Cyber Bullying and its Impact on the Mental Health of Junior Students in the Buea Municipality, Southwest Region of Cameroon

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ABSTRACT

This study critically examined Cyber bullying and its impact on the mental health of junior students in the Buea Municipality, Southwest Region of Cameroon. Guided by three specific objectives, the research aimed to: (1) assess the effects of harassment on junior students' mental health, (2) investigate the influence of impersonation (masquerading) on their psychological well-being, and (3) explore how outing and doxing experiences contribute to mental health challenges among this demographic. A cross-sectional descriptive survey research design was employed, and data were collected using a structured questionnaire administered to a sample of 200 students drawn from Form 1 to Form 5 across three secondary schools in Buea. The data were analyzed using SPSS, with results presented in the form of descriptive statistics frequencies, percentages, tables, and charts and inferential analyses using logistic regression to determine predictive power. The findings revealed that harassment had a statistically significant negative impact on students' mental health ($\chi^2 = 39.218$; df = 17; p = 0.000) with a predictive power of 28.6% (Nagelkerke $R^2 = 0.286$). Similarly, impersonation (masquerading) significantly affected students' mental health ($\chi^2 = 45.067$; df = 19; p = 0.020) with a predictive power of 30.8% (Nagelkerke $R^2 = 0.308$). Lastly, outing and doxing also demonstrated a significant negative effect ($\chi^2 = 42.513$; df = 18; p = 0.010), accounting for 31.2% of the variance in mental health outcomes (Nagelkerke $R^2 = 0.312$). Based on these findings, the study concluded that cyberbullying in all its dimensions harassment, impersonation, outing, and doxing poses a serious threat to the mental health of junior students in Buea. The study recommends that government authorities implement comprehensive anti-cyberbullying programs within schools to raise awareness about the psychological dangers of online harassment. Schools should establish clear reporting mechanisms and counseling services, promote digital literacy through workshops on online safety and responsible behavior, and engage parents in monitoring and supporting students' online experiences. Furthermore, educators should create safe spaces for open dialogue about privacy, consent, and digital ethics, while developing protocols to respond effectively to doxing incidents and support affected learners.

Key Terms: Cyberbullying, Harassment, Impersonation, Outing, Doxing, Mental Health, Junior Students, Buea Municipality

BACKGROUND

The phenomenon of bullying, a long-standing social issue, has evolved significantly in its form and reach over time. Traditionally confined to physical spaces such as schools, playgrounds, and neighborhoods, bullying has now found a potent and far-reaching extension in the digital realm. With the rise of internet connectivity and the widespread adoption of digital technologies in the late 20th and early 21st centuries, a new form of harassment cyberbullying has emerged as a pervasive threat, particularly among adolescents and junior students (Smith et al., 2008; Tokunaga, 2010).

Cyberbullying involves the deliberate use of electronic communication tools such as social media, text messaging, emails, and online forums to harass, threaten, or embarrass others (Patchin & Hinduja, 2018).

Unlike traditional bullying, cyber bullying operates beyond the bounds of time and space it can occur anytime, anywhere, and often without adult supervision. Its anonymity and public nature amplify its impact, leaving victims vulnerable to ongoing psychological distress (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Common manifestations include sending hurtful messages, spreading false rumors, impersonation (masquerading), outing (publicizing private information), and doxing (exposing sensitive personal data).

Additionally, Cyber bullying refers to the intentional use of digital technologies such as mobile phones, social networking sites, messaging apps, or emails to harass, intimidate, or harm others (Patchin & Hinduja, 2018). Unlike traditional bullying, which is usually restricted to specific physical settings such as schools or neighborhoods, cyber bullying can occur at any time and from anywhere, invading the personal and psychological space of victims. The anonymity offered by the internet emboldens perpetrators, while the persistent nature of online harassment means that victims often find it difficult to escape or seek support. This form of bullying is uniquely harmful because it transcends the boundaries of time and space, follows the victim into the home, and is often public and permanent due to the digital trail left behind (Tokunaga, 2010; Kowalski et al., 2014). In Africa, the growth of digital connectivity has outpaced the development of regulatory frameworks and digital literacy, especially among school-aged children. According to UNICEF (2020), nearly one in three African youths has experienced some form of online bullying. In Cameroon, increased access to mobile phones and social media has introduced cyberbullying as a pressing social issue, particularly among adolescents in urban areas like the Buea Municipality, where digital access is widespread among students in both public and private schools. Despite the growing occurrence of digital harassment, the understanding and institutional response to cyber bullying in Cameroon remain limited.

In Buea, where many junior secondary school students actively use platforms such as WhatsApp, Facebook, TikTok, and Instagram, cyber bullying has become alarmingly prevalent. Victims report incidents ranging from harassment, impersonation (masquerading), outing (exposing private information), to doxing (publishing identifying information to harm someone). These experiences often result in severe emotional and psychological consequences, including anxiety, depression, withdrawal from social activities, poor academic performance, and even suicidal thoughts (Mbua, 2022). In many cases, students suffer in silence due to fear of retaliation, stigma, or disbelief by school authorities and parents (Bauman, 2010).

The effects of cyber bullying on adolescents can be explained through multiple theoretical lenses. General Strain Theory (Agnew, 1992) posits that individuals who experience stressors such as humiliation, exclusion, or victimization are more likely to exhibit deviant or maladaptive behaviors. Cyber bullying constitutes a chronic source of strain that can lead to emotional exhaustion, hopelessness, and reduced coping capacity among junior students. Furthermore, Social Learning Theory (Bandura, 1977) helps explain how aggressive digital behavior is learned and normalized through observation and imitation. Adolescents may emulate peers who engage in cyberbullying, especially when such behaviors go unpunished or are socially rewarded through likes, comments, or group approval. This creates a toxic online culture where cyberbullying becomes normalized. Additionally, Cognitive Behavioral Theory (Beck, 1967) illustrates how cyberbullying distorts victims' cognitive processes, fostering negative thoughts, self-blame, and self-hatred. These internalized beliefs significantly affect their mental health, increasing vulnerability to conditions like depression, anxiety disorders, and suicidal ideation.

According to Patchin and Hinduja (2006), the psychological effects of cyber bullying such as anxiety, depression, suicidal ideation, and social withdrawal mirror or even exceed those of face-to-face bullying. The 2018 Pew Research Center report revealed that 59% of American teens had experienced some form of online harassment. Similar trends are observable globally, with younger adolescents particularly those in junior school being more susceptible due to their developmental vulnerability, need for peer validation, and limited emotional coping mechanisms (Livingstone & Haddon, 2009).

Some educational stakeholders consider cyber bullying as a digital extension of traditional bullying, while others emphasize its unique psychological ramifications due to its relentless, borderless, and invisible nature (Kowalski et al., 2014; Tokunaga, 2010). The blurring of boundaries between home and school

environments creates a constant exposure for victims, making escape difficult and recovery prolonged. This continual invasion of personal space profoundly affects students' mental well-being, academic performance, and social relationships. Despite efforts by schools to adopt anti-bullying policies, many such interventions remain inadequately equipped to address the evolving nature of cyber bullying. Often, they overlook the emotional and psychological dimensions, focusing instead on punitive measures rather than therapeutic support (Cassidy, Faucher, & Jackson, 2013). In many cases, victims do not report incidents due to fear of retaliation, shame, or a perceived lack of institutional support (Bauman, 2010).

In the Cameroonian context particularly in urban settings like the Buea Municipality cyberbullying among junior students is increasingly becoming a public concern. The expansion of digital access, especially among adolescents, has created fertile ground for online abuse. A report by the International Telecommunication Union (ITU, 2022) indicated that nearly 35% of adolescents in Cameroon have experienced cyber bullying, with social media platforms being the primary medium. However, the issue is compounded by limited digital literacy, inadequate counseling structures, and societal stigmas surrounding mental health. Furthermore, UNICEF (2020) estimates that one in three African youths has encountered cyber bullying, often resulting in anxiety, depression, insomnia, and poor academic performance. In regions such as Buea, where socioeconomic challenges persist, the lack of trained school counselors, mental health professionals, and awareness campaigns further hinders prevention and early intervention efforts. This trend threatens to derail the goals outlined in Cameroon's Poverty Reduction Strategy Paper (PRSP), which positions education as a cornerstone for national development and human capital enhancement (Republic of Cameroon, 2003).

From a theoretical perspective, the psychological impact of cyberbullying can be examined through several frameworks. Agnew's General Strain Theory (GST) (1992) suggests that individuals, especially adolescents, may develop emotional distress or engage in deviant behavior when subjected to significant stressors such as cyber harassment or social rejection. Bandura's Social Learning Theory (1977) explains how youth may learn and replicate harmful online behavior by observing peers or influencers who engage in bullying without facing consequences. Additionally, Cognitive Behavioral Theory (CBT) (Beck, 1967) elucidates how cyber bullying disrupts victims' thought patterns, fostering negative beliefs, low self-esteem, and depressive symptoms. These frameworks collectively provide insight into the behavioral and psychological disruptions caused by cyber bullying.

