

Cyber victimization patterns among Dhaka University students: an exploratory analysis

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Abstract

This study explores the prevalence of different types of cyber-victimization among 267 students at Dhaka University, Bangladesh, equally split between genders with a mean age of 22.61 (SD = 1.39) at various academic levels. Cyber victimization was measured using a Cyber-victimization Questionnaire (reliability $\alpha = 0.72$). The data was analyzed through Mann-Whitney U, frequency counts, and Chi-square tests using a convenient sampling technique. Results indicated no significant gender differences in experiencing cyber victimization ($U = 10055.00$, $p = 0.068$). The most frequent form was deliberate social media ignoring, reported often or always by 13.9% of students and rarely by 34.1%. Conversely, sharing assault videos was the least frequent, reported often or always by only 0.4% and rarely by 16.1%. Other significant forms included online impersonation, identity theft, password misuse, silent calls, offensive social media comments, spreading rumours, and exclusion from online communities. The statistical tests confirmed significant variability in cyber victimization experiences across different categories. This study highlights the specific cyber challenges faced by Dhaka University students, contributing to discussions on enhancing digital safety for young adults.

Introduction

With the increasing advancement of technology, our interpersonal communication has become largely dependent on the internet. Although it has brought many advantages to human society, we cannot deny its negative consequences. Cyber victimization, the experience of harm or victimization caused by unfavourable or harmful activities carried out through digital means⁽¹⁾, is a detrimental 'by-product' of modern technological advancement. It has become pervasive among adolescents⁽²⁾ and

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young adults⁽³⁾. Cyberbullying, cyberstalking, identity theft, and revenge pornography are some of the acts that can be discussed under cyber victimization.

Cyberbullying is one of the most prevalent forms of cyber victimization, which can include sending threatening messages, spreading false rumours or public shaming through online social media platforms⁽⁴⁾. These online platforms created an opportunity for the perpetrators to take advantage of the Internet's anonymity, which can cause severe consequences affecting their personal and professional lives. These anonymous perpetrators may use approaches such as cyberstalking- an online version of traditional stalking or physically following the victims⁽⁵⁾ and thus create emotional distress in the victim. They sometimes steal an individual's personal information and use it to impersonate others, often with harmful intent. This is called identity theft⁽⁶⁾, which has also become a prominent form of cyber victimization nowadays, where perpetrators often use hacking and other deceptive methods to steal personal information and sometimes create false profiles to bully others⁽⁷⁾. Another disturbing form of cyber victimization is revenge pornography. This refers to the nonconsensual sharing of private images or videos, typically by a former partner, as an act of revenge following the end of a relationship⁽⁸⁾ and the emotional consequences of such action can be devastating for the victims as their privacy and dignity are violated in a public platform. Sometimes, perpetrators use information, including personal and private details, that they get from different sources, like cyberstalking and hacking, to blackmail the victim⁽⁹⁾.

Nowadays, cyber victimization is a common phenomenon in many countries. Its prevalence is not limited to a particular age or race. Research has shown that children in the United States are mainly victims of cyberbullying. A study indicated that 20% of children aged between 9 and 12 in the U.S. had experienced cyberbullying, either as victims, perpetrators, or observers⁽¹⁰⁾, while in Malaysia, it has been found that it is still present beyond their school age⁽¹¹⁾. The role of ethnicity in cyberbullying varies across different previous studies. Some research suggests that Hispanic and White adolescents are more likely to engage in cyberbullying⁽¹²⁾, while others found that African Americans are more involved in such behaviours⁽¹³⁾. Furthermore, studies have signified gender differences in the experience of cyberbullying. Males are more likely to be perpetrators, both in the U.S.⁽⁹⁾ and outside of the U.S.^(14,15)

