

Factors influencing university female students' response to cyberbullying and effects on academic performance



By

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Abstract

Cyberbullying is a form of bullying that is rapidly on the increase. Cyberbullying continues to affect students today. Although studies on cyberbullying and school pupils have been done, a few studies mainly focus on how it affects the category of female students as well as their academic achievements. In previous studies, there have been limited theory to support and explain the severity of this phenomenon towards the female gender as several studies record a higher number in female victims than male victims. Therefore, this research further investigates the aspects of cyberbullying and female victimization.

This study focuses on cyberbullying in a South African university. This research also highlights some factors that lead to female victimization. With the use of literature on cyberbullying and victimization, the researcher formulated a model to guide this research. This model was formulated on the assumption that a cyber-victim's academic performance may be determined by how they would have been greatly affected by being bullied. However, the extent to which a victim is affected by cyberbullying was determined by three factors, that is their age, gender and self-control. The factors mentioned were identified through a literature review.

The proposed model was tested using a survey involving 262 female university students from the University of Cape Town in South Africa. The collected data was captured on excel and analyzed through the use of Statistica. The findings also revealed that the learners were frequent users of social media and digital devices which could have been the leading cause of them being vulnerable to cyberbullying. Analysis also showed that self-control had a significant influence on how affected learners responded to cyberbullying, whilst age had no significant influence on how learners responded to being bullied. How individuals responded to being bullied had an influence on their academic performance as those who responded negatively to cyberbullying produced poor academic results as compared to those who were not negatively affected. Given that, learning institute authorities can use knowledge obtained in this study to intervene where possible.

Keywords: Cyberbullying, Female victimization, Cyber-victim, Academic performance

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Chapter 1: Introduction

Background and problem statement

Cyberbullying is a phenomenon affecting a lot of individuals today. The Cyberbullying phenomenon has become a new limelight as we are currently living in the digital age. The increased usage of technology as well as an increase in technological developments has created overwhelming avenues for bullying to be committed (Calvete, Orue, Estévez, Villardón, & Padilla, 2010; Kowalski Limber & Agatson, 2008; Farhangpour, Maluleke & Mutshaeni, 2019). This makes sense because as compared to traditional bullying, indirect bullying is safer and opportune.

Bullying is no longer restricted to physical assault, but it is now inclusive of mobile, online or cyberbullying (Odora & Matoti, 2015). Technology has evolved and it continues to involve acquiring someone's personal information easily. The convenience of technology and internet usage has paved way for young adults to create platforms for cyberbullying through the use of social media, emails, text messages as well as the internet (Scholtz, Turha & Johnston, 2015). Most cyber-victims are not aware of the people responsible for committing this aggression towards them and presumably, these victims are females. Cyberbullying is a class of online dangers or threats experienced by girls and women (Chukwuere, 2017).

Studies argue that cyberbullying is more dominant in boys whilst girls are in many cases victims. However, some studies argue that female bullying is on a decline and that unnecessary attention is paid to it leading to false alarm (Males & Meda-Chesney, 2010). These irregularities in female cyberbullying studies necessitate more research in this area, specifically focusing on female involvement (Favela, 2010; Chukwuere, 2017).

1.1. Problem statement

Although technology has become a breakthrough to easier and effective communication, it has also become a tool that individuals are now using to bully one another. Majority of studies have specialized in cyberbullying as a belligerence making use of technological platforms such as computers, the internet and mobile phones (Nhung, Basuki, Mahfud, & Saputro, 2020). These studies also tend to generalize the type of people affected by the cyberbullying phenomenon. As a result, many of these studies have neglected to

investigate how cyberbullying affects people differently depending on their gender. Academic articles on cyberbullying are focusing more on secondary schools whereas, it has become more prominent in universities (Chukwuere, 2017). United States of America has recorded an escalation in cyberbullying reports which have led to a call for laws addressing this aggression in high institutions (Brewer, Cave, Massey, Vurdelja & Freeman, 2012). Chisholm (2014) and; Makori & Agufana (2020) assert that cyberbullying is increasingly becoming more prominent in other continents such as Africa, Asia and Europe.

Cyberbullying among female students has been the subject to a few studies. Aune (2009) supports that female students (38%) are cyberbullied as compared to male students (26%) and there is a predetermined article on cyberbullying presenting the differences between female and male experiences. Aune (2009) further highlights that (36%) of female students may currently be going through cyber-attacks than (23%) of male students. Odora et.al (2015) also believes that females are more likely to be victims of cyberbullying than males. This concludes that the female population is targeted more than the male population in cyberbullying. Therefore, this calls for further studies focusing on this phenomenon particularly on the side of the female population in higher learning institutions. A few studies, particularly in South Africa have focused on cyberbullying in universities (Payne, 2015). Lack of published articles on the factors mentioned above indicate research gap mainly in South Africa.

