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Cyberbullying Prevalence at a Rural Based University in the Eastern Cape, South Africa

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Abstract

Defences within the digital space against cybersecurity include detection, prevention and response to threats using software tools, however, there no significant technology-based defence systems that deal with cyberbullying related threats. A lack of cybersecurity defence systems and limited cybersecuriy awareness may expose students to cyberbullying and students are likely to suffer, resulting in effects such as psychological and emotional abuse that may eventually contribute towards high drop-outs rates. The objective of this study was to investigate the prevalence of cyberbullying among students at a public university based in the Eastern Cape of South Africa. This research study followed a mixed method approach and a thematic analysis guided by the Theory of Reasoned Action (TRA) theoretical framework. The study found strong cyberbullying penetration within the student community under investigation. As part of the study findings, it was found that activities such as cybersecurity awareness programmes may mitigate the impact of cyberbullying on students and such interventions should form part of any higher education institution's responsibility.

Keywords: *Cyberbullying; Cybersecurity; Theory of Reasoned Action; Cyberbullying Awareness Programs; Cyber*

1. Introduction

The increased use of on-line services especially among the youth has extended the act of bullying from the physical to digital space. The period during the Covid-19 pandemic and post has contributed towards the increase in the use of online services by students in higher education institutions through on-line based activities. Cybersecurity must be enforced on online activities to protect users from online criminals such as cyberbullies [1]. The objective of cybersecurity clearly indicates the importance of protecting users and their devices within the cyber environment [2]. Cybercrime, also called computer crime, involves using a computer as an instrument to further illegal ends, such as committing fraud,

trafficking in child pornography and intellectual property, stealing identities, or violating privacy. Ajie [3] defines cybersecurity as the body of technologies, processes and practices, and designs to protect networks, computers, programs and data from attack, damage, or unauthorised access. Defences within the digital space include detections, prevention and response to threats using software tools built around institutional security policies but no technology-based defence system deal with cyberbullying related threats. The human aspect of the information system usage is believed to be the weakest link in the execution of the security program [4]. Therefore, a well-focused education program on cybersecurity awareness to prevent cyberbullying of various forms is critical for the users [4]. The education program may involve protection against data leakages and secure use of emails, social media, and passwords [5], [6]. Cybersecurity awareness is not only a protection mechanism but also an effective and convenient solution to the problem of cyberbullying.

In most cases, the idea behind cyberattacks is to breach an organisation's or individual's computer system for financial benefits or cause undesired disruptions or activities on the victim [7]. The result can be long lasting for victims. Such may include loss of data or information, loss of reputation due to the revelation of private data and psychological and emotional issues, especially when cyberbullying is involved. Social media platforms have become popular among Internet users such as students because it provides effective communication and other web services. For instance, Facebook and Instagram are among the most visited platforms daily, and in some cases, users visit those sites many times a day [8]. According to the study by Mcguire [9], social media-enabled cybercrime is generating about US$3.25 billion a year and contains up to 20% more methods by which malware can be delivered to users through means such as adverts, and plug-ins and digital media.

Cyberbullying is commonly associated with using social media networks to bully others, known or unknown. Several definitions of cyberbullying have debatably been presented by researchers, and notable ones are from Smith et al. [10], who defined it as "an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (p. 376). Peter and Petermann [11] also made a refined contribution to the definition by highlighting critical factors such as "using information and communication technologies (ICT) to repeatedly and intentionally harm, harass, hurt and/or embarrass a target" (p. 359). Apart from the vast amount of research work by researchers on cyberbullying penetration, interventions have not actualised a plausible solution capable of dealing with different contexts such as societal attributes (rural situations) and individual backgrounds. Recently, South Africa considered a legislative framework to deal with cyberbullying under the Cybercrimes Act of 2020. Although not yet in full effect, the Act is meant to criminalise cyber associated crimes. More cybersecurity awareness is of critical importance in curbing cyberbullying under the current situation to support the legislative measures the Government is making.

The objective of this study was to investigate the prevalence of cyberbullying at a public university based in the Eastern Cape of South Africa. Lack of cybersecurity awareness may expose students to cyberbullying and students are likely to suffer its effects such as psychological and emotional abuse and eventually contribute to high drop-outs rates [12][13]. It is common practice for students to use cyberbullying on many social media sites such as Facebook, text messaging, emails and instant messages around the university campus to bully each other but without much awareness of its impact, especially on victims. According to Hussain [14], most students who use social media share more information about themselves than they did in the past. As the research indicates, about 90% of students who use social media can be vulnerable to cyberbullying. The victim of cyberbullying may not know why the bully is targeting them or the bully's identity. The harassment can have a wide-reaching effect on the victim, as the content used to harass the victim can be spread and shared easily among many students that use these media and often remain accessible for a long time after the initial incident. It is also suggested that cyberbullying interventions involve victims' experiences and education [15]. Several studies have been

done on cyberbullying, especially in schools [16]–[18]. However, it has been observed that most studies were conducted in urbarn schools and universities. The findings of these studies revealed that cyberbully was found to be prevalent in their research contexts. This study aimed to explore cyberbullying in a rural based public university situated in the Eastern Cape, which none of the previous studies considered.

2. Theoretical Framework and Related Work

In this section, the theoretical framework used in the study, namely the Theory of Reasoned Action (TRA), is described concerning how it relates to cyberbullying, and the section further discusses cyberbullying attributes associated with TRA.

2.1 Theoretical Framework

TRA is a model that originates within the field of social psychology. Developed by Fishbein and Ajzen [19], it defines the links among beliefs, attitudes, norms, intentions and behaviours of an individual. According to this model, a person's behaviour is expressed by their behavioural intention to perform it. This intention is determined by the person's attitudes and subjective norms towards the behaviour. [19] define the attitudes as persons' positive or negative thoughts about their behaviour and there are two factors influence an individual's attitudes towards their objectives. These are first, persons's assessment of the consequences associated with performing such behaviours and second the persons's way of evaluating the effect of the consequences whether the behaviour will make good or bad feeling of oneself. Subjective norms are defined as the social pressure the person may be experiencing to perform such behaviours by their family and friends and they are influenced by normative beliefs and motivation to comply [19]. Normative beliefs refer to the ideas that are considered important by an individual's surroundings, such as family and friends. Motivation to comply refers to whether the individual also shares the same ideas or whether these are not relevant to the individual [19].

Associating the TRA to cyberbullying or cybersecurity awareness assisted in gathering data through the contexts of empathy, attitude, norms, and intentions toward cyberbullying and hence formed a theoretical framework for the study. Few studies have evaluated the effectiveness of cyberbullying prevention/ intervention programmes, especially in rural-based university settings. Figure 1 shows the linkages among the constructs with respect to cyberbullying.