In Bangladesh, the situation has been similarly concerning. Bullying is a long-time practice scenario in Bangladesh, where in the pre-internet era, people used to bully using random telephone calls⁽¹⁶⁾. Nowadays, in Bangladesh, with the advancement of internet technology, students are spending a reasonable amount of time on social media⁽¹⁷⁾, and cyberbullying is becoming common among adolescents both inside and outside school campuses⁽¹⁸⁾. Perpetrators are primarily peers, strangers, members of family and academic institutions⁽¹⁷⁾. The perception of adolescents to put an end to cyberbullying is very

alarming in Bangladesh, as 43% of the studied participants revealed their opinion that there is nothing they can do to the perpetrators. In comparison, 5% of the victims think that telling someone else about the bullying brings more negative consequences⁽¹⁸⁾. Adults also experience Cyberbullying in the form of body shaming, name-calling, and fake identity⁽¹⁹⁾. Gender dynamics also play a significant role in cyberbullying in Bangladesh. Research indicates that in Bangladesh, males engage themselves in Cyberbullying more than females⁽¹⁸⁾, and victims are mostly females⁽²⁰⁾. The motivations behind cyberbullying can be complex. Several reasons have been identified, such as the intention of having fun, perceiving the act as a 'cool fact', a defence mechanism, experiencing personal issues within family dynamics, including conflict or challenging home environment, jealousy, anger, and bad influence⁽¹⁸⁾.

Cyber victimization has a significant impact on emotional distress. Research has shown that individuals who are the victim of cyberbullying develop mental health issues, including anxiety⁽¹⁷⁾ and depression^(17,21). These mental health conditions are prevalent among university students⁽²²⁾. Studies have found that first-year university students in Bangladesh, irrespective of their gender, experience higher levels of anxiety and depression compared to their counterparts in other parts of the world⁽²³⁾, with cyber victimization playing a significant role in the development of these mental health issues.

Although several studies focused on various forms of harm, such as harassment, identity theft, and cyberbullying, the current study can be helpful in accurately capturing the different types of victimization university students of Bangladesh experience, which can allow for the implementation of specific interventions targeting the specific forms of cyber victimization. Since cyber victimization is related to experiencing negative emotions and mental conditions, it can also pave the way for policymakers and practitioners to design therapeutic interventions that are more effective in addressing the consequence of the exact type of harm being experienced.

Materials and Methods

Participants

A total of 301 individuals participated in the research. All participants voluntarily provided consent, except for one person. Among the 300 participants, five were not students and were excluded since the research focused exclusively on students. Additionally, 28 students reported no experience with online harassment and were also excluded. Consequently, the final dataset comprised 267 valid participants, and the analysis was conducted based on this group. This means that out of 295 Dhaka University students, only 28 (9.49%) experienced no abuse, but the rest, 267 (90.5%), experienced some cyber-victimization. The participants' mean age was 22.61 (SD = 1.39). In terms of gender, the sample included 137 males (51.3%) and 130 females (48.7%). Their educational levels span

from the first year of undergraduate studies to postgraduate programs. 15.4% were 1st-year students, 14.2% were 2nd year, 24.3% were 3rd year, 33% were 4th year, and 11.6% were postgraduate students. According to the participants' report, 15.4% were from the lower class, 53.6% were from the lower middle class, 30% were from the upper middle class, and only 1.1% were from the upper class.

Instruments

The primary purpose of the present study was to calculate the prevalence of different types of cyber-victimization that university students face. For this purpose, test items from the Bangla version of the scale Cyber-victimization Questionnaire for Adolescents (CYVIC) initially developed by Álvarez-García *et al.*⁽²⁴⁾ were used. It is a 19-item self-report instrument designed to assess cyber victimization. That Bangla version⁽²⁵⁾ was a four-point Likert scale ranging from 1 (never) to 4 (always). A higher score indicated higher experiences of cyber-victimization. Even though initially, it was designed to assess overall cyber-victimization among adolescents, the scale items also seem applicable to young university students. That is why we used the items from this scale to measure the frequency of different types of cyber victimization experienced by university students. There are many examples in our relevant field where the initial scale was developed for adolescents but later adapted for adults because of its wide range of applications, such as the Rosenberg Self-Esteem Scale⁽²⁶⁾.

Both the English and Bangla versions of the test showed high internal consistency. Cornbach's alpha ranged from 0.74 to 0.89 for all the subscales of the English test. Exploratory and confirmatory factor analyses also ensure the validity of the English scale. The Bangla version of the scale showed a reliability coefficient, α score of 0.72. Since this scale was initially developed for adolescents and the data we collected in the present study was from university students, to make sure the scale items had internal consistency, we calculated the inter-item validity and reliability of the scale for the present participants. It was found that all the scale items were positively correlated, and the item total correlation ranged from 0.41 to 0.67. For the present participant's reliability coefficient, α of the scale was found to be 0.89.