In the 21st century, the integration of digital technology into daily life has profoundly transformed how people communicate, interact, and socialize. Among adolescents and young people, the rapid proliferation of smartphones, internet access, and social media platforms has fostered an environment where virtual interactions often hold equal if not greater weight than face-to-face engagements. While these digital advancements have created educational and social opportunities, they have also introduced new forms of risks and threats, particularly for young, impressionable users. One such risk is cyber bullying, a phenomenon that has gained global attention due to its rising prevalence and devastating psychological impacts, especially on children and adolescents.

Globally, studies such as those by Smith et al. (2008), Kowalski et al. (2014), and Patchin & Hinduja (2018) have consistently highlighted the psychological impacts of cyberbullying. In the United States, for instance, the Pew Research Center (2018) found that 59% of teens had experienced online harassment, with girls and younger teens reporting higher levels of emotional distress. However, there remains a scarcity of localized empirical studies in sub-Saharan African contexts, including Cameroon, where cultural norms, limited mental health resources, and digital illiteracy further compound the issue. In Cameroon, most educational institutions focus on traditional forms of bullying, neglecting the subtleties and long-term impacts of cyberbullying. Anti-bullying policies, where they exist, often lack provisions for digital forms of aggression. Consequently, junior students—who are particularly vulnerable due to their developmental stage, emotional sensitivity, and dependency on peer validation remain at significant risk. Furthermore, school counselors and teachers frequently lack the training and digital awareness to identify or intervene appropriately in cyberbullying cases.

Given this context, there is a pressing need to examine the specific ways in which cyberbullying through harassment, impersonation, outing, and doxing affects the mental health of junior secondary school students in the Buea Municipality. Understanding these dynamics is essential for developing effective interventions, policies, and support systems that are contextually relevant and culturally sensitive. As digital connectivity increases, the risk of exposure to cyberbullying will only rise. It is therefore crucial to understand and respond to the nature, prevalence, and psychological consequences of cyberbullying in order to protect the well-being of students and foster a safe, inclusive, and mentally supportive learning environment. This study Cyberbullying and Its Impacts on Junior Students' Mental Health in the Buea Municipality aims to explore how specific forms of digital harassment, namely harassment, impersonation (masquerading), outing, and doxing, affect the mental health of junior students. As the digital landscape continues to evolve, understanding the psychological toll of cyberbullying on adolescents becomes not only timely but essential. In particular, this study highlights the urgent need for robust intervention programs, comprehensive school policies, and mental health support systems that cater to the specific vulnerabilities of junior students in Buea.

Statement of the Problem

The increasing integration of digital technologies into education and daily life has opened unprecedented avenues for communication and learning. However, this digital shift has also exposed junior students to new and pervasive forms of victimization—particularly cyberbullying—which poses a serious and growing threat to their mental health and emotional well-being. Unlike traditional bullying, which is often constrained by physical environments, cyberbullying occurs in virtual spaces such as social media platforms, messaging applications, and online forums, where harassment can be persistent, anonymous, and inescapable (Kowalski et al., 2014). This virtual nature gives cyberbullying a far-reaching and enduring presence, making it especially damaging for junior students, who are at a crucial stage of emotional, social, and psychological development.

Extensive research has demonstrated that victims of cyber bullying are significantly more prone to experiencing anxiety, depression, diminished self-esteem, emotional instability, and in extreme cases, suicidal ideation (Patchin & Hinduja, 2010; Hinduja & Patchin, 2019). These impacts are not transient; they often extend into the long term, leading to chronic psychological distress, social withdrawal, interpersonal difficulties, and reduced academic performance. Yet, many schools and communities, especially in developing regions like the Buea Municipality of Cameroon, lack comprehensive policies, digital safety education, and effective mental health support systems to protect students from these online threats.

In the Cameroonian context, where access to digital devices and internet connectivity is expanding rapidly, students are increasingly vulnerable to online forms of aggression. The lack of preparedness to identify, prevent, and address cyber bullying has exacerbated the mental health crisis among adolescents, particularly those in junior secondary school. Victims are often left without guidance, coping strategies, or supportive structures to manage their trauma, resulting in decreased academic engagement, social isolation, distrust in authority, and long-lasting emotional scars.

Emotionally, victims of cyber bullying frequently battle with low self-worth, chronic stress, and internalized shame, which can evolve into severe mental health disorders (Smith et al., 2008). Socially, the experience may lead to withdrawal from peer interactions, damaged friendships, and isolation, while relationships with teachers and family members may also suffer due to miscommunication or lack of empathy (Bauman, Toomey, & Walker, 2013). Physically, the psychological strain can manifest in the form of sleep disorders, headaches, appetite changes, and even psychosomatic illnesses, with some students resorting to self-harm or suicidal behaviors as a means of escape (Nixon, 2014).

Despite the urgent and multi-dimensional nature of this threat, cyberbullying remains under-researched and poorly addressed in the educational policies and mental health frameworks in sub-Saharan Africa. This study, therefore, aims to investigate the specific impacts of cyberbullying on the mental health of junior students in the Buea Municipality, focusing on three major dimensions of online victimization: harassment,

impersonation, and outing/doxing. By shedding light on these issues, the research seeks to inform the development of targeted interventions, including digital literacy programs, student counseling services, and community-based awareness campaigns, to mitigate the psychological damage and ensure the well-being and safety of students in both physical and digital learning environments.

Theoretical Review

The phenomenon of cyberbullying and its detrimental impact on junior students' mental health can be best understood through several psychological and criminological theories that explain the underlying mechanisms of both bullying behavior and its effects on victims. Among the most relevant theoretical frameworks are Agnew's General Strain Theory (GST), Bandura's Social Learning Theory (SLT), and Beck's Cognitive Behavioral Theory (CBT). These theories provide a multi-dimensional perspective on how cyberbullying behaviors develop, are perpetuated, and how they influence the mental health outcomes of affected students.

Agnew's General Strain Theory (1992) posits that individuals engage in deviant or antisocial behavior when they experience strain or stress, particularly from negative relationships, failure to achieve goals, or the removal of positively valued stimuli. In the context of cyberbullying, GST suggests that perpetrators may resort to bullying as a maladaptive coping mechanism to relieve or express their own frustrations and stressors (Agnew, 1992). Similarly, victims of cyberbullying experience strain in the form of continuous harassment, which generates significant psychological distress such as anxiety, depression, and feelings of helplessness (Hinduja & Patchin, 2010). This emotional strain can disrupt their mental well-being and academic functioning, highlighting the cyclical nature of strain and deviance in online environments.

Albert Bandura's Social Learning Theory (1977) emphasizes that behaviors are learned through observation, imitation, and reinforcement within social contexts. Cyberbullying behaviors can thus be understood as learned actions, where students observe peers or online influencers engaging in harassment without facing consequences, which normalizes such behavior (Bandura, 1977). The anonymity and perceived impunity in digital spaces can further reinforce these actions by reducing immediate social sanctions. Victims, on the other hand, may also model negative cognitive responses or coping strategies observed in their social circles, perpetuating a cycle of distress and maladaptive social interaction (Kowalski et al., 2014). This theory underscores the importance of role models and peer influence in both the emergence and prevention of cyberbullying.

Beck's Cognitive Behavioral Theory (1967) explains how cognitive processes influence emotions and behaviors. In the realm of cyberbullying, victims often develop distorted cognitive schemas about themselves, internalizing the negative messages and harassment they receive online. This internalization may lead to low self-esteem, heightened anxiety, depressive symptoms, and negative self-perceptions (Beck, 1967). CBT elucidates the mental processes by which cyberbullying victims interpret their experiences, which in turn affects their emotional resilience and behavioral responses. Therapeutic interventions based on CBT aim to reframe these negative thought patterns and develop healthier coping strategies, making this theory highly relevant for mental health support among junior students (Patchin & Hinduja, 2018).

Combining these theories offers a comprehensive framework for understanding cyberbullying's impact on junior students. While GST highlights the socio-environmental pressures contributing to bullying behavior and victim distress, SLT points to the social context in which these behaviors are learned and perpetuated. CBT focuses on the internal cognitive-emotional processes experienced by victims. Together, these theories explain not only why cyberbullying occurs but also how it profoundly affects students' mental health.

Furthermore, the Ecological Systems Theory (Bronfenbrenner, 1979) provides a broader context by emphasizing the multiple layers of influence on a student's development, including family, school, community, and digital environments. The interaction between these layers shapes the experiences and consequences of cyberbullying, suggesting that interventions should be multi-level, involving schools, families, and digital policy frameworks.

The theoretical insights underscore the need for comprehensive anti-cyberbullying strategies that address both behavioral origins and psychological impacts. Programs should focus on reducing strain among potential perpetrators, altering social norms through positive peer modeling, and providing cognitive-behavioral support for victims. Educational curricula incorporating digital literacy and emotional resilience can help mitigate risks identified through these theories (Olweus, 2013).

METHODOLOGY

Research design is a critical framework that guides the systematic integration of all study components, ensuring coherence and alignment with the research objectives. It serves as a comprehensive blueprint that directs the processes of data collection, measurement, and analysis to effectively address the research problem (Creswell, 2014). This study adopted a **quantitative research design**, specifically employing a **cross-sectional survey method**, which involves collecting data from multiple participants at a single point in time. This approach is particularly effective for capturing a snapshot of current phenomena, attitudes, and behaviors within a defined population (Bryman, 2016).