Empathy toward Cyberbullying Victims

Although empathy can be measured by use of other ways such as using a general measure of affective and cognitive empathy [20], in this study, empathy was evaluated in the context of cyberbullying by having participants rate how they feel with respect to the following factors: 1) Experience with cyberbullying at the university; 2) Tools used and emotional response to cyberbullying/harassment; 3) Identity of cyberbullies; 4) Reaction after cyberbullying experience; 5) Emotions after cyberbullying; 6) Response actions to emotions; 7) Committing cyberbullying toward another student; and 8) Consideration of the victim.

Attitudes, Injunctive Norms, Descriptive Norms, and Intentions Measures

According to Ajzen [21], attitudes involve how positively or negatively an individual evaluates a behaviour. It has been found that bullies show positive attitudes with respect to violence and low empathy towards victims [22]. In one study conducted in Europe, it was observed that college students with less accepting attitudes towards bullying were less likely to report participating in social networking, physical. text or verbal bullying [23]. Further, less accepting attitudes with respect to perpetrators predicted less likelihood of verbal or social exclusion bullying. However, Barlett and Gentile [24], observed that both

more accepting attitudes toward strength differential and more accepting attitudes toward anonymity predicted more positive attitudes toward cyberbullying perpetration, which eventually predicted cyberbullying perpetration.

With recent work, perceived norms have been described to include both subjective norms and descriptive norms. Subjective norms are now considered as injunctive norms, the perception of others' approval or disapproval of a behavior while descriptive norms are the perception that others actually perform the behavior [25].

It has also been noted that a meta-analysis examining relationships amongst attitudes, subjective norms, descriptive norms, perceived behavioral control, and intentions to participate in a wide range of behaviors found attitudes was the strongest predictor and descriptive norms was the second strongest predictor of intentions to participate in various behaviors. However, for younger adults, the linkage between descriptive norms and intentions was stronger [26].

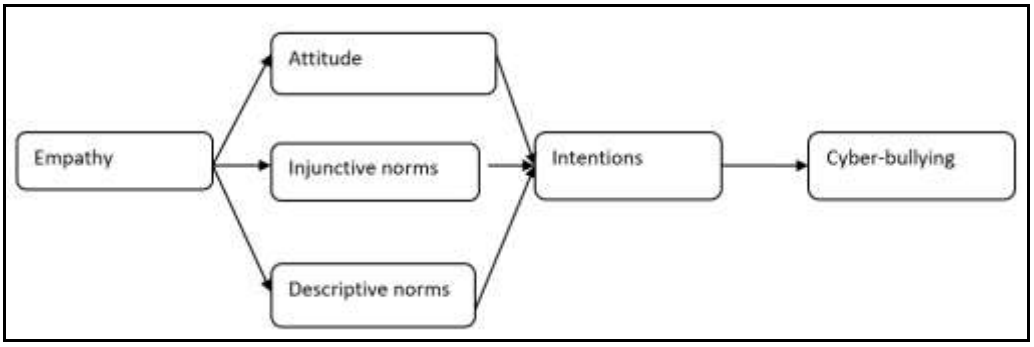

Figure 1: Theoretical Framework based on the Theory of Reasoned Action (TRA) related to cyberbullying[14]

For the most part, cyberbullying is the utilisation of specialised electronic gadgets, for example, mobile phones or the web, for intentional acts that incur damage, affront, or misery onto victims [27]. Cyberbullies use these electronic devices for purposes such as online name-calling, threats, and disseminating rumours and embarrassing or bullying information and pictures via text message, email, message boards, instant messenger, social networking sites such as Facebook and defamation websites, which are websites created by cyberbullies to spread embarrassing victim picture, video, lies, or rumours [28], [29]. Victims of cyberbullying interpret cyberbullying as a harmful act that creates psychological and emotional problems.

2.2 Traditional Bullying Vs Cyberbullying

The innovation movement is compared with the progression of human social orders. Critical developments, for example, the web, have perpetually changed how individuals interact. These improvements have enabled people to make more noteworthy walks in many fields; they have additionally enabled types of transgression to end up plainly more uncontrolled and all over the world [30]. This is demonstrated while checking how traditional bullying has advanced into an issue today known as cyberbullying. Even though traditional bullying and cyberbullying are frequently similar regarding structure and methods, they additionally have numerous distinctions. Unlike traditional bullying, cyberbullying enables the guilty party to shroud his or her identity behind a device.

After considering a number of studies, Schenk and Fremouw [31] sums up the difference between traditional bullying and cyberbullying, as depicted in Figure 2 below. Bullying is classified into two categories: Direct and Indirect. Direct bullying is mostly associated with traditional bullying as compared

to indirect, which involves cyberbullying. Indirect bullying may also include some elements of traditional ways of doing it, such as spreading rumours about someone.

In another study by Englander [32] on first-year students, it was shown that the essential difference between traditional bullying and cyberbullying is the characteristics of the electronic device through which the bullying happens. Interestingly, students who do not participate in traditional bullying behaviour do so online using electronic devices [17].

2.3 Cyberbullying Issues at the College and University Level

According to studies by Report [33], Internet usage among students or young people in South Africa was found to be very high but comparable to the international level. Moreover, quite notably, 37% of these young people experienced cyber-harassment either at school or at home.

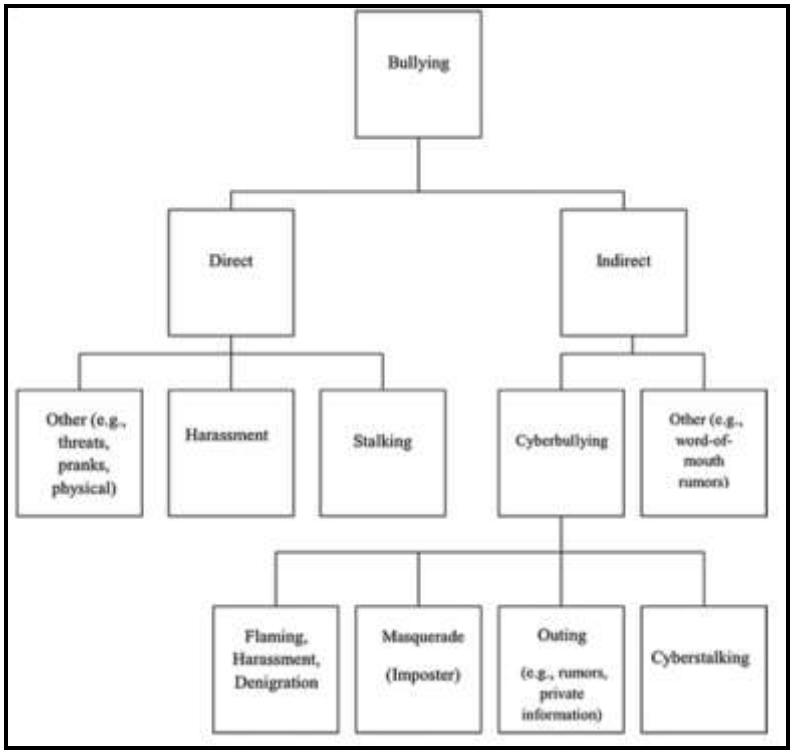

Figure 2: The relation between traditional bullying, cyberbullying, and stalking behaviours[19]

