The impact of cyberbullying: Perspectives from tertiary youth

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Background: Many young adults go through bullying and are unable to speak out because of fear of humiliation and retaliation from the bully. Technological advancements have made cyberbullying one of the most dangerous forms of bullying around the globe, raising concerns on how to prevent it or help the victims. This study aims to uncover the causes, experiences and students' perceptions on cyberbullying and devise a strategy to mitigate cyberbullying.

Objectives: The researchers aimed to investigate tertiary students' perspectives, experiences and causes of cyberbullying to develop a framework to conceptualise the tertiary youth cyberbullying phenomenon. The findings will enable researchers to recommend suitable strategies to help mitigate cyberbullying among students and enable cyber-awareness on how to avoid cyberbullying.

Method: A quantitative method was used to conduct this study, using pragmatism as a philosophical stance and experimental design. Data collection included using an online questionnaire that was distributed to South African universities and colleges and 350 responses were collected.

Results: The results showed a distinct correlation between social media and bullying activities, indicating that the more students engage in social media activities, the more likely they are to fall victim to cyberbullying. This has raised concerns about the policies and safety precautions implemented in tertiary institutions and information and communication technology giants, especially regarding social media.

Conclusion: This study advocates forming an alliance with the technology giants to help create a sustainable and resilient cyberspace to ensure the safety of the students when working on digital platforms.

Contribution: This study highlights the need for a tertiary environment that supports cyberbullying victims and empowers bystanders to intervene through policy reforms in the evolving technological landscape.

Keywords: cyberbullying; influences of cyberbullying; social media; victims; bullies; mitigate; bystanders.

Introduction

Cyberbullying has been a concerning issue affecting many individuals for decades. The increased access to information and communication technology (ICT) platforms, such as the Internet and social media, is the main contributor to cyberbullying occurrences (Subaramaniam et al. 2022). Social media platforms are the most targeted platforms to plot attacks by cyberbullies and most of the attacks cannot be traced back, leaving the perpetrator free with a sense of impunity (El Asam & Samara 2016). Shahzad et al. (2024) found that a lack of cyber knowledge, harmful use of technology and social media contribute to the rise of cyberbullying. According to Subramaniam et al. (2022), one in four young adults has been bullied more than once.

Research gap and problem statement

The rapid growth of ICT access has contributed significantly to cyberbullying, particularly through threats and blackmail on various social media platforms, resulting in the current generation raised in a digitally saturated environment facing disproportionately high incidents of cyberbullying (Hardiyanto, Iriansyah & Pudjiastuti 2024). Lou, Wu and Huang (2023) state that previous researchers focus on the influence of cyberbullying and not its causes. The advent of social media has resulted in negative effects when individuals misuse the medium to engage in cyberbullying (Teng, Varathan & Crestani 2024). In addition, cyberbullying has been a rising

concern in public health, but most studies have focused on national and regional effects and influences, not the factors or causes (Kao 2021; Lou et al. 2023; Zhu et al. 2021). The challenges of cyberbullying in higher education need urgent attention because of the negative impact it has on the students (Fauzi 2024). Clearly, in some instances, people end up taking their own lives because of cyberbullying (Skilbred-Fjeld, Reme & Mossige 2020; Subaramaniam et al. 2022), while others develop mental and health issues as a victim of cyberbullying (Skilbred-Fjeld et al. 2020). Although Teng et al. (2024) advocate for automated detection and prevention interventions, most technologies do not afford skill transference to individuals to be able to spot and avoid online menaces, such as cyberbullying (Soetekouw & Angelopoulos 2024). Furthermore, tools such as artificial intelligence can simplify information analysis; however, overreliance on technology solely poses a risk of cognitive impairment in society (Moustaghfir & Brigui 2024), which is necessary to enhance problem-solving skills even in the absence of tools. Therefore, this study seeks to identify the causes and experiences of cyberbullying among tertiary youth in order to aid the identification of current interventions.

Objectives

This study sought to investigate tertiary students' perspectives on the cause and experiences of cyberbullying and conceptualise the phenomenon of cyberbullying. The results will shed light on how to implement suitable interventions to help mitigate and avoid cyberbullying among students.

According to Grunin, Yu and Cohen (2021), there is an urgent need to investigate the causes of cyberbullying among young adults at the tertiary level.

This study attempts to alert the society to show that cyberbullying is real and students are going through challenges because of bullying at the tertiary level. The researcher seeks to have an understanding of what causes bullying and what we can do to help the victims.

Research questions

- What risk factors influence becoming bullies among tertiary students?
- What are the causes, perspectives and experiences of cyberbullying among tertiary youth?
- How to better mitigate cyberbullying and empower bystanders?

