistan as in the current research study only students of public universities were surveyed.
4. Longitudinal studies should be conducted to be aware of other psychological and emotional effects associated with cyberbullying and cyber victimization and severity of the issue and possible measures to be taken.
5. Qualitative studies are also needed to examine the severity of the effects of cyberbullying and cyber victimization.

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