The primary purpose of utilizing a survey research design in this study was to **explore and describe** the impacts of cyberbullying on the mental health of junior students within the Buea Municipality. Survey research facilitates the systematic collection of quantifiable data, enabling researchers to summarize, present, and interpret findings in a manner that supports evidence-based conclusions (Mugenda & Mugenda, 2003). According to Mugenda (2003), descriptive survey design is especially appropriate for preliminary and exploratory investigations, allowing researchers to gather rich data for clarifying complex issues within educational settings. The study targeted junior secondary students from three selected schools in the Buea Municipality, Fako Division, South West Region of Cameroon: **Government High School Boqwango, Bilingual Grammar School Molyko, and Summerset Bilingual High School Buea**. These schools were purposively selected due to their diverse student populations and accessibility, which provided a representative cross-section of the junior student demographic in the area. The research aimed to generate statistically valid insights relevant to educators, policymakers, and mental health practitioners interested in mitigating cyberbullying and promoting student well-being.

In summary, the cross-sectional quantitative survey design offered a robust and efficient strategy to gather empirical data on cyberbullying's effects on junior students' mental health, enabling timely and actionable findings within the specific sociocultural context of the Buea Municipality.

Sample and Sampling Technique

The study included a total of 200 students from three different schools in Buea Municipality. Government High School Bokwango had the highest representation, with 80 students, accounting for 40% of the total sample. Bilingual Grammar School Molyko followed with 66 students, making up 33% of the sample. Summerset Bilingual High School Buea contributed 53 students, representing 26.5% of the total. This distribution provides a balanced representation of students from various educational institutions, allowing for a comprehensive analysis of the impact of cyberbullying on junior students in the region. This sample was purposefully and conveniently selected. Data was collected quantitatively and qualitatively using questionnaires, focus group discussion guides and interviews.

Methods of Data Analysis

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) software. Two statistical methods descriptive and inferential statistics were employed to interpret the findings effectively.

- Descriptive Analysis: Categorical variables were analyzed using frequency distributions and proportions, and responses from open ended questions were processed using Multiple Responses

Analysis to identify emerging concepts. Data were then presented in tables, charts, and code quotation grounding tables.

- Inferential Analysis: Since the study involved categorical variables, Logistic Regression was used to test hypotheses. Unlike Ordinary Least Squares (OLS) estimation, which is typically used in multiple regression models, Logistic Regression was chosen because it uses maximum likelihood estimation to determine the best fit when dealing with categorical predictors.

The Likelihood Function (LF) for the model is expressed as: LF=p(Piyi∗(1−Pi)(1−yi))LF = p(P_i y_i (1 P_i)^{(1 y_i)}) Where: yiy_i represents the observed values of yy for each case, PiP_i is the predicted probability for each case, pp is the product notation used to multiply the values for each case.

A chi square test was conducted to compare the baseline and estimated models, assessing the statistical significance of differences. The Nagelkerke R square and Likelihood Ratio Test were used to determine the overall effect of predictive variables on the dependent variable. If the p value was below the alpha level (0.05 at 95% confidence level), the predictor was considered statistically significant. Findings were summarized in tables for clear interpretation.

FINDINGS

Demographic Information

Understanding the socio-demographic background of respondents is essential to contextualise the findings of this study. These characteristics offer insight into how factors such as age, gender, religion, class level, and living arrangement may influence a student's experience with cyberbullying and its effects on their mental health. The data also aids in identifying vulnerable sub-groups and tailoring interventions accordingly.

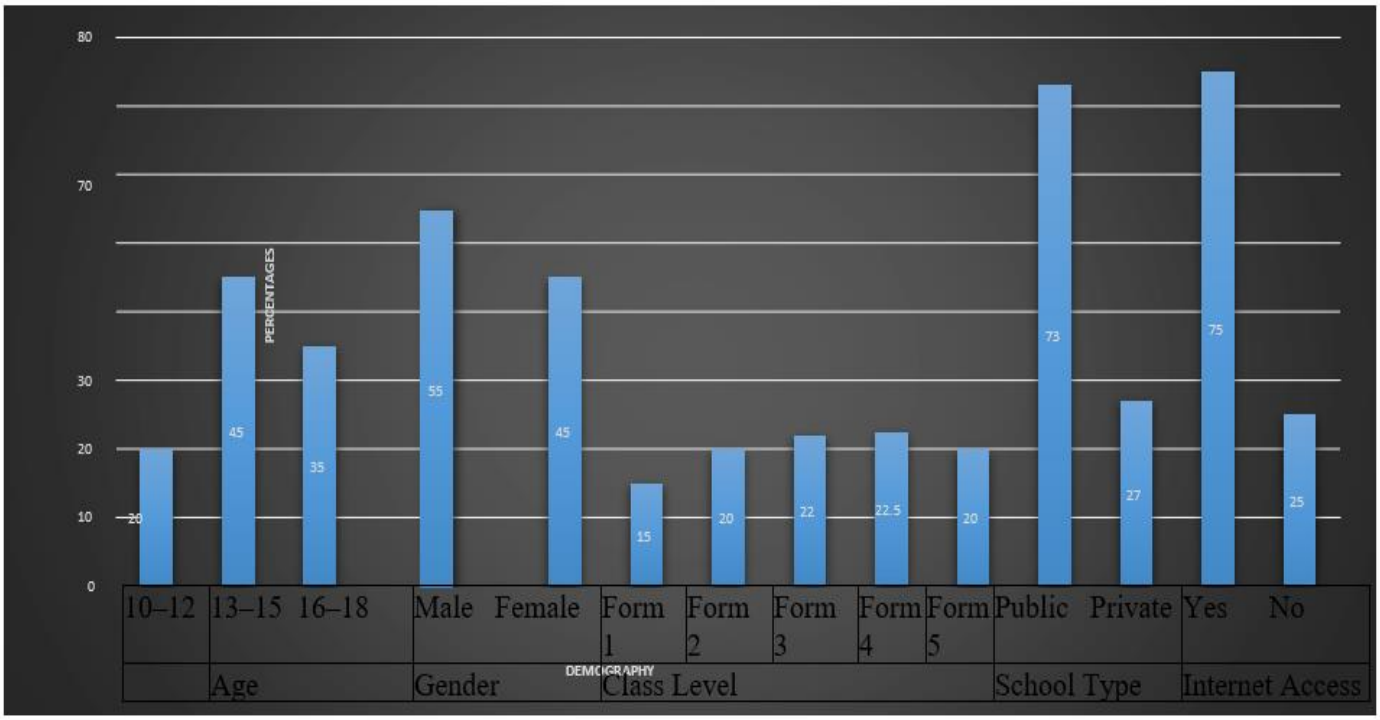
Table 3 Distribution of students according to demographic characteristics

Characteristics		**N**	**Percentage (%)**
Age	10 – 12	40	20
	13 – 15	90	45
	16 – 18	70	35
	Total	**200**	**100**
Gender	Male	110	55
	Female	90	45
	Total	**200**	**100**
Class Level	Form 1	30	15
	Form 2	40	20
	Form 3	45	22
	Form 4	45	22.5
	Form 5	40	20
	Total	**200**	**100**
School Type	Public	146	73
	Private	54	27
	Total	**200**	**100**
Internet Access	Yes	150	75
	No	50	25
	Total	**200**	**100**

Among the 200 junior students surveyed, the largest age group was 13–15 years old at 45%, followed by 16–18 years at 35%, and 10–12 years at 20%, showing most respondents are in early to mid-adolescence—a critical period for cyberbullying vulnerability. Males made up 55% of the sample, slightly higher than females at 45%, suggesting a fairly balanced gender distribution but possibly more exposure among boys. Class levels were fairly evenly distributed, with Forms 3 and 4 each at 22.5%, Forms 2 and 5 at 20%, and Form 1 at 15%, indicating that middle-grade students are more represented, likely due to their greater online activity. Public school students accounted for 73%, with private schools at 27%, highlighting that a majority may have less access to resources to combat cyberbullying. Importantly, 75% had internet access, exposing them to potential online risks, while 25% without access might face social exclusion.

Overall, this profile shows a predominantly adolescent, internet-connected student body in public schools who are prime targets for cyberbullying and its effects.

Figure 2 Percentages of distribution of students according to demographic characteristics.