Literature review

This section presents literature to aid the conceptualisation of the cyberbullying phenomenon. It starts by defining bullying, followed by contrasts of traditional and cyber-based bullying. The types of cyberbullying behaviour are presented, as well as forms of bullying attacks. Additionally, theories of bullying are discussed, and finally, a suggested conceptual framework resulting from the literature review and consulted theories is presented.

Bullying definition

Bullying is a societal problem that involves harming others intentionally and the display of power or dominance. This phenomenon can be a social relationship problem that keeps repeating (Lin & Shih 2024). The presence of bystanders enables power imbalance against the victims. According to Oblath et al. (2020), bullying occurs when one individual uses social status, influence, or intimidation to hurt or overpower their victim. On the other hand, bullying also involves aggressive behaviour where the bully takes advantage of power over the victim continuously (Nelson et al. 2018).

Traditional bullying

Traditional bullying can be carried out in many ways, such as bullying victimisation or bullying perpetration (BP). Li et al. (2024) notice that BP includes aggressive behaviour where the bully causes physical or psychological harm to the victim and explain bullying victimisation as the experience of being the target of bullying.

The term traditional bullying is expressed as a form of aggression or intentional harm to another individual or a group; it can be carried out through verbal or physical abuse (Chanda et al. 2024). Therefore, traditional bullying happens when a student is constantly experiencing negative and harmful behaviours from other students (Zhou et al. 2024).

Cyberbullying

As a result of the rapidly growing technological tools and access, cyberbullying has become an ongoing issue, without limits, affecting individuals of all ethnicities and ages, but still remains unresolved (Nizam et al. 2024). As ICT has an advantage for society, it also has a major disadvantage that has affected students of all ages and educators (Von Marées & Petermann 2012). According to Shahzad et al. (2024), the misuse of technology, a lack of cyber-awareness and social media contribute a lot to cyberbullying. Shahzad et al. (2024) also notice that the consequences of being a victim of cyberbullying include mental issues and emotional distress.

The study conducted by Agustiningsih, Yusuf and Ahsan (2024) found that most victims of cyberbullying experience rejection and face academic problems, which also led to depression, anxiety and suicidal thoughts. Being a victim of cyberbullying can result in a lack of confidence and isolation, leading to self-harm (Buçaj & Haziri 2024).

Internet use has a negative impact on information security as perceived in studies because of interpersonal trust (Chengzhi 2024). Young adults who report sexting and self-harm willingly indulge in unsafe sexual communication (Alsoubai et al. 2024). Sexting may be the act of sharing or receiving

sexual text messages, pictures or clips using technological instruments, which leads to the blackmail of one individual as a threat to share the explicit content online to humiliate or harass the victim.

Victims of bullying, bullies and bystanders

The bullying victims include those who experience bullying online on social media, text messages, and phone calls, or traditional bullying, which occurs face-to-face, such as pushing or verbal derogatory statements. Ibipurwo et al. (2024) explain that 30 countries stated that one in three students has reported being a victim of cyberbullying, and one in five of the students missed lessons because of bullying and cyberviolence. Studies indicate that most victims have no life outside of social media and have become an easy target (Navarro, Larrañaga & Yubero 2018). Also, most victims are isolated and lonely, which causes depression (Varela et al. 2022), and they tend to have a quiet spirit with low self-esteem (Lin & Shih 2024).

Contrary to victims, bullies are often aggressive and have a desire to dominate other individuals (Lin & Shih 2024), and they may experience a satisfactory feeling after humiliating their victim (Van Dijk, Poorthuis & Malti 2017). Bullies may be categorised into two manifestations: pure bullies and bully-victims:

> Bullies and bully-victims may have distinct psychological processes underlying their bullying behaviour; bullies may have proactive motives for aggression and attribute happiness to themselves as a victimiser, whereas bully-victims have reactive motives for aggression, poor theory of mind skills, and a tendency to attribute hostile intent. (Van Dijk et al. 2017:2)

Bystanders witness bullying and may choose to report the bullying incident or not report it. Not many bystanders intervene when witnessing a bullying occurrence (Torino 2022). Often, bystanders have the will to help but fear for their own lives because the bully can retaliate and consequences may follow (Jungert et al. 2021). Other bystanders cheer on bullies, which reinforces power imbalance against victims with the intent to harm the victim (Cuadrado-Gordillo 2012).

Common attacks of cyberbullying

The forms of attacks in cyberbullying include blackmail, doxing, harassment and sexting to mention but a few. Blackmail is used by most bullies to deprive their victims of free will and control their movements and identities (Lahiani & Al-Khaza'leh 2023). Doxing is when the perpetrator shares their victim's personal data on social media, humiliating and harming the victim mentally and emotionally (Wilson & Zwang 2024).