Procedure

Ethical permission was formally received from the department (name of the department is not shown for anonymous peer review). After ethical clearance, we collected data from participants. Informed consent was collected, and the participants were assured about their confidentiality and privacy. Participants had the right to quit the survey at any point they desired. Next, using a Google form, participants completed a self-report questionnaire with a 19-item cyber-bullying scale. After collecting, all the data was merged into an Excel file for coding. Then, SPSS 16 software was used for the final analysis.

Results and Discussion

Before measuring the frequency of different types of cyber-victimization, we investigated if there were any gender differences in experiencing cyber-victimization. For this purpose, we employed the Mann-Whitney U test to examine potential gender differences in cyber-victimization experience. It revealed no significant gender differences in the experience of cyber-victimization, with test statistics of $U = 10055.00$, $p = 0.068$. This result is consistent with some previous research where they found no significant gender differences in experiencing cyber-victimization⁽²⁷⁾. According to prior research, males and females experience emotions equivalently^(28,29). They also possess equal access to the Internet⁽³⁰⁾, where impersonating others' identities is straightforward, irrespective of gender. Both genders have equal opportunities to express negative emotions towards individuals of their own or the opposite sex through participation in cyberbullying. We attempted to conduct a 2 (Gender) \times 3 (Response Types) chi-square test to examine significant gender differences in response choices to various types of cyber victimization. However, this analysis was not feasible due to an insufficient number of responses (fewer than five) in the 'always' category. This outcome was expected, as not everyone is consistently a victim of cybercrime; otherwise, the societal system would be at risk of collapse.

Although no significant gender differences were found in the overall prevalence of cyber victimization, it analysed the top five most frequently reported cyber-related issues for both genders. The results indicated that while males and females experienced the same types of cyber victimization, the frequency varied.

As shown in Figure 1, 16.8% of males reported being deliberately ignored on social media 'often' or 'always,' compared to 10.8% of females. Conversely, the most common form of cyber victimization among females was receiving offensive comments on social media, affecting 13.9% of females and 10.8% of males. Despite ranking the data based on the highest frequency for each gender, Figure 1 demonstrates that both genders encountered the same types of cyber victimization but at different rates.

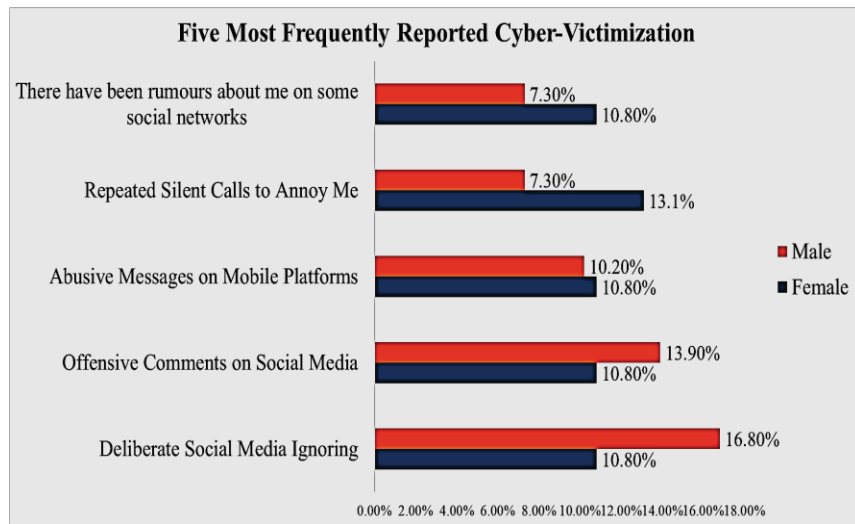


Fig. 1. The five most common types of cyber victimization often or always experienced by male and female students.

For the readers' convenience, Table 1 includes a gender-based profile of all other types of cyber victimization that male and female students often or always experience, in addition to Figure 1.