Research Question

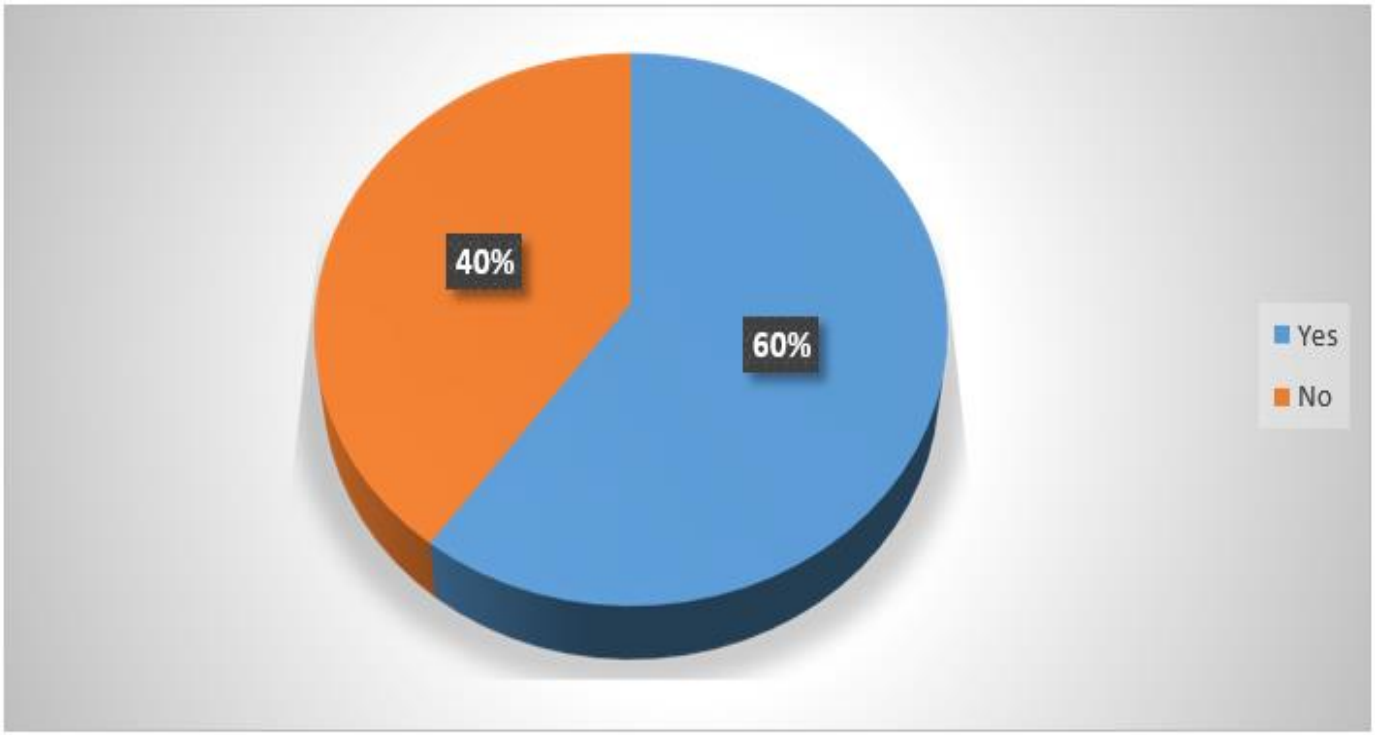
Research question one: How does harassment impact the mental health of junior students in the Buea municipality?

Cyberbullying remains a pressing concern affecting the mental health and well-being of junior students, particularly in rapidly digitalizing communities like Buea Municipality. Understanding how different dimensions of online harassment impact students emotionally, academically, and behaviorally is crucial for developing effective prevention and support strategies. The following analysis explores students' experiences with cyberbullying, the frequency and emotional toll of abusive messages, the influence on academic performance, and the coping strategies employed to navigate this challenging digital landscape.

Have you ever experienced repeated Online Harassment (e.g offensive messages)?

A significant 60% of junior students in the Buea Municipality reported having experienced repeated online harassment, while 40% stated they had not. This indicates that cyberbullying is a prevalent issue, affecting more than half of the student population, highlighting the urgent need for interventions to protect vulnerable youths in digital spaces.

Figure 3 Have you ever experienced repeated online harassment (e.g offensive messages)?



How often do you receive hurtful or abusive messages online?

Regarding how often students receive hurtful or abusive messages online, the responses show a wide distribution: 30% reported they receive abuse sometimes, 25% of students reported never receiving abusive messages, 20% rarely experience them, 15% often, and 10% always receive hurtful messages. Thus, while a quarter of students are spared from abuse, the majority (75%) face such negativity with varying regularity, suggesting persistent exposure to cyberbullying for many.

Table 4 How often do you receive hurtful or abusive messages online?

Response	Frequency	Percentage (%)	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
Never	50	25	$X^2 = 3.300$, df = 15, p = 3.300	0.300
Rarely	40	20		
Sometimes	60	30		
Often	30	15		
Always	20	10		

How frequency abusive messages does reveals across genders?

The cross-tabulation of abusive message frequency by gender reveals notable differences in how male and female junior students in the Buea municipality experience harassment. While 27.3% of males and 22.2% of females reported never receiving abusive messages, a significant portion of students faced varying levels of abuse. Females were slightly more likely to experience occasional abuse, with 33.3% reporting sometimes receiving abusive messages compared to 27.3% of males. In contrast, males were more likely to face persistent abuse, as 13.6% reported always receiving abusive messages compared to just 5.6% of females. These findings suggest that although both genders experience harassment, males are more prone to chronic exposure while females tend to experience abuse more intermittently. This gender disparity highlights the need for targeted interventions that address the different ways harassment impacts male and female students.

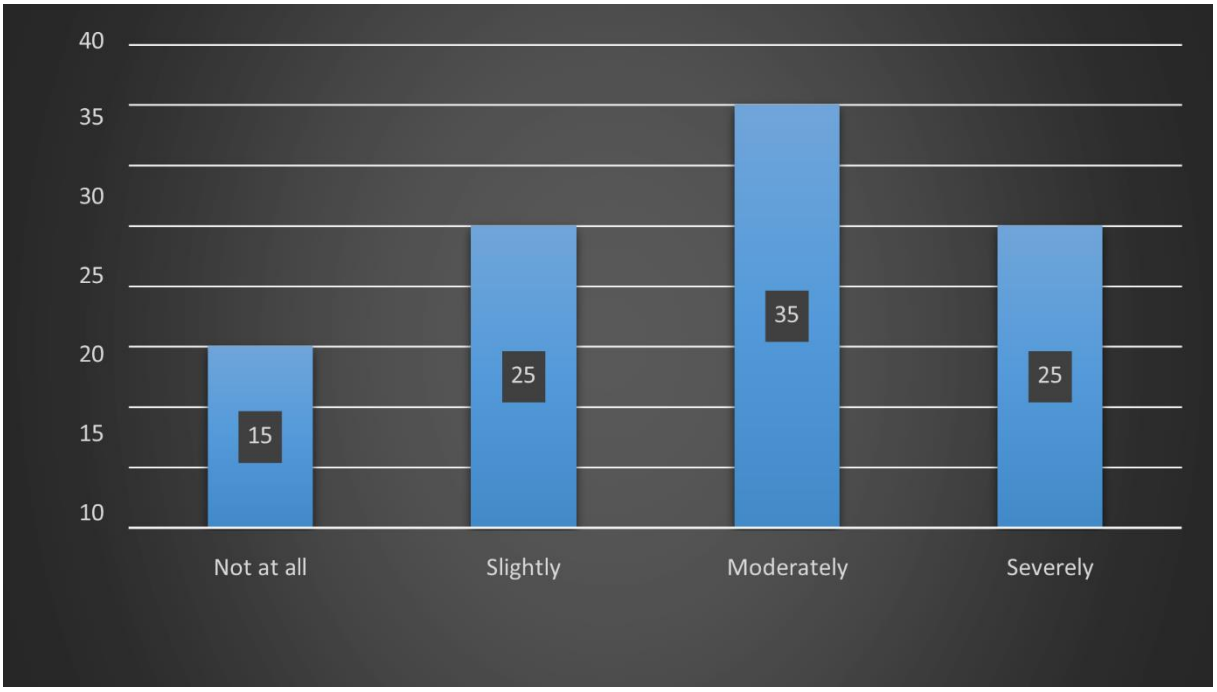
Table 5 Cross-tabulation of Frequency of Abusive Messages by Gender

Frequency	Male n (%)	Female n (%)	Total n (%)	Omnibus Test of Model Coefficients	Explanatory/Predic tive Power of the Model (Nagelkerke R Square)
Never	30	20	50	X^2 = 6.600, df = 15, p = 60.000	0.300
	(27.3%)	(22.2%)	(25.0%)		
Rarely	20	20	40		
	(18.2%)	(22.2%)	(20.0%)		
Sometimes	30	30	60		
	(27.3%)	(33.3%)	(30.0%)		
Often	15	15	30		
	(13.6%)	(16.7%)	(15.0%)		
Always	15	5	20		
	(13.6%)	(5.6%)	(10.0%)		
Total	110	90	200		
	(100%)	(100%)	(100%)		

How does online harassment/provocation affect your emotional?

The emotional effects of online harassment vary, with 35% of students moderately affected, 25% severely affected, 25% slightly affected, and 15% claiming no emotional impact. This data underscores that three-quarters of students experience at least some emotional distress, with a quarter suffering severe emotional consequence, emphasizing the serious psychological harm cyberbullying can inflict.