Harassment may be in the form of nonstop text messages from the bully, which involve asking for their address, cursing, using negative words when speaking to the victim, and engaging in threatening behaviours (Lahiani & Al-Khaza'leh 2023). According to Lahiani and Al-Khaza'leh (2023), online harassment can be in the form of the bully asking for the victim's address, negative language, constant messaging, calls and threats towards the victim. Rathod, Khandizod and Mahajan (2024) observe that such actions have raised concern because of the negative effects they have on the victims, such as psychological, emotional and sociological problems. Sexting is an online risky behaviour that causes cyberbullying activities, which young adults often face (Ayasrah et al. 2024). According to Ayasrah et al. (2024), sexting is the act of arousing another individual using clips, images and texts on social media. With the rapid growth of technology use, the sexting behaviours have increased online.

Cyberbullying interventions

Several interventional tools have been developed to help mitigate cyberbullying.

An online application, BullStop, was developed using machine learning to prevent or mitigate cyberbullying (Salawu, Lumsden & He 2024). Nee et al. (2023) provide a list of available cyberbullying mitigation tools: Creep Semantic Technology, Creep virtual coach and using artificial intelligence language detector to combat cyberbullying.

Also, schools or universities provide a helpline to provide support for cyberbullying victims (Payne 2015).

Theories of bullying

This section discusses theories that researchers in this study deemed suitable to conceptualise cyberbullying and its factors among tertiary youth. Firstly, the social ecological theory is presented, secondly, the social information processing theory with the Social Ranking and Social Dominance Theory being presented last.

Social ecological theory

Swearer and Espelage (2004) notice that social ecological theory involves a group or an individual as a character of a bully targeting a victim within their social environmental context in a way of coercion, exclusion or intimidation. This type of bullying happens in tertiary settings, work environments or online platforms, such as social media, and may involve the display of power to harm the target. Susan and Espelage (2010) observe that there is no better way to explain bullying; it is often an outcome of complex psychological and social interactions. However, bullying has caused a hike in suicide (Cramer & Kapusta 2017). Clearly, social context plays an important role in promoting or curbing bullying. Therefore, awareness initiatives are necessary to educate students about maintaining conducive social environments and avoiding anti-social behaviour in tertiary institutions.

Social information processing theory

According to Swearer and Espelage's (2010) social information processing theory, bullying may occur online by the exchange of text messages being misread or

misinterpreted, as one is unable to see the other party's facial expression or hear the tone of their voice, leading to arguments, bullying and harmful acts. Most children who grow up seeing violent acts between their loved ones can be influenced and also result in violent behaviour towards their peers on social media or face-to-face (Sanders & Jenkins 2024). According to Swearer and Espelage (2010), the exchange of text messages can likely impact how the wording from the text-based communication is perceived and may end up as a form of bullying behaviour. The misinterpretation of shared text messages may cause bullying, so it is important to take caution when reading or replying on social media.

Social ranking and social dominance theory

Cheng and Tracy (2014) state that not much literature about social ranking and social dominance has been delved into. According to Pratto and Stewart (2011) social ranking and social dominance depend on popularity, where other categories such as non-popular students are not supported. This is also the reason why bystanders fear to report bullies when witnessing an occurrence of bullying because of repercussions and the bullies being supported by their peers as they are popular. Therefore, power imbalance is one of the contributions of social ranking in bullying and may be endorsed by bystanders.

Social media contribution to cyberbullying

Social media is well used to communicate on various platforms online, but because of being misused, it has become a weapon to harm others. Cyberbullying can be committed in various ways and involves the sharing of false or personal information on social media or public online platforms (Malik & Dadure 2024). According to Hardiyanto et al. (2024), social media activities further escalate cyberbullying incidents because Generation Z uses technology from early childhood; technology has become an essential need in their day-to-day lives. Hardiyanto et al. (2024) further noted that

social media platforms have now become a tool to humiliate and pose threats to others as a form of cyberbullying.

Conceptual framework

Varpio et al. (2020) explain that a conceptual framework (1) outlines the current state of knowledge using an existing literature review, (2) identifies the loopholes in our understanding of a problem and (3) guides the methodology part of a research study.

There seem to be areas of focus missing or outdated in the literature. For example, this study identified that existing literature tended to primarily regard males as cyberbullying perpetrators, whereas this seems to have changed in recent times and needs further exploration (Jankowiak et al. 2024; Smith et al. 2019; Yang et al. 2022). Furthermore, literature does not necessarily do an in-depth exploration of the psychological factors that lead to people becoming bullies (Rus et al. 2024). The role of bystanders in cyberbullying or traditional bullying is also under-researched (Macaulay, Steer & Betts 2024).