The Internet as online technology has become one of the most popular communication channels among university students worldwide [34], [35]. Young adult and university students have become sophisticated users of technology and often lead the way in adopting new technologies for everyday use. Sometimes their practical technological understanding can become a gateway, exposing them to a host of sordid activities, including pornography, drugs, violence and cyberbullying [36]. Although online technologies provide numerous benefits (i.e., learning and teaching activities), online technology also has a potentially 'dark side', as it can be used for harm [37], [38]. The current study focuses on awareness to deal with the harmful consequences of one type of misuse of online technology.

The harm in one's existence to which cyberbullying victimisation is related can extend from trivial levels of distress and frustration to psychosocial and life problems. These several negative conditions are the results of cyberbullying depending on the frequency, length, and seriousness of the malicious Act [39]. Cyberbullying that happens not as often as possible has considerably less potential to

cause long-term problems than ongoing harassment. There have been studies on the connection between victimisation and a detectable drop in school performance and the balance of family relationships [39]. Other studies have investigated the development of psychosocial problems and affective disorder [40], [41]. Victims of cyberbullying reliably report school issues connected to the distraction of cyberbullying background. Students experience a sudden drop in their grades [39], an increase in absenteeism from classes [42], and emergent perceptions that school or university is no longer safe [16].

Being the victim of cyberbullying may result in depression manifestations among students [36]. Likewise, [31] found that victims of cyberbullying had problems of depression, anxiety, phobic anxiety, and paranoia. In another study by Lappalainen et al. [43], it was found that around 5% of students were being tormented either by a close understudy or by someone from staff members, and half of the students were victims of cyberbullying before they could complete their studies. It has also been evident that victims usually do not report cyberbullying cases to avoid humiliation.

2.4 Interventions and Strategies for Dealing with Cyberbullying

Generally, students deal with cyberbullying using technical means such as blocking online or phone access and changing passwords or usernames [44]. Most victims do not seek help from anyone. However, traditional bullying intervention programs can be used in addressing without major changes. Slonje et al. [45] gives an example of the KiVa program as one of the most successful anti-bully programs. It involves classroom activities that are computer-based and support from peers. Other intervention programs target a bully to make him/her the consequences of bullying. Further, new innovative technology-based strategies such as cyber monitoring may also be used and can play a major role in tackling the problem.

3. Methodology

The study sought to develop a cybersecurity awareness programme among users of digital communication platforms such as social media to help in the mitigation of the prevalence of cyberbullying at the university. Constructs from five constructs of the theoretical framework that converge to cyberbullying guided the research process. The study mainly used the quantitative with a blend of qualitative approaches. A questionnaire data collection instrument comprising closed-ended and open-ended questions was developed and guided by the constructs in the theoretical framework. The open-ended questions in the questionnaire incorporated the qualitative nature of data collection. This allowed the researchers to understand better the patterns and themes derived from the questionnaire comprised of five sections that correspond to the theoretical framework elements: empathy, attitude, injunctive norms, descriptive norms, and intentions.

Random concurrent sampling was used to combine quantitative probability and purposeful qualitative sampling as independent sampling procedures or joined together with closed-ended and open-ended responses. A sample size of 60, where 20 participants were first-year students, 20 second-year students and 20 participants from the final year students, was used [46]. Thirty (30) students used a questionnaire, while the other 30 students were interviewed. The data was analysed using descriptive statistics and thematic analysis [47], [48]. Microsoft Excel was used in arriving at descriptive statistics. Patterns derived from the questionnaire were then further refined and identified through the thematic approach using the TRA theoretical framework, and constructs were grouped in a coding manner. A concurrent triangulation was used to validate the results.

4. Study Results

As indicated in the previous section, a total of 60 valid responses were obtained in the form of questionnaire responses and interview participation. The terms respondents and participants are used interchangeably in this study. The sections below shows the findings and results.

4.1 Respondent and Participant Characteristics

4.1.1Gender and Age

The distribution of gender and age was mainly taken from the population of students from the university under consideration. In the sample, 56.7% were females, and 43.3% were males. Regarding participants' age groups, shows that in the age group 16-20, there were 10% of males and 10% of females, in the age group 21-30, there were 23.3% of males and 33.3% of females, age group 31 and above there 10% of males and 13.3% of females. These results also show that from the sample size of 60, there were more female participants, and, in both genders, more participants were between 21 to 30 years of age. Figure 3 demostrates the results.

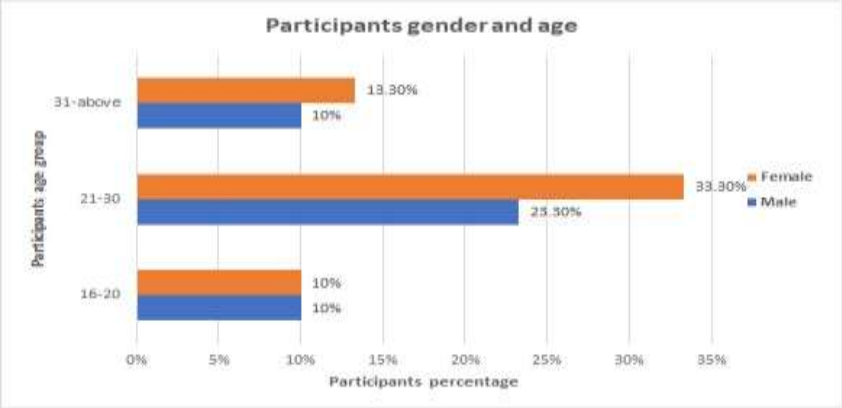

Figure 3: Gender and age distribution

4.1.2Residence During University Time

The results show that 20% of respondents lived in their homes during university, 53% resided in on-campus residences, and 27% of participants lived off-campus but not in their homes. This result aimed to examine whether cyberbullying had anything to do with victims' and perpetrators' residences and whether staying on-campus or off-campus makes any difference when participating in cyberbullying. These results are supported by Burton and T. Mutongwizo [49] that state that more than (37%) of young people surveyed in the Centre for Justice and Crime Prevention (CJCP) study confessed to having encountered some type of cyber harassment either at home or at school.

4.1.3Race

According to the findings, 97% of the sample were blacks, and 7% of the sample were Indians. These results show that most students at this university are black.