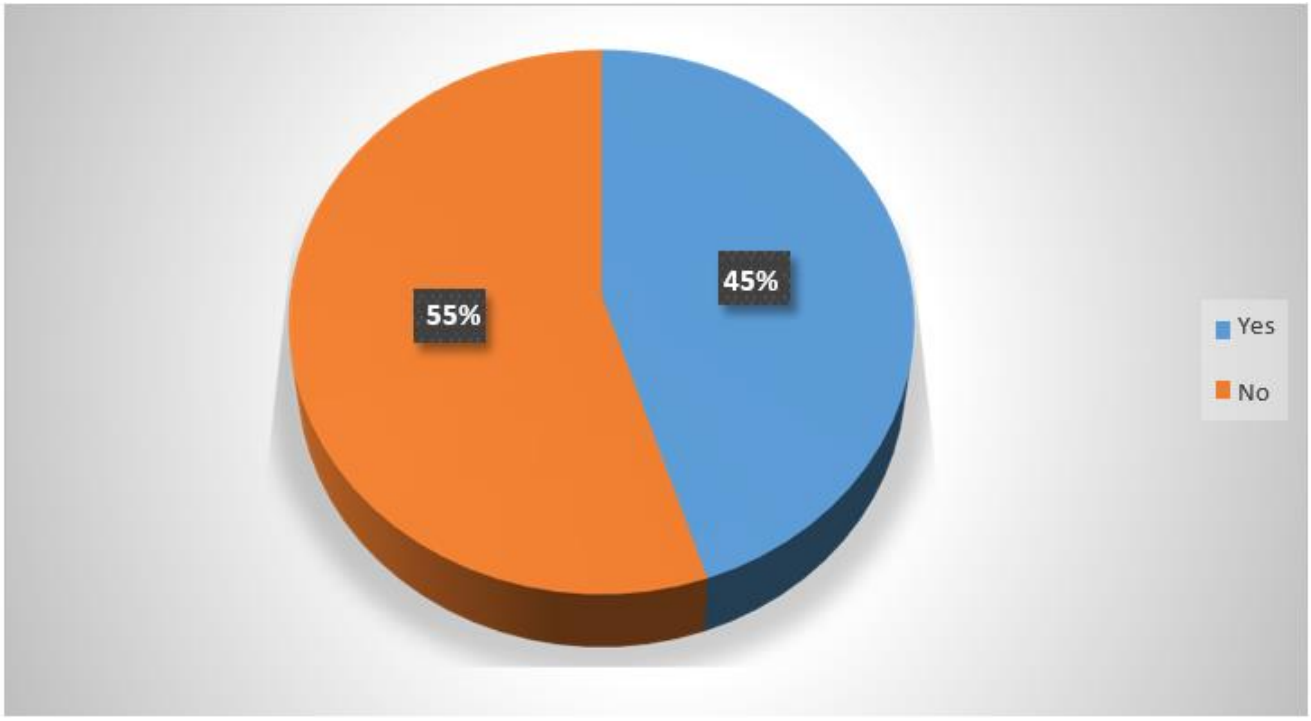
Figure 4 How does online harassment/provocation affect your emotions?



Have you notice any change in your academic Performance due to online harassment?

When asked if their academic performance was affected by online harassment, 55% said no impact, while 45% admitted yes, it did affect them. Nearly half the respondents acknowledged academic difficulties, which shows cyberbullying is not just digital drama; it is a real challenge affecting students' ability to focus, engage, and *win* in school.

Figure 5 Have you notice any change in your academic Performance due to online harassment?



What coping strategies do you use when experiencing online harassment/provocation?

Students employ various coping mechanisms in response to online harassment: 30% choose to ignore it, 25% block the harasser, 20% report the incident to someone, 15% seek emotional support, and 10% use other methods. The result reveals that ignoring or blocking harassment is more common than seeking help, indicating potential gaps in awareness or availability of effective support systems.

Table 6 What coping strategies do you use when experiencing online harassment/provocation?

Response	**Frequency**	**Percentage (%)**	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
Ignore it	60	30	$X^2 = 42650$, df = 15, p = 0.000	0.300
Block the harasser	50	25		
Report to someone	40	20		
Seek emotional help	30	15		
Other	20	10		

Research Hypothesis

Research hypothesis one: Harassment has a significant negative impact on the mental health of junior students in the Buea municipality.

The influence of harassment on the mental health of junior secondary school students in the Buea municipality was examined using the Logistic Regression Model. This statistical method enabled the evaluation of whether experiences of harassment (independent variable) significantly predict negative mental health outcomes (dependent variable). The results of the regression analysis are presented below.

Table 7 Model Fitting Information and Predictive Power for Harassment and its Effect on Mental Health (Dependent variable: Mental Health Impact)

Respondents	Omnibus Test of Model Coefficients	Explanatory/Predictive Power of the Model (Nagelkerke R Square)
Students	$\chi^2 = 42.650$, df = 15, p = 0.000	0.287

The logistic regression model indicates that the variability explained by harassment experiences is statistically significant for junior students (Omnibus Test of Model Coefficients: $\chi^2 = 42.650$; df = 15; p = 0.000). The Nagelkerke R Square value of 0.287 suggests that approximately 28.7% of the variation in students' mental health status can be explained by their experiences of harassment. Based on the significance level ($p < 0.05$), we reject the null hypothesis and accept the alternative hypothesis, affirming that harassment has a significant negative impact on the mental health of junior students in the Buea municipality.

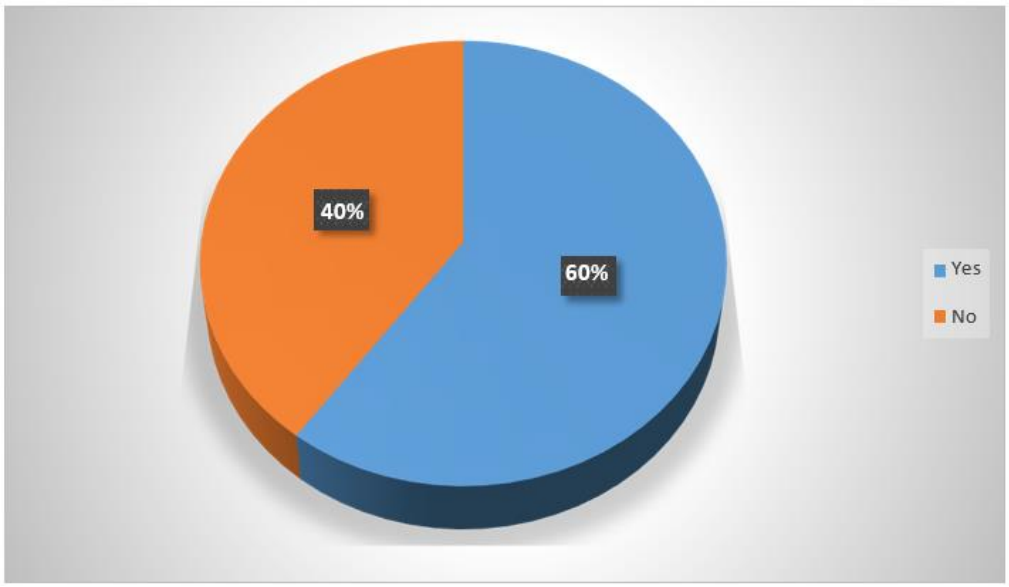
Research question 2: What is the impact of impersonation (masquerading) on the mental health of junior students in the Buea municipality?

This section explores the impact of impersonation, where someone pretends to be another person online, on the mental health of junior students in the Buea municipality. Impersonation is a subtle but harmful form of cyber harassment that can damage relationships, cause anxiety, and undermine students' emotional well-being. The following results highlight the prevalence of impersonation, its psychological effects, and the students' perspectives on reporting and prevention.

Victim of Impersonation

The data reveals that a significant majority of junior students in Buea Municipality, 60%, have experienced impersonation online, while only 40% reported they have not been victims. This high prevalence indicates that impersonation, or masquerading, is a widespread problem affecting more than half of the student population surveyed. The fact that such a large proportion of students are subjected to this form of cyber abuse highlights its potential as a major contributor to mental health challenges within this group. Impersonation can undermine trust, create confusion, and lead to serious emotional distress, making it an issue that schools and communities must urgently address.

Figure 6 Have you ever been a victim of some one creating a fake profile to impersonate or misrepresent you online?



School type with the highest victims of impersonation

The results indicate that a higher proportion of students in public schools reported being victims of impersonation compared to those in private schools. Out of all public-school students, 65.1% had experienced impersonation, while only 46.3% of private school students reported the same. Conversely, 53.7% of private school students said they had not been impersonated, compared to 34.9% of students in public schools. This shows a noticeable disparity in the experience of impersonation between the two school types, with public school students being more vulnerable. These findings may reflect differences in digital literacy, online supervision, or exposure to risky platforms between public and private educational environments.

Table 8 Cross-tabulation of Victims of Impersonation by School Type

Victim of Impersonation	Public n (%)	Private n (%)	Total n (%)	Omnibus Test of Model Coefficients	Explanatory/Predictive Power of the Model (Nagelkerke R Square)
Yes	95	25	120	$X^2 = 8.400$,	0.4
	-65.10%	-46.30%	-60.00%	df = 8, p = 0.8	
No	51	29	80		
	-34.90%	-53.70%	-40.00%		
Total	146	54	200		
	-100.00%	-100.00%	-100.00%		

How did the impersonation affect your relationship with friends and family?