Figure 1 presents the proposed conceptual framework with six independent and six dependent constructs. According to Topan et al. (2024), technology addiction has a high agreement with the cases of cyberbullying. Although both traditional and cyberbullying are harmful, cyberbullying extends the occurrence of harm because it is perpetrated online with no time or space limits (Nikolaou, 2017). This can lead to suicidal thoughts (Said-Hung et al. 2021). The increase of social media has a great influence on cyberbullying crimes. Cyberbullying can be another source of psychological problems, including low self-esteem, suicidal thoughts, depression and anxiety (Noreen & Iqbal 2024; Said-Hung et al. 2021; Yang et al. 2022). According to Bernardo et al. (2023), most university students face educational problems that lead to dropouts and low grades because of cyberbullying. The study by Piccoli et al.
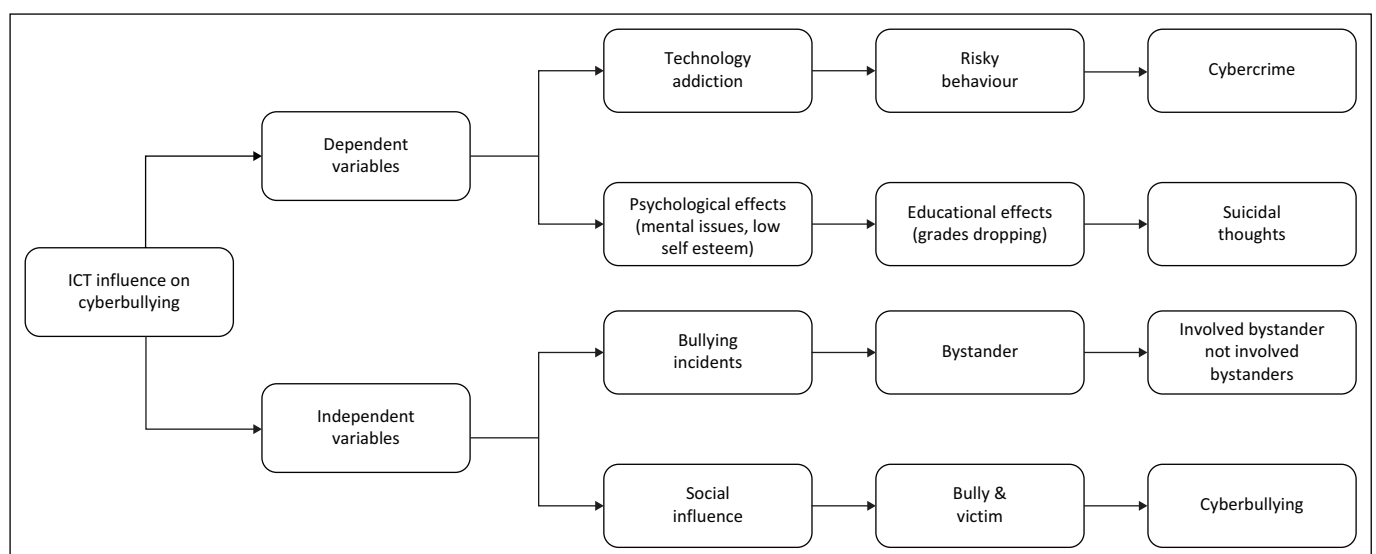
ICT, information and communication technology.

FIGURE 1: Influence of information and communication technology on cyberbullying conceptual framework.

(2020) refers to social influence being a backbone of cyberbullying. Most bullies and victims are influenced by toxic social media behaviours and adopt behaviours leading to being a bully or being bullied (Piccoli et al. 2020). Not many bystanders intervene when witnessing a cyberbullying incident because of fear (Torino 2022). Wang (2025) found that there are bystanders who stand up and help victims, although they are aware of the consequences.

Additionally, the relationship of the variables, both dependent and independent, has an interconnection to the influence that ICT has on cyberbullying. The use of technological tools such as social media has a big influence on cyberbullying for students who use online platforms on a day-to-day basis.

Research method and design

Methodology

A pragmatic philosophical stance was adopted in this study to allow the researchers to develop a solution to address the identified problem. According to Brister (2024), the pragmatism methodology guides the researcher in a theoretical and practical approach to research; furthermore, philosophical pragmatism helps researchers find effective solutions to real-life problems. The pragmatic approach challenges the assumptions made in a study that are not practical, finds a real-life situation, and analyses it to find accurate data using statistical measurements to enable accuracy (Müller 2025).

This study also adopted deductive reasoning; this enabled the researchers to use statistically rigorous tests to draw a conclusion. The quantitative approach is linked to the deductive reasoning approach, where it looks at the theories and conducts multiple tests (Masadeh 2024).

The researchers adopted a quantitative research approach in this study to quantify the problem and perform rigorous data testing.

The study adopted a quantitative method approach. This method aims to investigate empirical phenomena and implement exploratory theories and is used to run critical data analysis using numerical data and statistical analysis (Dehalwar & Sharma 2024). According to Frisby (2024), in all aspects of quantitative research, there may be real mapping involving real-life entities.