Researchers elsewhere are also focusing more on how detrimental cyberbullying is on cyber-victims (Chukwuere, 2017; Makori et al, 2020). Studies reveal that cyberbullying could lead to social, psychological and academic disorders to students victimized (Bumpass, 2015). Bumpass, 2015). However, studies also highlight on factors that influence how cyber victims respond to cyberbullying. These factors are age and self-control. With regards to age factor, older individuals are believed to have a social hierarchy as compared to younger individuals (Gulzar & Muzamil, 2016). Cuadro-Gordillo & Fernandez-Antelo (2016) also believes that as individuals age, they mature in their decision making. Hence, this may influence how cyber-victims respond to bullying depending on their age. Self-control also influences the severity of how an individual is

affected by being victimized. Cyber-victims are usually identified by bad temper and lack of confidence resulting in them being emotionally affected (Bayraktar, 2015). Researchers should further investigate about these implications in general. The existence of these gaps in literature necessitates the conduct of this research to determine how cyberbullying affects the academic performance of female university students.

1.2. Research questions and research objectives

1.2.1. Primary research question

- What are the effects of cyberbullying on the academic performance of female students?

1.2.2. Sub-research questions

- To what extent will age influence an individual's response to cyberbullying?
- To what extent will self-control influence an individual's response to cyberbullying?
- To what extent will an individual's response to cyberbullying affect their academic performance?

1.2.3. Primary research objectives

- To investigate female cyberbullying in order to understand why females are victimized and how it affects their academic performance.
- To investigate the level of female students' access and use of social media and digital devices.

1.3. Importance and Limitations of the study

Research on female victimization can play an underlying role in ensuring that female cyberbullying is addressed and minimized. Conducting research in this area will provide information on how cyberbullying directly affects students as well as their academic performance. The results of this study will enhance our understanding of victimized students. Ideally, this will be significant in raising awareness and protecting the female population from being victimized (Chukwuere, 2017). This study will be a great addition to already existing academic articles on cyberbullying.

While this study may produce information on female cyberbullying and academic performance, it comes with its own limitations. This study was carried out using only one University from the Western Cape in South Africa. It involved 280 Learners. However, after cleaning up the data, only 262 respondents were left for this study and out of 262 respondents, only 68 learners were identified as cyberbully victims. A bigger sample of victimized students would have improved the accuracy of this study.

This study was mainly focused on female participants. Data from male participants was not collected. Further analysis on gender was not included in this study. Therefore, results of this study cannot be generalized in both setting.

In addition, as this study was only centered on quantitative method of research, future studies should consider also including qualitative method of research whereby victims in question will be interviewed. This will help in obtaining more detailed information and a better understanding of the victimized learners.