Table 1. Percentage of Male and Female Students who experienced the following cyber-victimization incidents often or always

| | Different Types of Cyber-Victimization | Female | Male |
|----|---|--------|-------|
| 1 | My Name, Their Words: Online Impersonation | 8.5% | 7.3% |
| 2 | My Identity Stolen for Online Harassment | 7.7% | 6.6% |
| 3 | My Password Used to Send Annoying Messages | 6.2% | 2.2% |
| 4 | Recorded and Shared Nude/Sexual Images of me without consent | 0.8% | 3.6% |
| 5 | My Compromised Images/Video of me (sexual, suggestive, or insinuating | 0.8% | 1.5% |
| 6 | Blackmailed with Intimate Material for Coercion | 2.3% | 2.9% |
| 7 | Online Photo Manipulation & Harassment | 3.8% | 4.4% |
| 8 | Online Dissemination of Private Images/Videos | 3.1% | 5.8% |
| 9 | Video of My Assault Shared | 0.0% | 0.7% |
| 10 | Forced Humiliation Act Recorded and Leaked Online | 1.5% | 2.2% |
| 11 | Phone Calls with Insults and Mockery | 9.20% | 5.10% |
| 12 | Anonymous Threatening Calls | 7.70% | 2.20% |
| 13 | Denied Access to Online Communities for No Reason | 6.90% | 7.30% |
| 14 | Malicious False Complaints Led to Expulsion | 1.50% | 5.10% |

***Note: Instead of including the whole questionnaire in the table, we added each question's core theme or incident for readers' convenience. The original questionnaire is attached in the Appendix.*

Subsequently, a chi-square goodness of fit test was utilized to ascertain whether the distribution of participants' responses across each questionnaire category conformed to an equal distribution. A goodness of fit test was conducted on the responses within each question category. Before applying the chi-square test to each response category, the frequency distribution for responses was calculated to confirm that each category contained at least five cases. Participants were required to categorize each cyber-victimization incident into one of four categories: 1 = never, 2 = rarely, 3 = often, and 4 = always. The analysis showed that the category "always" (indicating severe cyber-victimization) had fewer than those of five cases for nearly all items. Given the rarity of the "always" response, which was expected due to its significance, the data were recoded such that responses for "often" and "always" were combined into a single category labelled "often or always." After this recoding, two questions (items 5 and 9) did not meet the minimum requirement of five observations per category for the chi-square goodness of fit test. Consequently, the chi-square test was performed on the remaining 17 items. The frequency distribution for all incidents of cyber-victimization is illustrated in Table 2. The data presented in Table 2 revealed significant deviations between the observed responses and the expected values across all categories for each participant.

Table 2. Frequency Distribution and Chi-Square Analysis of Participant Responses to Each Response Categories

| | Types of Cyber-victimization | Rarely | Often or Always | $\chi^2(2)$ | <i>P</i> |
|---|--|-------------|-----------------|-------------|----------|
| 1 | My Name, Their Words: Online Impersonation | 105 (39.3%) | 21 (7.9%) | 85.21 | <.001 |
| 2 | My Identity Stolen for Online Harassment | 78 (29.2%) | 19 (7.1%) | 130.14 | <.001 |
| 3 | My Password Used to Send Annoying Messages | 47 (17.6%) | 11 (4.1%) | 249.98 | <.001 |
| 4 | Recorded and Shared Nude/Sexual Images of me without consent | 32 (12%) | 6 (2.2%) | 334.14 | <.001 |
| 5 | My Compromised Images/Video of me (sexual, suggestive, or insinuating nature) Shared Without Consent | 32 (12%) | 3 (1.1%) | | |
| 6 | Blackmailed with Intimate Material for Coercion | 49 (18.4%) | 7 (2.6%) | 260.76 | <.001 |
| 7 | Online Photo Manipulation and Harassment | 89 (33.3%) | 11 (4.1%) | 136.72 | <.001 |
| 8 | Online Dissemination of Private Images/Videos | 70 (26.2%) | 12 (4.5%) | 174.23 | <.001 |
| 9 | Video of My Assault Shared | 43 (16.1%) | 1 (0.4%) | | |

Table 2 Contd.

| | | | | | |
|----|---|-------------|------------|--------|-------|
| 10 | Forced Humiliation Act Recorded and Leaked Online | 31 (11.6%) | 5 (1.9%) | 343.64 | <.001 |
| 11 | Repeated Silent Calls to Annoy Me | 160 (59.9%) | 27 (10.1%) | 100.74 | <.001 |
| 12 | Phone Calls with Insults and Mockery | 101 (37.8%) | 19 (7.1%) | 94.47 | <.001 |
| 13 | Offensive Comments on Social Media | 118 (44.2%) | 33 (12.4%) | 52.88 | <.001 |
| 14 | Abusive Messages on Mobile Platforms | 144 (53.9%) | 28 (10.5%) | 76.20 | <.001 |
| 15 | Anonymous Threatening Calls | 100 (37.5%) | 13 (4.9%) | 113.73 | <.001 |
| 16 | There have been rumours about me on some social networks. | 96 (36%) | 24 (9%) | 85.82 | <.001 |
| 17 | Denied Access to Online Communities for No Reason | 70 (26.2%) | 19 (7.1%) | 148.11 | <.001 |
| 18 | Malicious False Complaints Led to Expulsion | 61 (22.8%) | 9 (3.4%) | 211.78 | <.001 |
| 19 | Deliberate Social Media Ignoring | 91 (34.1%) | 37 (13.9%) | 58.52 | <.001 |