The study aimed to investigate perspectives, causes and experiences of cyberbullying among young adults within the tertiary level, including colleges, universities or further education training (FET).

The study conducted a cross-sectional study that allowed the researcher to measure the population phenomena at a single point in time (Kim 2022). This enabled the researcher to conduct the study over a period ranging from 15 weeks to 1 year (Kesmodel 2018).

Sampling method

The researchers employed convenience sampling, an effective and low-cost form of data collection. This approach made it possible for any students to participate, not just aiming at a particular group, for instance, first- or second-year students only, but the whole student community (Golzar, Noor & Tajik 2022). Given the time constraints, this approach expanded the number of prospective respondents who could participate (Sarstedt et al. 2018).

This study focused on university, college and FET students who use Internet technology tools on a day-to-day basis, have access to the Internet, use social media and are aged 18–45 years. Out of 350 returned questionnaires, only 289 were found valid for analysis.

Data collection and instruments

The researchers used a Likert scale style of questioning to allow quantifying the validity and reliability of the responses (South et al. 2022). Therefore, this study utilised an online questionnaire to collect data, allowing efficiency and access to a larger pool of respondents. The online questionnaire was distributed using emails, QR codes, WhatsApp, Facebook and LinkedIn. The online questionnaire consisted of demographics and Likert-scaled question items. According to Tanujaya, Prahmana and Mumu (2022), Likert scales allow the researcher to perform quantitative analysis more effectively.

Data analysis

IBM's Statistical Package for the Social Sciences (SPSS), version 29, was used to analyse the collected data in this study. Statistical Package for the Social Sciences is utilised for both batch and non-batch numerical data analysis and is known for its accuracy (Stehlik-Barry & Babinec 2017). This study focused on correlation analysis (Binhammad & Shaalan 2024). The SPSS software package enables researchers to assess all data provided by the respondents from complex to simple data sets (Arkkelin 2014).

Ethical considerations

An ethical approval was requested and received from the College of Business and Economics (CBE) Research Ethics Committee (AIREC) of the University of Johannesburg. An ethical approval was obtained with ethical number 2024AIS065.

Results

The empirical findings and analysis are based on data gathered through a questionnaire designed by the researchers in this study. Nine items explored the study constructs, including the impact of ICT on cyberbullying, victims of cyberbullying, effects of cyberbullying, cyberbullies, causes of cyberbullying and influences of being bullied. The other six items were used to screen demographic information.

Measures of central tendency (mean, mode), standard deviation, exploratory factor analysis, reliability analysis, frequency distributions, correlation analysis, custom tables and linear regression analysis were all included in the analysis.

Of the 350 distributed questionnaires, 289 returned responses were valid, and 61 were discarded because they were not answered in full. The results seem to be consistent with the trend that there are more females than males at the tertiary level, which supports previous studies stating the predominance of female students in tertiary education (Clemente-Suárez et al. 2024; Smith et al. 2019). The dominant respondents in this study were undergraduate students (66.1%). Home language was dominated by the Nguni (Zulu, Xhosa, Swati and Ndebele) tribes with a large margin of 33.9% respondents, indicating them as the most prevalent culture in this study. Ages 18 and 25 had the highest frequency of respondents and are likely to be the most bullied age group, evidently being first- and second-year students in tertiary education.

Just 1.7% of respondents were classified as 'Other', and women made up a larger percentage of the study's participants (53%) than men (45.3%). This confirms the finding by Smith et al. (2019) that women make up the majority of students in higher education. The study also assessed how young people access the Internet at home and school. According to 68.5% of users, fibre (unlimited) data is a commonly used Internet access method (Table 1). The desire for high bandwidth may be a contributing factor, as fibre (unlimited) data offers faster and more reliable access

than mobile data and routers. Similarly, 61.2% of responders indicated that they used mobile data. The low utilisation of other Internet access methods among participants, such as MTN (Mobile Telephone Network; a South African telecommunication network) (12.1%) and Vodacom routers (12.5%), suggests that students do not regularly use this kind of Internet access. Other undisclosed methods were the least used, suggesting that the sources are the most preferred, with fibre (unlimited) data being the most used Internet access.

As shown in Table 2, there is a negative correlation of −0.51 between cyberbullying and online privacy, meaning that the more privacy one has online, the less cyberbullying there is. This observation confirms the social ecological theory in those individuals who keep their information private online, such as on social media platforms, are less likely to be bullied (Bryce & Klang 2009). However, there is a substantial correlation between social media and cyberbullying (0.698), meaning that the more students use social media, the more cyberbullying incidents there are. This observation confirms the social rank and social dominance theory view that social settings, such as in social networks, provide a platform for bullies to establish their desire for dominance (Pratto & Stewart 2011). In a similar vein, the frequently used apps have a strong 0.192 correlation with social media, suggesting that they play a role in the increase in cyberbullying. Cyberbullying and attack types have a positive connection of 0.192 ($p < 0.001$), suggesting that the more attacks that occur, the more cyberbullying there is. Inadequate understanding of social information may be the cause of cyberbullying. This finding supports the social information processing theory, which postulates that misreading online interactions can lead to bullying (Sanders & Jenkins 2024).