4.1.4Internet Usage

It was found that 13% of respondents indicated that they use the Internet for less than an hour, 33% use the Internet between 1 to 2 hours, 47% use the Internet between 3 to 4 hours, and 7 % use the Internet for more than 4 hours. The results further revealed that respondents and participants between 21

to 30 years of age spent more hours on the Internet, with results also showing that females spent more time on the Internet than males. This conforms with results by [49] that indicated that 81% of people 13-17 years of age had access to a personal computer at home, and 62% could use their home personal computer to access the Internet. 92.9% of people 12-24 years of age either claim or have access to a cell phone, which they use for their personal use. This access exposes youngsters to cyberbullying by individuals they may not have had contact with [49]. Figure 4 demostrates the results.

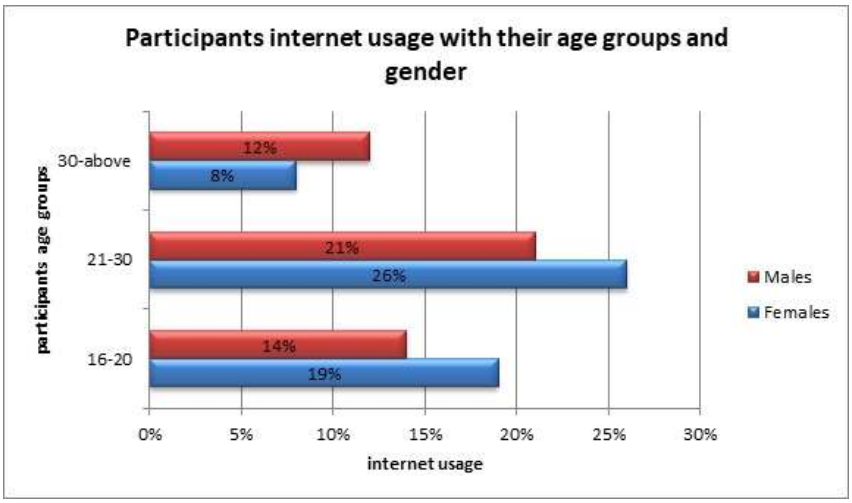

Figure 4: Internet usage by gender and age group

4.2 Empathy

4.2.1Experience with Cyberbullying at the University

The results as indicated in Figure 5 shows that several students had been cyber harassed at the university. Thirty-seven percent (37%) of females and 33% of males had experienced cyberbullying, while the rest did not experience cyberbullying. The results further showed that 36.6% of students indicated that they had encountered a few instances, 23.3% of students indicated many instances, 26.6% of students had not encountered any cyberbullying, and the rest were unsure. These results are consistent with Chapell et al. [37], who investigated bullying in college with a specimen of 1,025 students and found that about 24% of respondents had been cyber harassed.

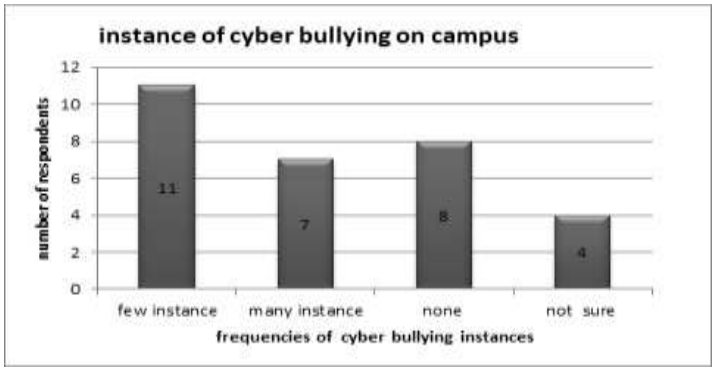

Figure 5: Frequency of cyberbullying instances

Table 1 shows that 6.7% perceived that victims may experience health problems, 63.3% of the participants identified psychological problems while 23.3% indicated physiological problems. This is consistent with [12] and [13] who had a view that victims may experience psychological and emotional abuse.

Table 1: Impact of cyberbullying on victims

Participant	Response	Theme	Frequency	Percentage
Participant 2	"they suffer from health problems"	Health problems	2	6.7%
Participant17	"they suffer from bipolar"			
Participant 1	"victims of cyber bullying suffer from emotional problems"	Psychological problems	19	63.3%
Participant3	"most of the victims of cyber bullying have suicidal thoughts"			
Participant4	"people who engage in cyber bullying have sleepless nights"			
Participant6	"victims are more likely to have depression"			
Participant 7	"victims of cyber bullying mostly feel hopeless and worthless"			
Participant8	"they had poor performance in school"			
Participant9	“Most of the times are stressed"			
Participant11	they are always nervous			
Participant12	"they suffer from trust issues"			
Participant14	they drop out from school"			
Participant15	they have anger problems"			
Participant 16	they increase violence in school"			
Participant 18	they have depression that leads to hallucinations"			
Participant20	they become dangerous to those around and to them"			
Participant23	they are unable to make friends"			
Participant25	they always ashamed of themselves"			
Participant28	they suffer from low self-esteem"			
Participant29	“they always feel insecure”			
Participant30	“they find it difficult to learn"			
Participant 5	"they struggle physically"	Physiological problems	7	23.3%
Participant 10	"they suffer from Physiological symptoms"			
Participant 13	"they harm themselves physical"			
Participant 19	"they have dangerous stigma"			
Participant 22	"they are self-hurting"			
Participant 26	“they increase weapon carrying"			
Participant 27	they suffer from headache and stomach problems"			
Participant 21	“”	No response	2	6.7%
Participant 24	“”			

4.2.2Tools Used and Emotional Response to Cyberbullying/Harassment

Figure 6 shows that 8% of respondents indicated that they encountered bullying through cell phones (SMS), 65% indicated Facebook and 22% had encountered bullying through WhatsApp. This

result is consistent with [49]. Facebook and WhatsApp seem to be the target tool for perpetrating cyberbullying. This result is also supported by Price and J. Dalgleish [29], who stated that cyberbullies use these electronic devices for purposes such as online name-calling, threats, and disseminating rumours and embarrassing or bullying information and pictures via text message, email, message boards, instant messenger, social networking sites such as Facebook.