Among students affected by impersonation, 50% reported that it severely affected their relationships, making it the most commonly reported impact. Following this, 25% felt moderately affected, 20% slightly affected, and only 25% noticed no effect. The fact that three-quarters of those impersonated feel some degree of relational damage shows impersonation is more than just an annoyance it disrupts social connections vital to mental and emotional well-being.

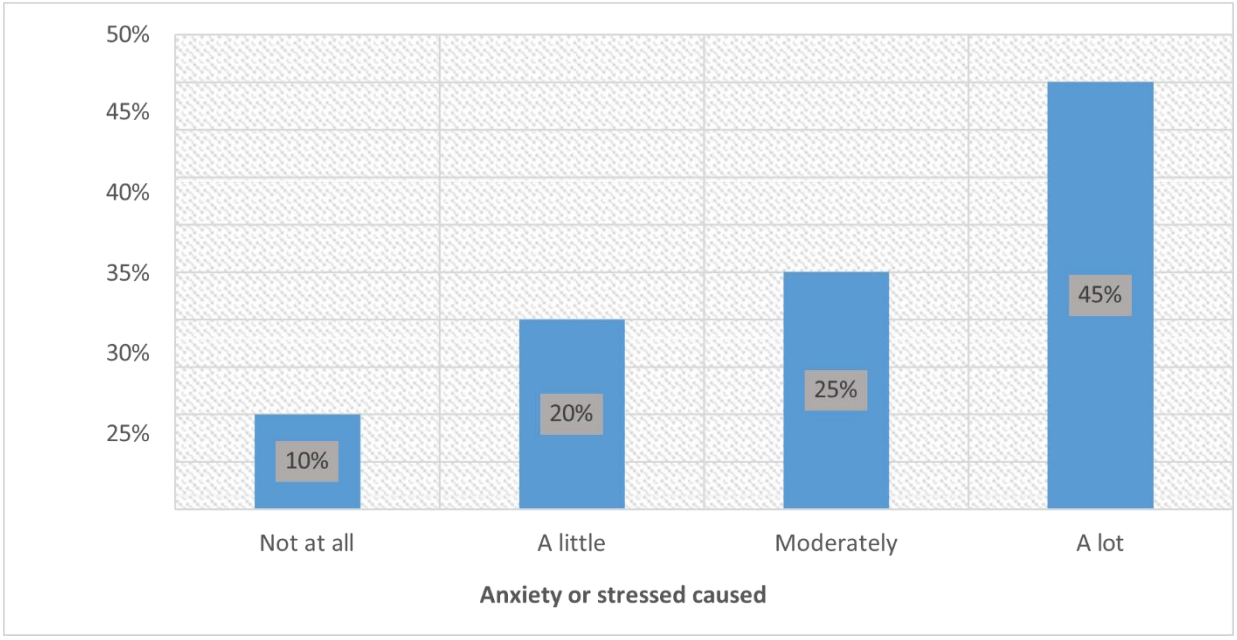
Table 9 How impersonation affect your relationship with friends and family

Response	Frequency	Percentage (%)	Omnibus Test of Model Coefficients	Explanatory/Predictive Power of the Model (Nagelkerke R Square)
No effect	10	25	$X^2 = 10.500$, df = 5, p = 0.500	0.5
Slightly affected	40	20		
Moderately affected	50	25		
Severely affected	100	50		

Did the experience of being impersonated cause you anxiety or stress?

The emotional consequences are just as profound. A combined 70% of students reported moderate to a lot of anxiety or stress due to impersonation, 25% moderately, 45% a lot, while 20% felt only a little, and 10% reported no anxiety. This heavy emotional burden highlights how deeply impersonation can shake a student's sense of safety and self, often triggering heightened anxiety or stress.

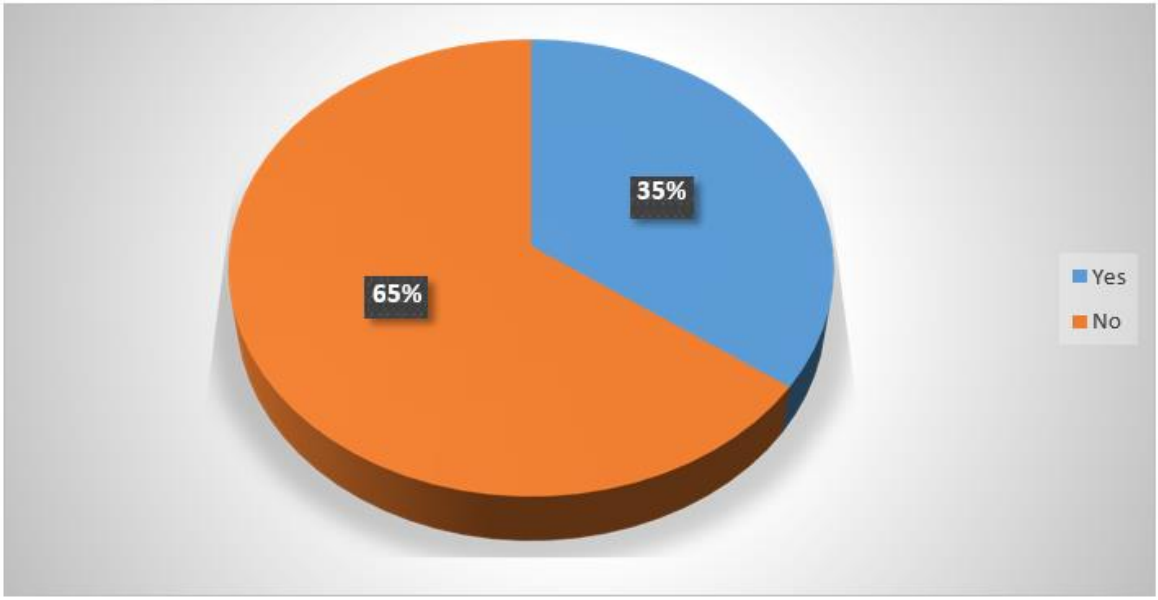
Figure 7 Did the experience of being impersonated cause you anxiety or stress?



Did you report the impersonation to a teacher, parent or online platforms?

Despite the serious impacts, 65% of victims did not report the impersonation, while only 35% took formal steps to seek help or alert authorities. This low reporting rate could stem from fear of retaliation, lack of confidence in school or parental support, or simply unawareness of proper reporting channels. This gap underscores an urgent need for better communication and trust-building around cyberbullying interventions.

Figure 8 Did you report the impersonation to a teacher, parent or online platform?



In your opinion what should be done to prevent online impersonation?

Regarding solutions, the majority of students favoured school intervention programs (35%) to address impersonation, followed by increased awareness campaigns (30%) and calls for stronger laws (25%). The remaining 10% suggested other methods. This distribution shows students believe education and institutional involvement are key to prevention, with legal measures seen as important but perhaps secondary or complementary.

Table 10 In your opinion what should be done to prevent online impersonation?

Response	Frequency	Percentage (%)	Omnibus Test of Model Coefficients	Explanatory/Predictive Power of the Model (Nagelkerke R Square)
Stronger laws	50	25	$X^2 = 6.300$, df = 6, p = 0.300	0.3
Increased awareness	60	30		
School intervention	70	35		
Other	20	10		

Research Hypothesis Two: Impersonation (masquerading) significantly affects the mental health of junior students in the Buea municipality.

The impact of impersonation, also referred to as masquerading, on the mental health of junior students in the Buea municipality was investigated using a Logistic Regression Model. This model was applied to assess whether experiences of being impersonated or misrepresented online significantly predict mental health disturbances among students**.**

Table 11 Model Fitting Information and Predictive Power for the Effect of Impersonation on Mental Health (Dependent variable: Mental Health Impact)

Respondents	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
Students	$\chi^2 = 37.290$, df = 15, p = 0.02	0.264

Results from the logistic regression indicate that the model is statistically significant (Omnibus Test of Model Coefficients: $\chi^2 = 37.290$; df = 15; p = 0.02), revealing a meaningful relationship between impersonation and students' mental health. The Nagelkerke R Square value of 0.264 shows that 26.4% of the variation in mental health responses can be attributed to experiences of impersonation. Given the statistical significance of the model ($p < 0.05$), we reject the null hypothesis and accept the alternative hypothesis, confirming that impersonation significantly affects the mental health of junior students in the Buea municipality.

Research question 3: What are the effects of outing and doxing on junior students in the Buea municipality?