Chapter 2: Literature Review

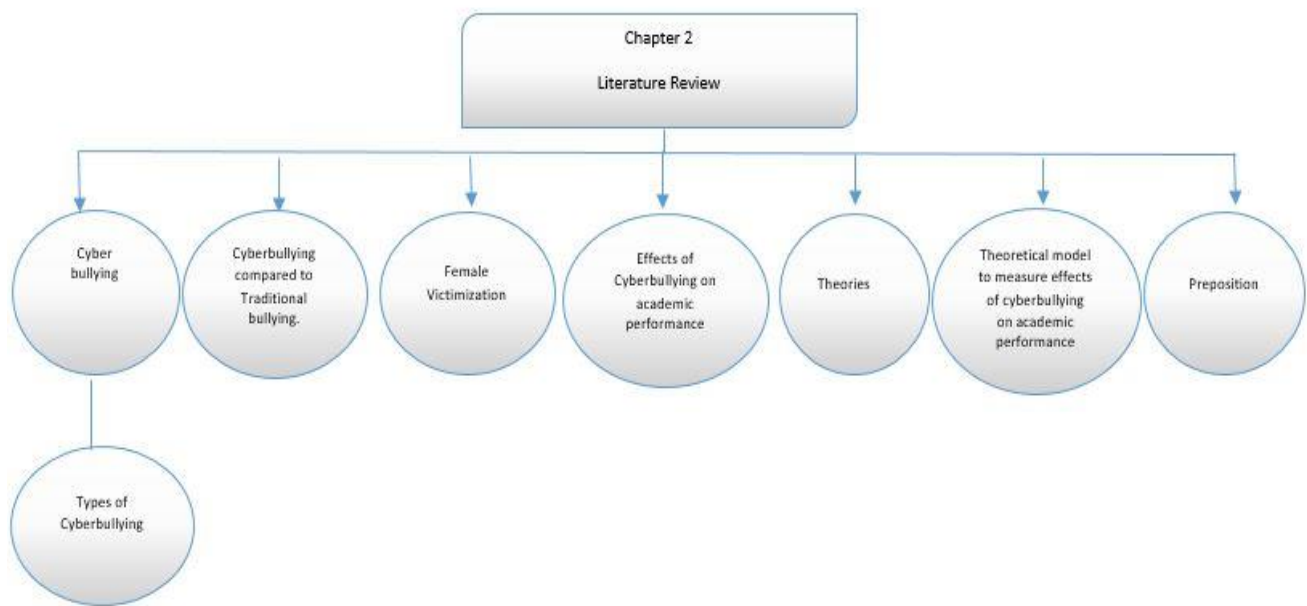


Figure 1:Chapter2 overview

This chapter gives comprehension on cyberbullying, types of cyberbullying, cyberbullying compared to traditional bullying, female victimization, effects of cyberbullying on academic performance, theories and a theoretical model to measure the influence of cyberbullying on female academic performance. The prepositions will also be stated in this chapter.

2.1. Cyberbullying

Cyberbullying is any behavior of aggressive nature performed by an individual towards another individual with harmful intents towards the victim (Whittaker & Kowalski, 2015; Gakil, 2017). Cyberbullying can be conducted on the internet, through the use of social network sites, mobile phones and emails to share, post or spread malicious rumors of threatening nature with intents of hurting the victim (Bauman, Cross, & Walker, 2013). In today's world, where everyone owns a smartphone, many people can cyberbully each other without even realizing it. This is due to the fact that a big portion of the populace is unaware of what cyberbullying is and how it can harm another human being (Mishna, McInroy, Daciuk, & Lacombe-Duncan, 2017).

Cyber-crimes occur when there is no balance of power between the cyber-victim and the cyber-bully (Whittaker et al, 2015). Studies have shown that most cyberbullying cases are as a result of dysfunctional relationships, psychological issues, bullies who do it for different reasons, ransom and personality (Smith, 2018). It can be noted that cyber bullying mainly takes place in learning institutions where there are a lot of students who do it because of peer pressure, for fun or to feel superior (Chukwuere, 2017). Owing to their psychological problems which many may fail to understand, psychopaths are usually the source of cyberbullying (Sampasa-Kanyinga & Willmore, 2017). Furthermore, in line with the above, it can be agreed that most cases of cyberbullying emerge from social relationships. Many incidences of cyberbullying that are reported in the newspapers usually root back to social relationships that ended in an unfavorable way to the other party (Byrne, Vessey & Pfeifer, 2017).

2.1.1. Types of Cyberbullying

| Study | Types of Cyberbullying |
|-----------------------------------|---|
| <i>Li (2007)</i> | <i>Flaming: - is an argument that takes place through emails instant messaging or chat rooms</i> |
| <i>Ybarra and Mitchell (2004)</i> | <i>Online harassment: - is repetitively sending offensive messages via emails, text messages or social media.</i> |
| <i>Willard (2007)</i> | <i>Cyber stalking: - is repetitively sending threatening messages to an individual or a group of people through the use of social media, emails or instant messaging.</i> |
| <i>Safari (2016)</i> | <i>Masquerading: - is creating a fake profile with to fool and bully the victim.</i> |
| <i>Ackinbogun (2014)</i> | <i>Outing: - is also known as doxing. This is when the bully exposes private and sensitive information about someone else without their consent.</i> |
| <i>Lienbenberg (2016)</i> | <i>Exclusion: - is intentionally excluding someone from any form of social interactions</i> |
| <i>Kowalski et al. (2008)</i> | <i>Pseudonyms:- is the use of fictitious names such as a nickname, alias, or pen name with intent of haunting someone else online</i> |

Table 1: Types of cyberbullying

2.2. Cyberbullying compared to Traditional bullying.

Gunther and DeSmet (2017) define traditional bullying as bullying conducted face to face or physically. Traditional bullying can be limited to audience as some bullies may avoid being called out or being caught. It is also limited to time and place (Lester, Cross and Shaw, 2012). In contrast, cyberbullying is conducted online. Cyberbullying can be done anonymously and it is not limited to audience. It can happen at any time and any place as it is done virtually.

Studies argue that there is no difference between traditional bullying and cyberbullying, the difference is only in how these aggressions are conducted (Bastiaensens, Vandebosch, Poels, Van Cleemput, DeSmet & DeBourdeaudhuij, 2014). However, some studies do not support this notion (Lipton, 2014). Kennedy and Taylor (2010) argue about the severity and effects of cyberbullying towards the victims. They believe that cyberbullying is not a huge threat as projected by the media for some victims may still encounter bullying whilst offline. Victims can still be in danger from people they meet in person than on the internet (Kennedy et al, 2010). Wells and Mitchell (2011) suggest that cyberbullying affects fewer people as compared to traditional bullying. According to Lipton (2014) cyberbullying provides anonymity, therefore, this will increase cases of victimization as bullies will not fear being caught as opposed to physical bullying. Hence, when anonymity is provided, this promotes bullying tendencies which may last for a long period of time without being noticed (Lipton, 2014).