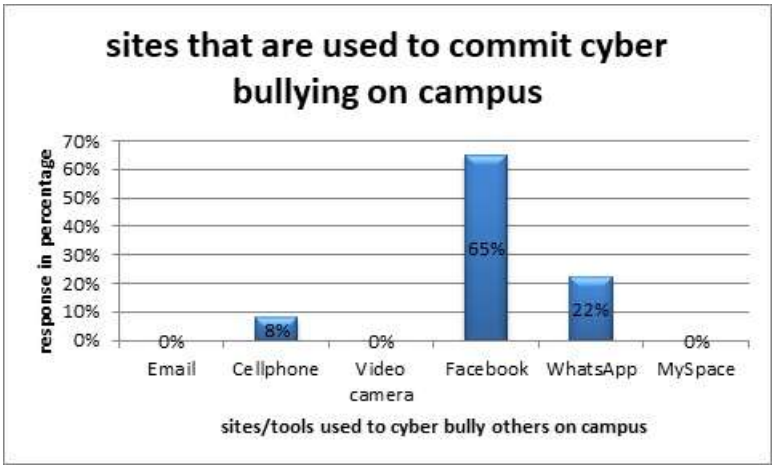

Figure 6: Tools and platforms used to commit cyberbullying

Table 2 shows results concerning victim's emotion after cyberbullying attack. The results also show that 3.3% of participants indicated that they would be hurt, 13.3% would be embarrassed, 23.3% would take revenge, 10% would report the incident, 23.3% would not engage, and 26.7% would be frustrated and confused. These results are supported by [31], which found that undergraduate victims of cyberbullying scored higher than coordinated control on measures of sorrow, nervousness, phobia and suspicion.

Table 2: Victim's emotion after cyberbullying attack

Participant	Response	Theme	Frequency	Percentage
Participant 1	"I would be hurt"	Hurt	1	3.3%
Participant 2	"i would be embarrassed "	Embarrassed	4	13.3%
Participant9	"I would be ashamed "			
Participant24	"I be scared of other people"			
Participant28	"I be scared of other people"			
Participant 3	"I would say hurtful things back"	Revenge	7	23.3%
Participant11	"I would face that person"			
Participant12	"I would fight that person "			
Participant15	"investigate who threatened me'			
Participant22	"I would respond to threats"			
Participant25	"I would respond with kindness to that person"			
Participant29	"I would respond with kindness to that person"			

Participant 13	"I would report the threats"	Report incident	3	10%
Participant 14	'report the attacks"			
Participant30	"I would save the evidence and take to police"			
Participant16	"will not respond"	Disengaged	7	23.3%
Participant 17	"I would understand it's just a threat"			
Participant 20	delete that person			
Participant 21	"block that person from my account"			
Participant 23	"I would ignore the post"			
Participant 26	"I would not bully back"			
Participant 27	"I would not respond"			
Participant4	"I would be scared "	Frustrated and confused	8	26.7%
Participant 5	"I would drop out from school"			
Participant6	"I would overact"			
Participant7	"I would be confused about myself"			
Participant8	"I would commit a suicide"			
Participant10	"I would ask myself question"			
Participant18	"I would panic"			
Participant19	"talk to someone about it'			

4.2.3Identity of Cyberbullies

The study also sought to discover the identity and proportion of perpetrators in the sample. Figure 7 indicates that 60% of respondents were cyberbullied by their university classmates, 36% were cyberbullied by someone outside the university, and 4% of respondents were cyberbullied by someone they did not know. These results are in accordance with the work of Englander [32], who states that cyberbullying perpetrators use the anonymity offered through electronic devices to hide their identity. These electronic devices make it easy for cyberbullies to pick on someone closest to them by hiding their faces over an electronic device. Wolke [50] also state that cyberbullies pick on the same victims that they confront in school and know them face to face, with cyber tools to bully their victims and extend their reach to outside school.

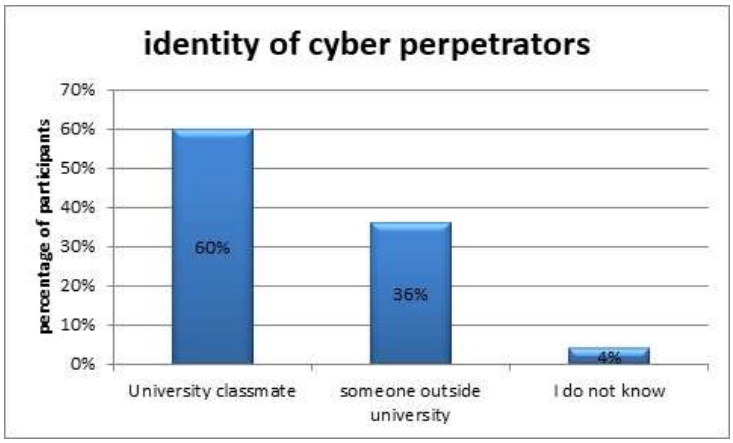

Figure 7: Identity of cyberbullying perpetrators

4.2.4Reaction after Cyberbullying Experience

The study analysed the action taken by victims after experiencing cyberbullying. The results as demonstrated in Figure 8 show that 36.6% of participants reported cyberbullying cases while 63.4% did not report cyberbullying cases. Out of these, 16.6% of males and 20% of females reported cyberbullying cases, while 26.7% of males and 36.7% of females did not report it. This is consistent with the observation of MacDonald and Roberts-Pittman [51].

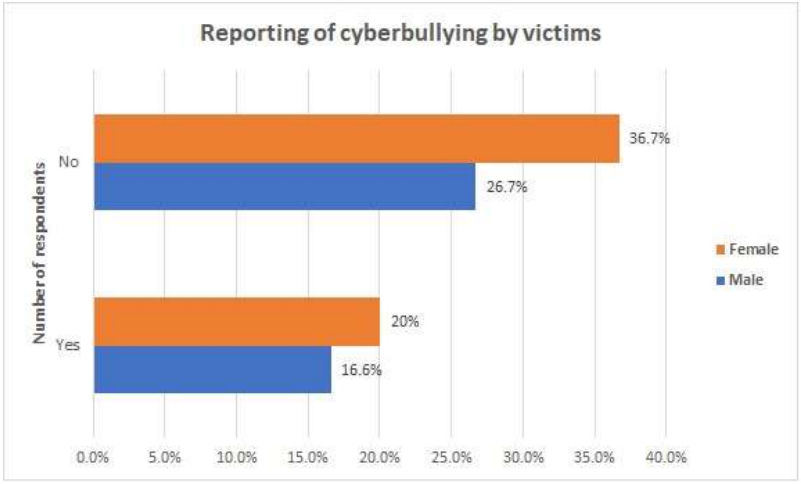

Figure 8: Reporting of cyberbullying incidents

It was also found that 56.6% of respondents/participants do not feel sensitive about their actions, and 23.3% feel little sensitive, while 20% of participants indicate that they are sensitive Perpetrators' emotions seem different from their victims because cyberbullies engage in cyberbullying to watch others suffer, which makes victim and perpetrator emotions different. However, based on watching others suffer, most of the perpetrators feel the same emotion and take it out on someone else. This result is supported by Ybarra and Mitchell, [52]; they state that both victims and cyberbullies face various psychological problems via substance use, depression symptoms, behavioural problems, low school commitment, and social maladjustment.