Principal component analysis (PCA) with varimax rotation was used to factor analyse 49 questions that assessed the effects or impact, experiences, causes and mitigation of cyberbullying on young adults in higher

TABLE 1: Internet at home or school.

Internet access	No (%)	Yes (%)
Fibre (unlimited data)	31.5	68.5
MTN router	87.9	12.1
Mobile data	38.8	61.2
Vodacom router	87.5	12.5
Other	99.7	0.3

MTN, Mobile Telephone Network.

TABLE 2: Correlation between attack types, commonly used applications, social media, privacy, and cyberbullying.

Correlations	Type of attacks	Commonly used applications	Social media	Online privacy	Cyberbullying
Type of attacks					
Pearson correlation	1.000	-	-	-	-
p (two-tailed)	-	-	-	-	-
Commonly used applications					
Pearson correlation	0.204**	1.000	-	-	-
p (two-tailed)	< 0.001	-	-	-	-
Social media					
Pearson correlation	0.163**	0.192**	1.000	-	-
p (two-tailed)	0.005	0.001	-	-	-
Online privacy					
Pearson correlation	-0.173**	-0.146*	-0.554**	1.000	-
p (two-tailed)	0.003	0.013	< 0.001	-	-
Cyberbullying					
Pearson correlation	0.194**	0.261**	0.698**	-0.509**	1.000
p (two-tailed)	< 0.001	< 0.001	< 0.001	< 0.001	-

*, Correlation is significant at the 0.005 level (two-tailed).
**, Correlation is significant at the 0.001 level (two-tailed).

education. Seven factors were retrieved using Kaiser's eigenvalue criterion (Kaiser 1970, 1974) to explain the total variance of 65.85%.

With an eigenvalue of 15.02, the first factor, social media, accounts for 37.56% of the total variance; the second, online privacy, accounts for 0.92%; the third, victims, accounts for 0.99%; the fourth, mitigating cyberbullying, accounts for 0.90%; the fifth, cyberbullying, accounts for 0.87%; the sixth, types of attacks, accounts for 0.75%; and the seventh, commonly used applications, accounts for 0.65%.

The reliability of the measurement instrument was also examined using the Cronbach's alpha coefficient, which offers a quick and easy way to evaluate the reliability of the score. For Cronbach's alpha to be considered acceptable, it should preferably be greater than 0.6 (Trochim, Donnelly & Arora 2016). Trochim et al. (2016) state that Cronbach's alpha is a metric used to assess the internal consistency of a questionnaire. According to the results, all of the factors have Cronbach's alpha values between 0.65 and 0.93, with one value falling below 0.6, and six of the seven items exceeding the suggested 0.6. These results demonstrate the overall reliability of the instrument employed to measure the constructs.

Table 3 indicates that implementing a support system for victims had the highest number of respondents, as reflected by a mean of 4.37 and a standard deviation of 1.00, indicating that 85.1% of tertiary students see this as an effective measure. This is followed by a high level of perception relating to implementing legal measures and establishing a punitive law, with a mean of 4.29% and a standard deviation of 1.00, indicating an agreement of 83.1% young adults. This is then followed by developing a reporting system with 82.0% of agreement from students. These findings highlight a need for intervention from different parties involving IT giants, parents, online policymakers, and institutions.

Furthermore, results also indicated the need for providing training tailored on how to avoid cyberbullying as well as creating awareness campaigns involving technology companies, with the majority agreement (79.6%) among participants, respectively. Participants also felt that e-parenting and school policies needed to be enforced as a preventative measure, shown by most participants' agreement (79.6%). The 'Other' option, signifying strategies to help mitigate cyberbullying, had a positive agreement (59.5%). This implies that participants need a platform to express their opinions regarding strategies to address cyberbullying.

Figure 2 indicates that only two factors (social media and online privacy) contribute fully towards cyberbullying occurrences, and the others explain less variances. This explains that factor one has a significant portion of variance in the data sets with an eigenvalue above 15. This explains that one variable has been selected. The factors begin to stabilise from factor 9.

Table 4 shows that the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) value is 0.94, which has surpassed the 0.6 threshold. This indicates that the data sample was adequate for exploratory factor analysis. In contrast to Bartlett's test of sphericity, given that the approximate Chi-square is 7726.545 with a degrees of freedom (df) of 780 and $p < 0.001$, the p-value is significantly less than the threshold of 0.05, explaining the equivalence is largely different for the identity matrix. This explains that the visualised output results are competent for factor analysis. The KMO and Bartlett's test were satisfactory for running factor analysis.