***Note: Expected values were based on an equal distribution across categories of cyber victimization. Data for "never" category is not shown in this table, which focuses on individuals who experienced at least one form of abuse. The number of participants in the "never" category can be calculated by subtracting the sum of participants in all other categories from the total sample size (N = 267).*

Now it can be observed from the data in Table 2 that the most frequently reported form of cyber-victimization was deliberate social media ignoring, with 13.9% of students indicating that this occurred often or always and 34.1% reporting it occurred rarely. It can be a form of cyber victimization because it produces different negative emotions in people^(31,32). The second most common form of cyber-victimization involved online harassment through offensive social media comments, with 12.4% of respondents stating that this happened often or always, while 44.2% reported it rarely. Previous studies also mentioned online harassment as one of the most common forms of cyber-victimization, where offensive comments on social media were frequently experienced by youth⁽³³⁾.

Another prevalent issue was the receipt of abusive messages via mobile platforms, with 12.4% experiencing this often or always and 53.9% rarely. This finding echoes the findings of previous research where mobile and text messaging harassment was prevalent among young adults⁽³⁴⁾. Additionally, students reported instances of online impersonation (7.9% often or always and 39.3% rarely) and online identity theft for harassment purposes (7.1% often or always and 29.2% rarely). These forms of cyber victimization have been

increasingly recognized by the previous literature findings showing that impersonation can lead to significant distress, including psychosocial adjustment problems⁽³⁵⁾.

Phone call harassment, particularly in the forms of silent⁽³⁶⁾ and threatening calls⁽³⁷⁾, is another concerning form of bully by previous research. In the present study, phone call harassment has also emerged as a significant concern among students. Participants reported experiencing repeated silent calls, with 10.1% indicating these occurred often or always and 59.9% reporting them as rare. Insulting phone calls were also reported, with 7.1% of students experiencing these often or always, while 37.8% noted such incidents as rare. Similarly, threatening calls were identified, with 4.9% of participants stating they occurred often or always and 37.5% describing them as rare occurrences.

Additionally, students highlighted the perpetrators' use of the Internet to disseminate false rumours about them. This form of victimization was reported as occurring often or always by 9% of participants, while 36% described it as a rare event. The dissemination of private materials, such as images or messages, was also identified as a notable concern, albeit with lower prevalence rates compared to other forms of abuse. For instance, 4.5% of students reported that someone shared their private images or videos often or always, while 4.1% noted incidents of online photo manipulation for harassment purposes occurring often or always. Previous research has also drawn attention to the rise of the nonconsensual sharing of intimate images and its impact on mental health⁽³⁸⁾. Furthermore, 2.6% of respondents reported frequent blackmail by perpetrators who threatened to disseminate intimate materials unless specific demands were met. Alarming, 2.2% indicated that their nude or sexual images were recorded and shared without consent, occurring often or always.

Table 2 provides a clear overview of the frequency of cyber victimization across different categories. However, to enhance interpretability and presentation, cyber-victimization questionnaire items were grouped into five themes: Impersonation and Identity Misuse, Non-Consensual Image and Video Sharing, Physical Harassment and Online Humiliation, Verbal Harassment and Cyberbullying and Social Exclusion and False Accusations.

These themes were created based on commonalities among questionnaire items. For instance, the theme "Impersonation and Identity Misuse" was formed by combining items 1, 2, and 3 from the questionnaire, which include: Item 1: Someone has impersonated me online, posting comments under my name as if they were me, Item 2 : I have been impersonated on Twitter or Facebook through a false user profile and Item 3: Someone who obtained my password sent messages pretending to be me, causing trouble. These items share a common focus on impersonation and identity misuse. After categorizing the questions into five distinct themes, we analyzed the percentage of students who responded with 'often' or 'always' under each category. The results are presented in Figure 2, and it

can be observed that verbal harassment and cyberbullying were the most common types of cyber-victimization, with 53.93% of students experiencing these issues often or always.