4.2.5 Emotions after Cyberbullying

Table 3: shows results of emotions after cyberbullying attack. The results indicated that 20% of participants were angry, 30% were depressed, 16.6% were hurting, 20% just ignored the attacks, and 13.3% were never attacked to show any emotions. The study also observed that victims of cyberbullying are more like to feel negative emotions when attacked. These results conform with Katzer et al. [53].

Table 3: Emotions after cyberbullying attack

Participant	**Response**	**Theme**	**Frequency**	**Percentage**
Participant 2	"I was angry so much"	Anger	6	20%
Participant4	"The post made me to be upset"			
Participant6	"I was angry when other students saw it"			
Participant7	"I was so angry that I replied to the attack"			
Participant8	" I overacted when I saw the attacks			
Participant9	" I felt so angry"			
Participant3	"I felt hurt after seeing the post"	Hurt	5	16.6%
Participant5	"I was so hurt because I didn't expect it"			
Participant10	"I was hurt because I didn't know who attacked me"			
Participant11	"I was hurt"			
Participant12	"the post hurt me because I was powerless"			
Participant13	" I felt so worried because was online and anyone can see it"	Depressed	9	30%
Participant16	I felt depressed"			
Participant18	" the post made me stressed"			
Participant20	I felt so sad and angry at the same time"			
Participant21	" I couldn't sleep after seeing the post"			
Participant22	"I thought of committing suicide"			
Participant23	"I had nightmare almost a month"			
Participant24	"I had a depression for longest time"			
Participant25	I had mixed emotions, sad, worried and upset"			
Participant14	" I just pretended to ignore it"	Ignore	6	20%
Participant15	"I did get bothered "			
Participant17	"I just viewed the post then ignore my phone"			

Participant26	"I pretended it didn't bother me"			
Participant27	"I ignore the attacks and they never come again"			
Participant28	"I pretended to not notice the post"			
Participant1	"I've never been attacked"	Do not know	4	13.3%
Participant19	"I don't know how it feels"			
Participant29	"I've never been cyber attacked"			
Participant30	I do not know"			

4.2.6Response Actions to Emotions

The results indicate that 50% of participants retaliated by cyberbullying, 30% cleared their names, 13.3% blocked and deleted the perpetrator, and 6.7% told someone about it. This result is consistent with Sourander et al. [54]. This also shows that most victims bully their perpetrators into overcoming the emotions felt. Table 4 below shows the results.

Table 4: Response action after cyberbullying attack

Participant	**Responses**	**Theme**	**Frequency**	**Percentage**
Participant2	"I respondent to the attacks"	Cyber bullying	15	50%
Participant3	"I cyber bullied the perpetrator back"			
Participant4	"I say hurtful things back"			
Participant5	"I committed cyber bullying to someone else"			
Participant7	"I responded back to the attacks"			
Participant11	"I cyber bullied back"			
Participant12	"I cyber bullied back the person mocking me"			
Participant13	"I responded back to the attacks"			
Participant14	"I posted back to the perpetrator"			
Participant15	"I spread embarrassing thing about the cyber bullies"			
Participant21	"I cyber bullied the perpetrator back"			
Participant22	"I responded back to the attacks"			
Participant23	"I cyber bullied back the person bullying me"			
Participant24	"I cyber bullied the perpetrator back"			
Participant25	"I responded back to the attacks"			
Participant1	" posted something else say was not true"	Cleared names	9	30%
Participant6	"respond with kindness to that person"			
Participant9	"I deleted my name from the post"			
Participant10	"I objected the threat online"			
Participant16	"I removed the post from my phone"			

Participant17	"I cleared my name by telling everyone the true"			
Participant18	"I commented to the post"			
Participant19	"I removed my name from the post"			
Participant20	"I removed the post and comments online"			
Participant26	"delete that person"	Block and delete	4	13.3%
Participant27	"block that person from my account"			
Participant28	" I deleted the attacks from my account			
Participant29	"I block the person and deleted the post"			
Participant8	" I told my friend about the attacks"	Told someone	2	6.7%
Participant30	" I told my roommate and I did not respond"			

4.2.7Committing Cyberbullying toward Another Student

Figure 9 shows results of student who committed cyberbulling on peers. The results showed that 77% of respondents committed cyberbullying towards other students, and 23% never committed any cyberbullying. In terms of gender, the results revealed that females are more likely to commit cyberbullying than males because females spend more time on device usage and are the highest on Internet usage. These results are supported by Lauren and Ratliffe, [55], who argue that females are the most active actors in cyberbullying.

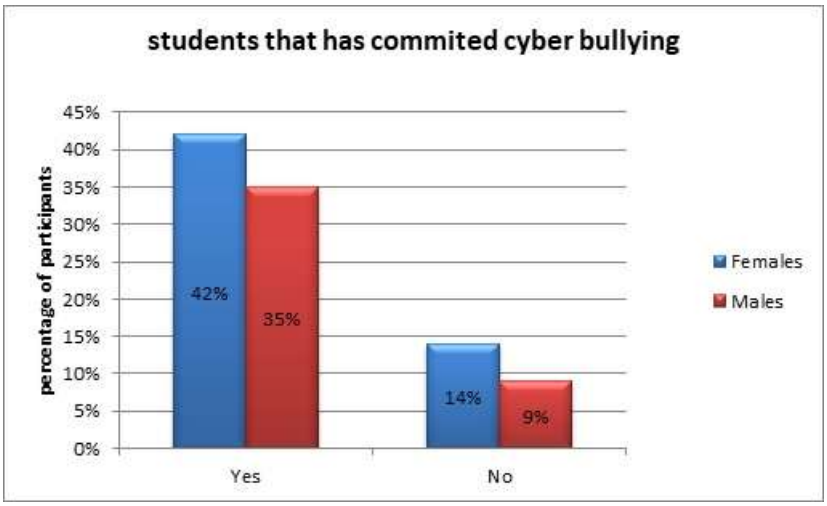

Figure 9: Students commited cyberbullying attacks

4.2.8 Consideration of the Victim

As demonstrated in Figure 10, the study results show that 28% of participants had the consideration of their victims' feelings while 72% did not. This result is consistent with Ybarra and Mitchell [52], who observed that perpetrators neglect their emotions when engaging in cyberbullying.