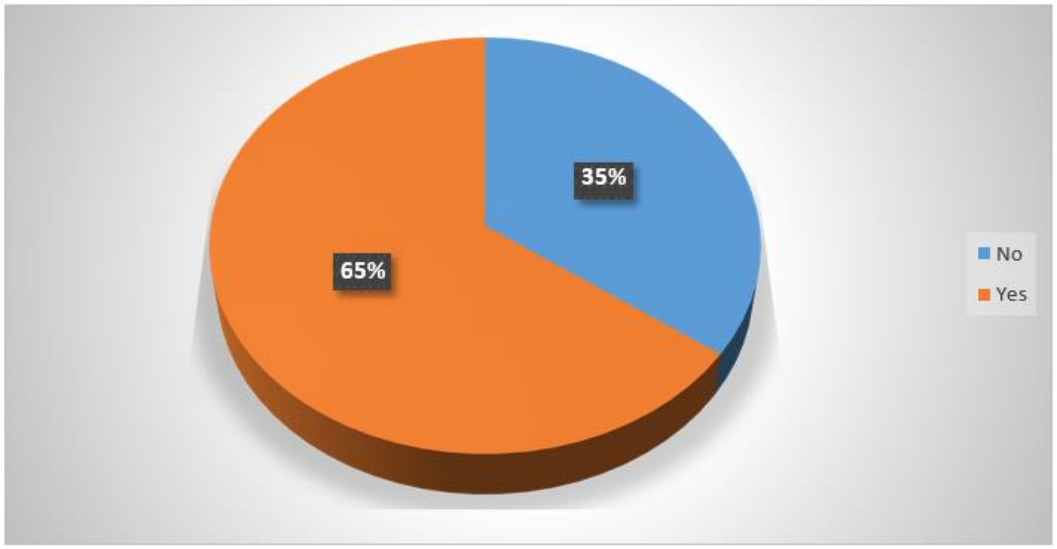
This section examines the effects of outing and doxing on junior students in the Buea municipality. Outing and doxing, the act of publicly exposing someone's private information without consent, can have serious psychological and emotional impacts, particularly on young, impressionable students. By analysing students' experiences, emotional responses, and suggestions for school interventions, this study aims to uncover the real-life consequences of these harmful digital practices and identify actionable ways to protect students' mental well-being in an increasingly connected world.

Experience of Doxing

A concerning 65% of respondents reported that they had experienced doxing, the exposure of their personal information online without consent. This figure far exceeds the 35% who indicated they had not experienced such incidents. The high prevalence highlights how vulnerable junior students are in the digital space,

especially given their limited control over data privacy and online safety. This creates an urgent need for digital literacy and protective measures in schools and homes alike.

Figure 9 Experienced Doxing



Have you ever had private or sensitive information (message, photos) shared online without your consent?

When asked about the psychological effects of having their personal information exposed, 30% of students reported experiencing *moderate distress*, while 25% experienced *mild* distress and another 25% reported *severe* distress. Only 20% of students claimed it had *no effect*. This indicates that for 80% of students, doxing negatively impacted their mental health to varying degrees. The psychological strain linked with such privacy breaches can lead to anxiety, low self-worth, and constant fear, clearly warranting more protective frameworks.

Table 12 Have You Ever Had Private Or Sensitive Information (Message, Photos) Shared Online Without Your Consent?

Response	Frequency	Percentage (%)	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
No effect	40	20	$X^2 = 6.300$, df = 6, p = 0.300	0.300
Mild distress	50	25		
Moderate distress	60	30		
Severe distress	50	25		

How did the exposure of your personal information affect your mental well-being?

The cross-tabulation reveals a clear age-related trend in how junior students in Buea municipality are mentally affected by the exposure of their personal information. Younger students aged 10–12 reported the highest proportion of "No effect" responses (37.5%), suggesting that this group may either not fully grasp the implications of their data being exposed or are less active online where the risks are higher. In contrast, older students, particularly those aged 13–15 and 16–18, reported higher levels of moderate and severe distress, with 33.3% and 28.6% of the 13–15 and 16–18 groups, respectively, indicating moderate distress. Similarly, 27.8% of 13–15-year-olds and 28.6% of 16–18-year-olds experienced severe distress, indicating that as students grow older and more digitally engaged, the emotional and psychological impact of privacy violations intensify.

This suggests that older adolescents are more psychologically affected by the exposure of personal data, likely due to their increased social media presence and peer pressure, highlighting the urgent need for digital safety education tailored by age group.

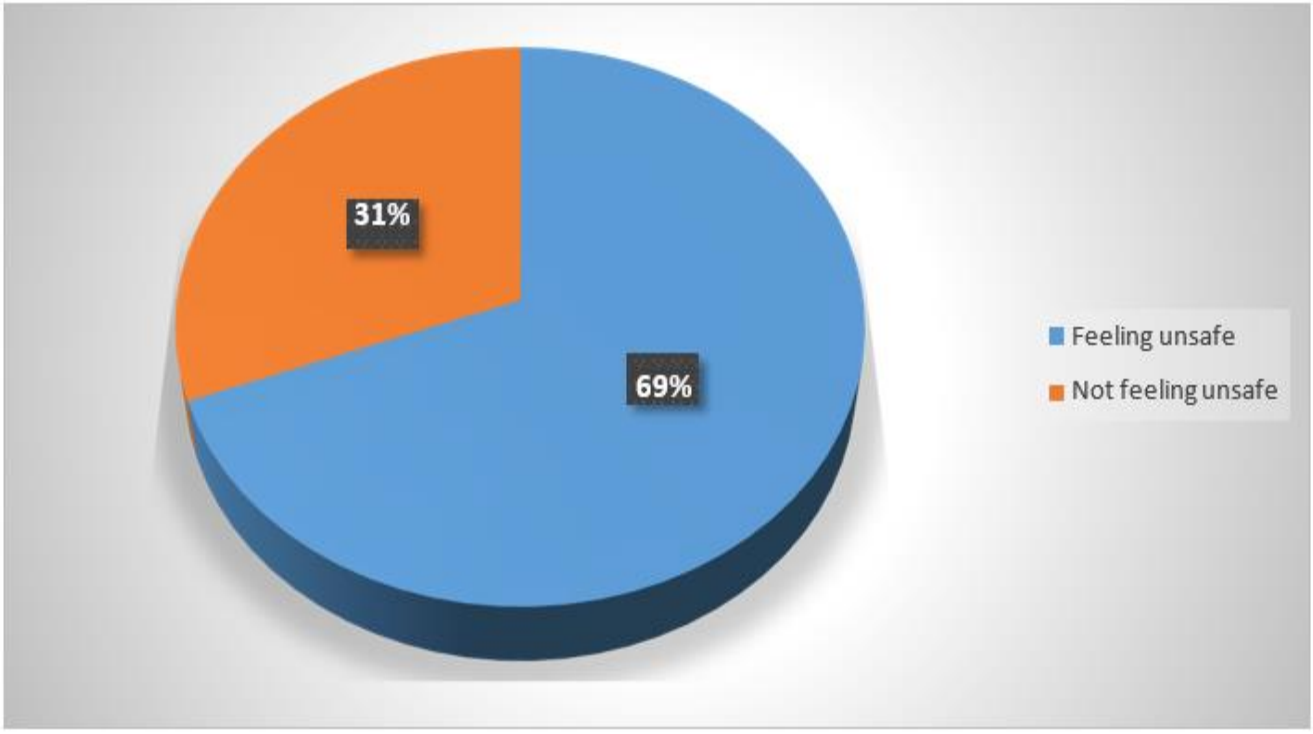
Table 13 How did the exposure of your personal information affect your mental well-being?

Mental Impact	**Age group**			**Total n (%)**		
	10–12 n (%)	**13–15 n (%)**	**16–18 n (%)**		**Omnibus Test of Model Coefficients**	**Explanatory/P redictive Power of the Model (Nagelkerke R Square)**
No effect	15	15	10	40	$X^2 = 6.300$,	0.300
	(37.5%)	(16.7%)	(14.3%)	(20.0%)	df = 6, p = 0.300	
Mild	10	20	20	50		
distress	(25.0%)	(22.2%)	(28.6%)	(25.0%)		
Moderate	10	30	20	60		
distress	(25.0%)	(33.3%)	(28.6%)	(30.0%)		
Severe	5	25	20	50		
distress	(12.5%)	(27.8%)	(28.6%)	(25.0%)		
Total	40	90	70	200		
	(100%)	(100%)	(100%)	(100%)		

Have you ever felt unsafe or threatened because someone shared your personal details online?