Table 5 summarises the opinions of participants regarding the harmful effects of cyberbullying. The results show that participants (76.4%) strongly believed that bullying experiences lead to suicidal ideation, with a mean of 4.30. Similarly, cyberbullying was found to have a negative impact on victims' confidence, with the majority of participants (82%) reporting that they frequently or always suffer low self-esteem when bullied. Participants (69.6%) reported instances of social withdrawal, with a mean of 3.95. The findings revealed that cyberbullying has a negative impact on academic performance, as 68.2% of participants reported lower grades. Most participants (75.4%) believed that being

TABLE 3: Mitigating cyberbullying.

Intervention	SD (%)	Neutral (%)	SA (%)	Mean	Standard deviation
Provide suitable training	4.9	15.6	79.6	4.17	0.933
E-parenting and school policies	6.2	14.5	79.2	4.11	0.975
Develop a reporting system	6.6	11.4	82.0	4.26	1.003
Legal measures (create a punishable law)	7.3	9.7	83.1	4.29	1.003
Create a campaign and involve technology companies	7.0	13.5	79.6	4.17	0.997
Create a support system for victims (counselling)	6.6	8.3	85.1	4.37	1.003
Other	18.7	21.8	59.5	3.62	1.399

SA, strongly agree; SD, strongly disagree.
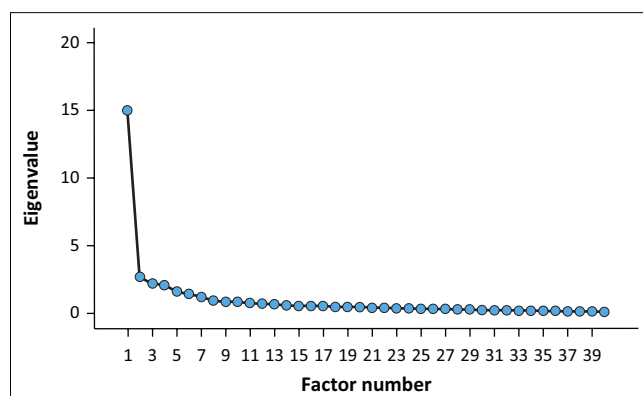
FIGURE 2: Cyberbullying occurrences scree plot.

TABLE 4: Kaiser–Meyer–Olkin and Bartlett's test.

Test		Value
Kaiser–Meyer–Olkin measure of sampling adequacy		0.935
Bartlett's test of sphericity	Approx. Chi-square	7726.545
	df	780.000
	P	< 0.001

TABLE 5: Cyberbullying effects on victims.

Effects	Never/rarely (%)	Sometimes (%)	Often/always (%)	Mean	Standard deviation
Academic effects (grades dropping)	6.2	25.6	68.2	3.89	0.976
Suicidal thoughts	6.2	17.3	76.4	4.08	0.949
Behavioural change	4.8	19.7	75.4	4.13	0.972
Physical symptoms (health negatively affected)	10.4	34.3	55.3	3.70	1.040
Social withdrawal	8.3	22.1	69.6	3.95	1.058
Physical distress	8.0	26.6	65.4	3.87	1.013
Low self-esteem	5.5	12.5	82.0	4.30	0.990

bullied caused behavioural changes, while 55.3% reported physical symptoms.

Discussion

This study set out to explore the causes, perspectives and experiences of cyberbullying, what influences cyberbullying, the effects of cyberbullying, and how to mitigate cyberbullying.

Participants were in favour of the implementation of legal measures and punitive laws, indicated by a high agreement (83.1%) of young adults, while the need for a reporting system was also highly supported (82.0%) by participants. In addition, providing a tailored training on how to avoid cyberbullying as well as creating awareness campaigns involving technology companies was supported by the majority agreement (79.6%) of participants. This observation suggests that participants need to be equipped with skills to build digital resilience and stay safe online. Digital resilience is an essential individual's capability to buffer shocks from nefarious experiences such as cyberbullying, adapt to disruptions caused by the shocks, and transform to a new stable state and preparedness for future risks (Boh et al. 2023). Also, digital resilience is an individual's ability to adjust to dynamic conditions and stressful environments accurately, as well as the confidence to act rather than react when confronted with novel and risky challenges (Dupin, Pascal & Godé 2023). Therefore, building digital resilience in tertiary youth is essential to help buffer cyberbullying and its effects. Also, e-parenting and school policies were seen as crucial modes of mitigating cyberbullying, as indicated by the majority of participants' agreement (79.6%). The 'Other' option, signifying strategies to help mitigate cyberbullying, had a positive agreement (59.5%). This implies that participants need a platform to express their opinions regarding strategies to address cyberbullying. Overall, these findings highlight a need for intervention from different stakeholders involving social media and IT giants, parents, policymakers and tertiary institutions. These observations clearly indicate that preventing cyberbullying requires continued efforts to fight against cyberbullying because of the growing use and access to the Internet, and technological advancements (Imam & Naz 2024).