From this data, it is visible that this issue is occurring at a significant rate, which aligns with previous research that has also identified this form of victimization as one of the most pervasive types, stating that the majority of the studied students had particularly experienced mobile phone harassment, including received phone calls and text messages⁽³⁹⁾.

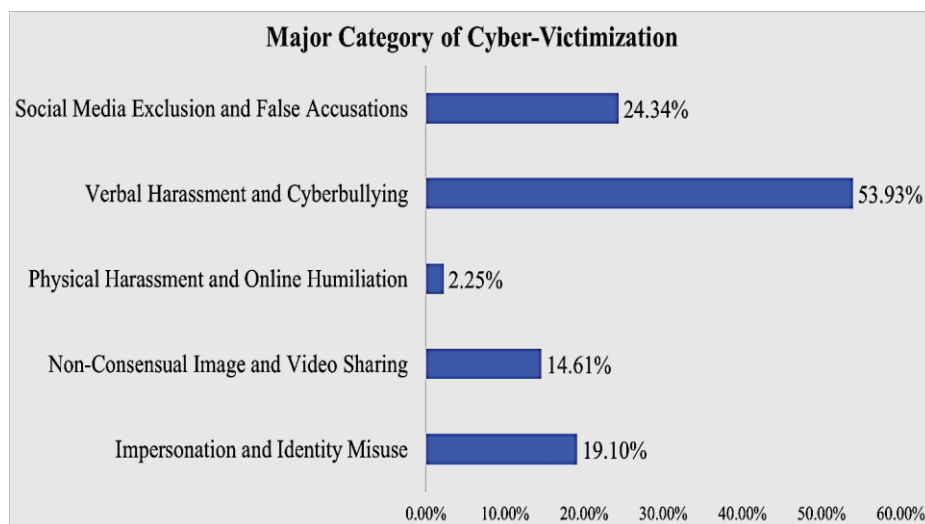


Fig. 2. Percentage of Students Reporting Frequent or Constant Experience of Common Types of Cyber-Victimization.

Following this, social media exclusion and false accusations affected 24.34% of students, who were frequently ignored, excluded, or falsely reported by peers on social media platforms. In many cases, individuals perceived as violating unwritten rules generally considered appropriate in a specific group or social setting and seen as replaceable or less valuable within a group, become the target of this form of cyber victimization⁽⁴⁰⁾. Impersonation and identity misuse were experienced by 19.10% of students, indicating a significant but slightly less prevalent form of victimization. This result also reflects the findings from previous research where this form of victimization is found to be most common among 30-39-year-old individuals, while 20-29-year-old young adults were rated as 3rd most targeted age experiencing this kind of cyber victimization⁽⁴¹⁾. Another notable form was non-consensual image and video sharing, where 14.61% of students had their private or manipulated images and videos shared online without consent. Lastly, although less frequent, physical harassment and online humiliation impacted 2.25% of students, where videos of assaults or humiliation were recorded and distributed online.

These findings underscore the diverse and pervasive nature of cyber-victimization among university students, highlighting the critical need for targeted interventions and support mechanisms to address these harmful behaviours.

Conclusion

Identifying the forms of cyber-victimization that university students experience is the first step in planning a targeted intervention. The findings from our study investigated the frequently experienced forms of cyber victimization among university students. It will provide university authorities, parents, and students with greater insight into this matter and invite ways to mitigate it from their respective perspectives. The university authorities can develop anti-bullying policies that include clear definitions and consequences of the existing forms of cyber victimization among university students. This will help raise awareness, enabling students to become aware of this issue before becoming either victims or perpetrators. Since students sometimes do not feel comfortable reporting incidents (18), authorities should develop a policy that maintains the confidentiality of students to facilitate the reporting process. Additionally, this study highlights the percentage of students who are already experiencing some form of victimization. Authorities can create a support system for victims, including counseling services and peer support groups. The present research findings will also raise awareness among parents and students about the prevalence of cyber victimization. For parents, the findings will help initiate conversations with their children about their online difficulties, while for students, it will help identify and prevent various forms of victimization.

The data for this project are openly available at
https://osf.io/h3a2g/?view_only=908801ab5d6d4c30bd4d8e2700d58993

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