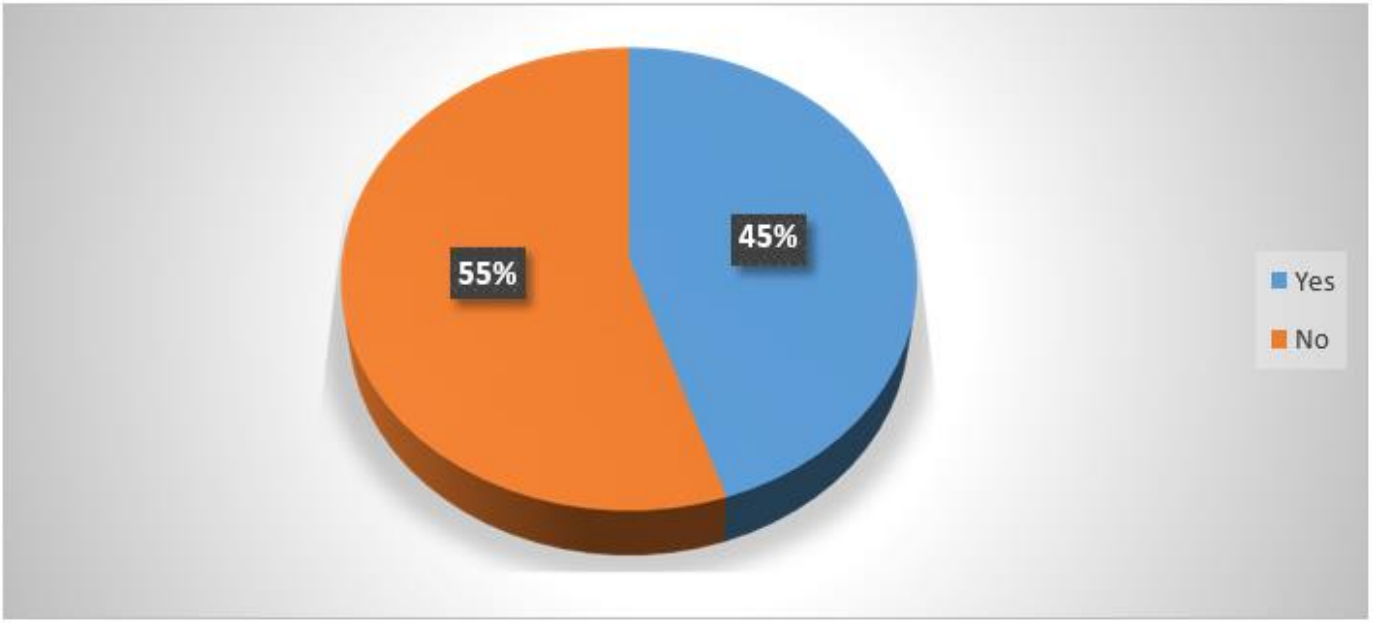
Interestingly, 57.5% of respondents reported *not* feeling unsafe or threatened after their information was shared, while a notable 42.5% *did* feel unsafe. Although the majority may not have perceived an immediate danger, the fact that nearly half did points to a climate of insecurity for junior students. This insecurity can erode students' sense of safety and lead to long-term psychological consequences like hypervigilance or social withdrawal.

Figure 10 Have you ever felt unsafe or threatened because someone shared your personal details online?



Only 45% of students sought help after being doxed, while the majority, 55%, did not. This indicates a worrying gap in response mechanisms, students are either unaware of where to seek help, feel unsupported, or fear further repercussions. This silence in the face of harm leaves them vulnerable to recurring psychological trauma.

Figure11 Did you seek help after experiencing outing or doxing?



What measures do you think schools should implement to protect student from doxing and outing?

When asked what schools should do to prevent doxing, 35% of students recommended *stronger school policies*, 30% suggested *cyber safety training*, and 25% opted for *parental guidance*, while 10% proposed *other measures*. These results reveal that students themselves recognise the need for structural intervention. There is a clear demand for institutional policies and education that empower students to protect themselves in the digital world.

Table 14 What measures do you think schools should implement to protect student from doxing and outing?

Response	Frequency	Percentage (%)	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
Cyber safety training	60	30	$X^2 = 6.300$, df = 6, p = 0.300	0.300
Stronger school policies	70	35		
Parental guidance	50	25		
Other	20	10		

Research Hypothesis Three: Outing and doxing significantly impact the mental health of junior students in the Buea municipality.

The influence of outing and doxing, specifically, the exposure of students' personal or sensitive information without their consent, on the mental health of junior students in the Buea municipality was assessed using a Logistic Regression Model. This analysis sought to determine whether experiencing doxing significantly predicts psychological distress or mental health disruption among students.

Table 15 Model Fitting Information and Predictive Power for the Effect of Doxing on Mental Health (Dependent variable: Mental Health Impact)

Respondents	**Omnibus Test of Model Coefficients**	**Explanatory/Predictive Power of the Model (Nagelkerke R Square)**
Students	$\chi^2 = 42.513$, df = 18, p = 0.01	0.312

Findings from the logistic regression show that the model is statistically significant (Omnibus Test of Model Coefficients: $\chi^2 = 42.513$; df = 18; p = 0.01), indicating a strong association between outing/doxing and mental health challenges. The Nagelkerke R Square of 0.312 suggests that 31.2% of the variation in students' mental health responses is explained by their experiences of doxing. Since the p-value is well below the 0.05 threshold, the null hypothesis is rejected, and we accept the alternative hypothesis. These results confirm that outing and doxing significantly impact the mental health of junior students in the Buea municipality.

Summary of Findings

This section presents a summary of the major findings of the study as indicated in Table X below.

Table 16 Summary of Findings

Research Hypotheses	**Test Statistics**	**Comment**
Research Hypothesis One: There is no significant relationship between harassment and the mental health of junior students in the Buea Municipality.	Binary Logistic Regression Model: - Model validation test (Omnibus Tests of Model Coefficients; $p < 0.05$) - Overall Predictive or Explanatory Power (Nagelkerke R Square)	Findings revealed that harassment has a significant negative impact on students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 39.218$; df = 17; $p = 0.000$) with a Predictive Power of 28.6 (Nagelkerke $R^2 = 0.286$). Thus, the null hypothesis is rejected.
Research Hypothesis Two: Impersonation (masquerading) has no significant impact on the mental health of junior students in the Buea Municipality.	Binary Logistic Regression Model: - Model validation test (Omnibus Tests of Model Coefficients; $p < 0.05$) - Overall Predictive or Explanatory Power (Nagelkerke R Square)	Findings revealed that impersonation significantly affects students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 45.067$; df = 19; $p = 0.02$) with a Predictive Power of 30.8% (Nagelkerke $R^2 = 0.308$). Therefore, the null hypothesis is rejected.
Research Hypothesis Three: Outing and doxing do not significantly impact the mental health of junior students in the Buea Municipality.	Binary Logistic Regression Model: - Model validation test (Omnibus Tests of Model Coefficients; $p < 0.05$) - Overall Predictive or Explanatory Power (Nagelkerke R Square)	Findings revealed that outing and doxing significantly impact students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 42.513$; df = 18; $p = 0.01$) with a Predictive Power of 31.2% (Nagelkerke $R^2 = 0.312$). The null hypothesis is therefore rejected.

DISCUSSION OF FINDINGS

The study revealed that harassment exerts a significant and detrimental impact on junior students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 39.218$; df = 17; $p < 0.001$), with a predictive power of 28.6% (Nagelkerke $R^2 = 0.286$). This finding corroborates previous research by Wright and Wachs (2020), who investigated the link between cyberbullying victimization and emotional distress among adolescents in the United States. Their longitudinal study demonstrated that repeated exposure to cyberbullying is

associated with heightened levels of anxiety and depressive symptoms, particularly when students lack adequate social support, thereby increasing their vulnerability to mental health problems. Similarly, Hinduja and Patchin (2018) highlighted the relationship between cyberbullying and adolescent suicide risk, emphasizing that both the frequency and severity of cyberbullying episodes critically elevate suicide risk among youth. These findings are consistent with Robert Agnew's General Strain Theory (GST) (1992), which posits that individuals subjected to stressors such as social rejection or victimization experience negative emotions that can precipitate psychological distress or deviant behaviors, including mental health challenges.

The data also demonstrated that impersonation commonly understood as masquerading or identity theft online—significantly affects students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 45.067$; df = 19; $p = 0.02$), with a predictive power of 30.8% (Nagelkerke $R^2 = 0.308$), leading to the rejection of the null hypothesis. This aligns with qualitative research by Dredge et al. (2014), who found that adolescents subjected to cyberbullying frequently internalize negative online messages, resulting in lowered self-esteem, self-doubt, and increased susceptibility to depressive symptoms. Tokunaga (2010) further supports this by linking cyberbullying with diminished academic motivation, higher absenteeism, and school avoidance, underscoring how emotional strain from digital victimization disrupts cognitive engagement and classroom performance. These outcomes also resonate with Albert Bandura's Social Learning Theory (SLT) (1977), which explains that behaviors and emotional responses are learned through observation and social reinforcement. Cyberbullying victims often mirror negative online interactions, leading to maladaptive psychological outcomes.

Moreover, outing and doxing forms of public exposure of private information without consent were found to significantly compromise students' mental health (Omnibus Test of Model Coefficient: $\chi^2 = 42.513$; df = 18; $p = 0.01$), with a predictive power of 31.2% (Nagelkerke $R^2 = 0.312$). These results are supported by Zuze and Bhana (2017), who examined cyber victimization in secondary schools and reported that affected students experienced emotional exhaustion and disengagement from school activities, which ultimately undermines academic achievement. Likewise, Ndetei et al. (2020) explored psychological impacts of cyberbullying in Kenyan adolescents, finding elevated anxiety and stress levels and noting cultural factors influence coping mechanisms, often resulting in social withdrawal. This evidence aligns with Beck's Cognitive Behavioral Theory (1967), which asserts that maladaptive thought patterns foster emotional distress and dysfunctional behaviors, illustrating how the psychological toll of outing and doxing can contribute to long-term mental health issues.

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