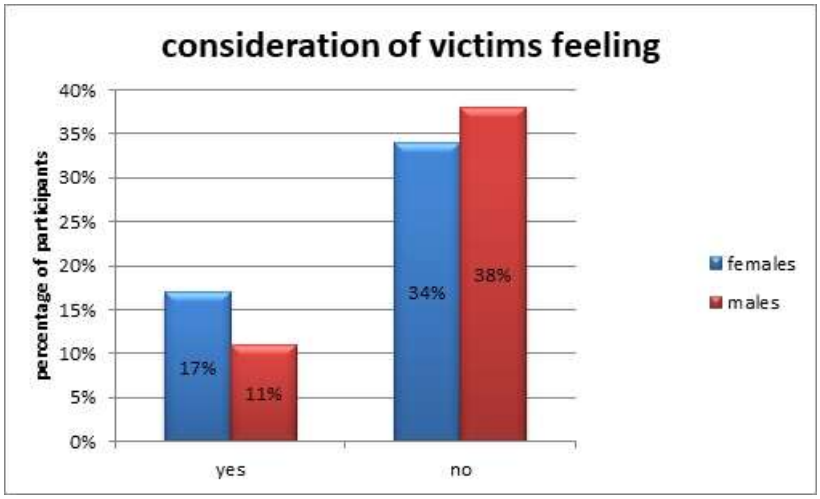

Figure 10: Consideration of victim's feelings

4.3 Attitudes

According to Ajzen [21], attitudes involve how a person positively or negatively evaluates a behaviour. Figure 11 shows that eighty-eight percent (88%) of the participants indicated that cyberbullying is concerning. They believe that it is a concerning issue because it brings along with it negative actions to others, including negative emotions such as depression and isolating oneself. The study also found that perpetrators gained more interest in bullying others. Seventy-eight percent (78%) attested to that.

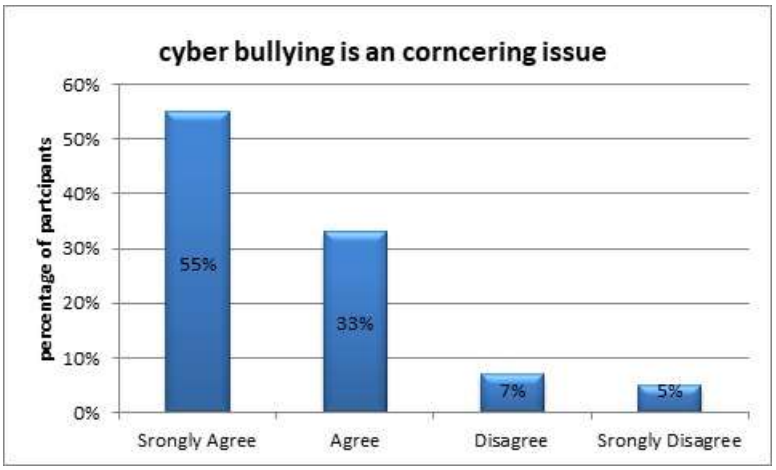

Figure 11: Reflections on the state of cyberbullying

4.4 Perceived Norms (Injunctive and Descriptive Norms)

Participants were asked about their views on whether institutional management of the university should be involved in cases of cyberbullying. As demonstrated in Figure 12, seventy-three percent (73%) of participants felt that university management should be involved in managing cases of cyberbullying. This implies that programmes can be created to help address the problem. This is consistent with Levine [56], who advocated for creating effective cyberbullying programmes that allow participation of all stakeholders such as students, parents, and institutional staff members.

Figure 12: Institutional management involvement in mitigating prevalence of cyberbullying

Table 5 below shows recommended measures to mitigate cyberbullying. The study found that 43% of participants favoured implementing security measures within the university. Hence, it was found that as part of the norms, security measures, cyberbullying laws, cyberbullying awareness, and cyberbullying education is critical in the education programmes and were supported by 16.6%, 33.3%, 6.6%, and 43.3%, respectively.

Table 5: Recommended measures to mitigate cyberbullying

Participant	Response	Theme	Frequency	Percentage
Participant 6	introduce cyber security	Introduce security measures	5	16.7%
Participant9	educate them about ways to protect themselves			
Participant10	reporting of cyber bullying attack to the authorities			
Participant25	teach student how to protect themselves			
Participant27	not allow cell phone use inside campus			
Participant 2	"lay some standard/laws"	Introduce cyber bullying laws	10	33.3%
Participant3	enforce punishment			
Participant4	suspension			
Participant11	enforce punishment			
Participant12	enforce cyber bullying acts/laws			
Participant13	university punishment and policy should include cyber bullying			
Participant14	not stand cyber bullying attacks			
Participant16	restrict internet access			
Participant17	enforce campus standard regarding cyber bullying			
Participant28	save the evidence and report it			
Participant 15	I can introduce cyber bullying awareness	Raise awareness	2	6.7%

Participant20	act with awareness			
Participant 1	"teach other to behaviour as adults"	Educate about cyber bullying	13	43.3%
Participant 5	educate student about the impact of cyber bullying			
Participant8	educate them about cyber bullying			
Participant10	reporting of cyber bullying attack to the authorities			
Participant16	restrict internet access			
Participant19	introduce cyber bullying counselors on campus			
Participant 21	enforce respect within students			
Participant 22	set boundaries about disrespect or unsafe behaviour			
Participant 23	set boundaries about cyber bullying			
Participant 24	use my voice to make change			
Participant 26	cyber bullying the perpetrators			
Participant 29	do not respond or retaliate to cyber bullying			
Participant 30	tell the person to stop cyber bullying			

This is in line with Cassidy et al. [57], who recommended that cyberbullying programmes involve educating students on the use of appropriate technologies, creating and enforcing school-based cyberbullying policies, and setting and enforcing rules for the institutions.

Figure 13 shows that eight one percent (81%) of participants felt that introducing cyberbullying measures at the university would reduce cyberbullying, while 17% were not sure. Interestingly, 2% thought that introduction of cyberbullying measures would not have any effect on cyberbullying.

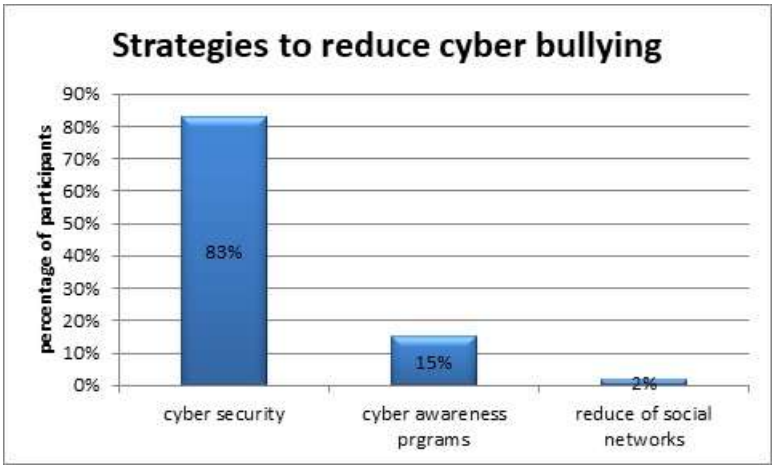

Figure 13: Mitigating strategies to reduce cyberbullying

4.5 Intentions

As indicated in Table 6, the study revealed that 33.3% of the participants perform cyberbullying to seek power, 23.3% seek attention, 26.7% do it for revenge, and only 16.7% of the participants believe that abuse involved in cyberbullying is the reason why do it. This is consistent with Kowalski and Limber [58], who claimed that cyberbullies seek power, attention or revenge in performing their acts.