The second research question of this study focused on the causes, perspectives and experiences of cyberbullying among young adults. As already observed, owing to the increasing reliance on ICT, especially in tertiary education, ongoing efforts are required to curb the burgeoning problem of cyberbullying (Imam & Naz 2024). There is a negative relationship between online privacy and cyberbullying, −0.51. This indicates that the more participants engage in online privacy, the fewer cyberbullying incidents. There is a positive correlation between commonly used applications, social media and cyberbullying, indicating that the increase in social media (0.69) and applications (0.19) usage among youth correlates to an increased number of cyberbullying instances. According to the results, most students are victims of cyberbullying because of negligence when surfing the Internet, which contributes to a significant increase in cyberbullying.

The results show that many victims experience health issues or physical distress, as shown by 55.3% 'Health Issues' and 65.4% 'Physical Distress'. However, there was a high agreement (82%) among participants regarding experiencing low self-esteem, indicating that in the process of cyberbullying, the victim's emotions and confidence are fractured. Many participants (75.4%) have reported behavioural change after being victimised by bullies. In addition, cyberbullying has a negative effect on the students' academics, resulting in grades dropping, as shown by the agreement of most participants (68.2%).

The research question addressed in this study was, 'What influences the bullying behaviour?' The literature shows that bullying occurs as a result of permissive social context (Sanders & Jenkins 2024). This observation affirms the social rank and social dominance theory views that online social platforms provide an enabling platform for bullies to display power and control (Putro & Rachman 2022). The findings of this study also corroborate this view, as participants strongly supported the need for policies that stand against cyberbullying in tertiary institutions. The second research question regards the causes of cyberbullying among young adults in tertiary education. In part, the literature review showed that bystander intervention remains unresolved because they fear retribution after helping a victim, where the bully can retaliate, while the bystander has no support system for helping others. According to Jungert et al. (2021), bystanders may be willing to help but fear for their own well-being at the hands of the bully's retaliation. The third research question was set to investigate the strategies on how to mitigate cyberbullying. The results indicate that e-parenting has a strong agreement of 79.2%, meaning that a support structure to educate the students about online behaviour, such as keeping personal information private, from both home and school, can help mitigate cyberbullying. Therefore, supporting the social ecology theory view that students who keep their personal information private on social media platforms are likely not targeted by bullies (Bryce & Klang 2009; Swearer & Espelage 2004). Future research should conduct longitudinal studies to affirm these findings.

Limitations and implications

This study mainly focused on students in one university and a handful from other universities, FETs and colleges. These differences in sources may have impacted the nature of the responses, but these are unknown. Furthermore, of the 350 returned questionnaires, only 289 were found valid. Due to that this study was based only in South Africa, the results may not be generalisable to all young adults outside this context.

Study highlights and major findings

This study identified social media as the leading platform commonly used in BP. Cyberbullying in South Africa has mostly affected the schools and universities in which the target is the youth through social media activities (Payne 2015; Yibas 2024). As also shown in the major findings of this study, social media is the most significant contributor to cyberbullying incidents, with a correlation of 0.698 between social media and cyberbullying.

Conclusion

This article aimed to discover cyberbullying challenges faced by young adults at the tertiary level, to investigate the causes, perspectives and experiences, to better understand, and to devise a strategy to mitigate this problem because males seem to be the more frequent perpetrators of cyberbullying; it would also be useful to target them with preventative interventions within the area's most typical of their Internet activity. It is also important to foster the empowerment of bystanders to enable their interventions among online users and to promote a sense of overall responsibility. Therefore, a call is made for studies to focus on mitigating cyberbullying and empowering bystanders inside and outside tertiary institutions towards a safer cyberspace and more resilient youth. In addition, tertiary institutions should introduce short courses that will teach young students about online safety and privacy.

This study was necessary to better understand at a high level what young adults go through in cyberbullying because they often choose not to speak out and end up harming themselves, for example, having suicidal thoughts or self-hate. Therefore, this study recommends that universities, governments and ICT companies work together to ensure a safer cyberspace experience for youth to proactively minimise academic disruptions caused by cyberbullying perpetration. This may be performed by developing online tools that prevent bullying or act as a bullying surveillance on social media platforms and enable victim support.

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Competing interests

Authors' contributions

M.K. was responsible for writing the article. S.D. and F.M.R. supervised the Master's study on which this article is based and reviewed the final article.

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Data availability

The data that support this study are available from the corresponding author M.K. upon reasonable request. The data are not publicly available, as they contain information that could compromise the privacy of the research participants.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this article's results, findings and content.

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