Table 6: Intentions of cyberbullying perpetrators

Participants	**Response**	**Themes**	**Frequency**	**Percentage**
Participant1	" victims of cyber bully want to be feared by other"	Seek power	10	33.3%
Participant2	" they want to own other"			
Participant3	Victims want to be powerful against other students			
Participant4	" they want to rule the campus"			
Participant5	They want to be known , so they use other for that"			
Participant21	The use other students as baits to make themselves known			
Participant22	Bullies feel powerless among other students			
Participant23	To gain power over other			
Participant28	Cyber bullies are weak, so they hide over internet			
Participant29	Cyber bullies want to be known and powerful			
Participant6	Aim of cyber bullying is to toy with others feelings	Seek attention	7	23.3%
Participant7	The aim is to seek notice by those around			
Participant8	Cyber bullies are crying out for help			
Participant9	Cyber bullies have a need to be notice so they use electronic devices for help			
Participant10	Cyber bullies want other to know they exits			
Participant24	The aim is to win more friends by perpetrating others			
Participant25	Cyber bullies have been neglected so they are calling out for help			
Participant11	They want to revenge themselves but they are weak or scared	Revenge	8	26.7%
Participant12	They engaged to cyber bullied back their perpetrators			
Participant13	They are angry and hurting so they hurt others			
Participant14	Cyber bullies participants like to make			

	others to suffer			
Participant15	Cyber bullies in most cases have been cyber bullies either traditionally or over the internet			
Participant16	Cyber bullies have a history of being victim so the revenge themselves			
Participant26	The aim is to let others understand how it feels			
Participant27	They just want to pay revenge			
Participant17	They are from home that is abusive	Abuse	5	16.7%
Participant18	They been abused at school or home			
Participant19	Cyber bullies like to see people suffer			
Participant20	They have a history of abuse			
Participant30	Cyber bullying participant want to show others their pain			

5. Discussion

One of the fundamental elements discovered throughout this research is that cyberbullying exists within this research context. This discovery was established because participants who were students were able to identify how the impact of cyberbullying affects their lives, academic progress and social behaviour. Another element noticed was that cyberbullying is a dangerous threat when examining the emotions of both victims and cyberbullies, where isolation and depression were common to both victims and perpetrators. Students shared their emotions when evaluating the signs and effects of cyberbullying, as the finding shows that cyberbullying does not only affect their social life but also their academic performance. Students shared a common perception that they receive no protection from the institution. This leaves students with no choice but to retaliate through "revenge" cyberbullying. Another noticeable factor was that students have some ideas of how cyberbullying can be stopped; some of the views provided by students include suggestions on approaches, support advice/tips and educational influence to mitigate cyberbullying. Students also identified several defence strategies that include technology interventions and socio-cultural interventions. The findings also revealed the background of cyberbullying when examining the behavioural impact and the aim of cyberbullying. Cyberbullying impacts the human behaviour of victims in that it changes the character of "innocent" students to become involved in things such as substance abuse, depression and self-isolation from academic activities. Cyberbullying impacts the human behaviour of perpetrators by enabling them to participate in cyberbullying to gain attention/popularity, power, and revenge.

Cyberbullying – Based on Empathy, Attitudes, Injunctive Norms, Descriptive Norms, and Intentions

Students shared that an outcome of cyberbullying brings nothing but disaster that messes with their lives and academics. They even shared some views on dealing with cyberbullying and crying out loud when stating the issues they have to deal with at the campus. Cyberbullying is on the increase and requires appropriate mitigation strategies. Institutional management must be involved, and security measures against cyberbullying must be in place because students' rights are being violated and abused while turning a blind eye to the issues. Prevention and intervention awareness programs and cyber security must be discussed, and mitigation strategies must be adopted. The students also mentioned that cyberbullying outcomes impact their academics as they feel disinterested in attending school activities after being cyberbullied, and as a result, their grades drop. This has also resulted in health problems and psychological and physiological problems.

The findings revealed that there are no protection measures currently used within the research context to help protect students and that students are calling for institutional management to be involved in resolving and mitigating cyberbullying incidents. The results also showed that students believe that adopting cyber security awareness can be an effective defence strategy to reduce and eliminate cyberbullying. Most students, both victims and perpetrators, believe that protection measures are needed to resolve the situation of cyberbullying on campus.

Cyberbullying Programme

Considering the study's objectives and following the analysis of the findings during the study, a cyberbullying awareness programme is critical. The programme's focus should be based on education, prevention and monitoring. This has also been implemented in many other institutions to address cyberbullying [59]–[61]. The education aspect may involve awareness educational workshops and mental health services for students and lecturers. The prevention may involve direct programming activities to improve would-be victims' social and emotional well-being from digital experiences. This also involves integrating cyberbullying into discipline policies and in-service courses. The monitoring aspect may involve monitoring systems integrated into some digital platforms to monitor unwanted content identified as mostly used for cyberbullying. This may raise privacy concerns, and therefore proper and well-accepted monitoring systems should carefully be recommended. The monitoring aspect should also include ways of responding to detected incidents [62].

Future Studies

In future, research studies can be carried out to investigate more cyberbullying security awareness implementation to identify which resources will be needed and how much it would cost to put cybersecurity awareness in action to protect students against cyberbullying. Studies that involve institutional management, staff and students aimed at investigating both academic and social life in a rural-based university to come up with reporting sites and counselling offices would be important in mitigating in curbing cyberbullying.

Conclusions

Cyberbullying is a growing concern in schools and universities. This study aimed to investigate the need to introduce a cybersecurity awareness programme that focuses on building awareness against cyberbullying among students at a public university based in the Eastern Cape of South Africa. It was found that cyberbullying existed at the university under consideration. Interestingly, the study results showed that the practice of cyberbullying at the university was consistent with the TRA with respect to empathy, attitude, norms, and intentions leading toward cyberbullying. Based on the analysis of the findings, it was prudent to recommend a cyberbullying awareness programme that could be of great importance to curb cyberbullying at the university in a rural setting in South Africa. Protecting students from any harm, including cyberbullying attacks, should form part of any higher education institution's responsibility. Cybersecurity awareness is not only a protection mechanism but also an effective and convenient solution to the problem of cyberbullying.

Conflicts of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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