There have been inconsistent findings with regards to gender differences in bullying. Researchers have disagreements about gender as it appears to be a significant factor in all forms of bullying. When it comes to traditional bullying, Chukwuere (2017) states that male individuals are more dominant in becoming bully-victims as compared to females as they are social beings who end up being involved more in physical aggression as compared to females. When it comes to cyberbullying the position changes somehow as females are not more of physical aggressive in nature, they are more likely to participate in online bullying activities (Waasdorp & Bradshaw, 2015). In addition, females are also more prone to be bully victims than males as they constantly use technology to covet their behavior (Cuadrado-Gordillo et al., 2016). However, another group of researchers

claimed that gender is not related to cyberbullying as both females and males equally engaged in bully behaviors (Syts, 2004; Patchin & Hinduja, 2006).

2.3. Female Victimization

The venues for cyberbullying are many. Instagram, Facebook, Snapchat, TikTok, texting and emails are all popular and easily accessible platforms used to conduct bullying. A factor that may lead to the exposure of females to cyberbullying is the amount of time they spend on their phones interacting on social media sites. A study conducted by Dumas, Davis and Ellis (2017) revealed that females spend most of their time chatting online as compared to male individuals who go online for different purposes such as playing online games. A different study done by Juvonen and Gross in 2008 also revealed that females were significantly frequent users of blogs, social media platforms and emails (Juvonen & Gross, 2008). This frequent use of technological platforms presents more opportunities for them to be involved in victimization and cyberbullying behaviors (Chukwuere, 2017). Frequent and constant online activities and social interactions have an end result of spread of gossip, fights and disagreements which will become an ongoing cycle (Cuadrado-Gordillo et al., 2016). Victimization is defined as singling someone out for inhuman or unfair treatment (Akhter, 2020). When victimization is done through the use of technology it is then referred to as cyber-victimization (Langos, 2012; Akhter, 2020). Cyber-victimized learners were investigated in this study.

2.4. Effects of Cyberbullying on academic performance

Students must concentrate in their studies to achieve good results, but being bullied makes it difficult for them to do so in any form of academic activities. In a cyberbullying study that was conducted by Hureva (2012), it was revealed that 62% of pupils who were victims of cyberbullying struggled to pay attention in class, and 5% of the victimized pupils would constantly think about their bullies. Bullied students often obtain lower grades and are at a risk of poor academic performance. Academic performance is the knowledge that is obtained which is evaluated by marks by the tutor. Academic performance can also be defined as educational goals set by a student to be achieved over a period of time (Narad and Abdullah, 2016). Cyberbullying has mental and low self-esteem effects on the bullied victims which may lead to a drop in their academic performance (Bumpass, 2015).

Another consequence of bullying is absconding from school. Victims of bullying tend to isolate themselves from people (Farhangpour et al, 2019). Cyberbullying may also influence antisocial behavior in the cyber-victim. Victims may prefer to withdraw from being involved in school activities. Self-Isolation may cause the victim to be sad and this may affect their concentration and ability to learn (Smith and Sharp, 1994, Farhangpour, et al, 2019).

2.5. Theories

As the advent and development of technology brought with it, researchers began to focus more on the crime towards the beginning of the 20th century (Donegan, 2012). Crime, increasingly was perceived as a practice that included a criminal and a victim as well as the date and place of location the crime was committed. The way crime was perceived led to the formation of different types of theoretical perspectives (Wilcox, 2010).

2.5.1. Labeling theory

Labeling theory is a sociological approach that centers on the role of social labeling, deviance and crime development (Bernburg, 2009). Victims of social labeling are largely shaped by social reactions. The way the victims are likely to act or behave are greatly influenced by the impact derived from societal views about themselves (Kavish, 2017). The labeling theory seeks to illustrate series of events that occur when an individual is negatively labeled by the society. Its ability to explain bullying is satisfactory as it addresses the victim's reaction and behavior to any form of bullying. Cyberbullying is commonly identified with negative name labeling by cyber bullies that usually happens on social media, through emails and internet platforms (Kavish, 2017). How an individual chooses to react to these labels will be as a result of the extent to which they would have been affected (Gove, 2017).

2.5.2. Socio Ecological Theory

Bullying is a complicated socio ecological situation resulting from connection between environmental and personal factors. Social disorganization is defined as an inability of community members to achieve shared values or to solve jointly experienced problems (Thomas, Connor & Scott, 2015). Bronfenbrenner's socio ecological framework supports that bullying should be assessed whilst putting into consideration factors associated with

a human being such as individual factors, their family, peers, the school as well as their culture (Swearer and Espelage, 2011). The individual factors integrate all the variables that are closely linked to a person (i.e., their age, gender) as well as their psychological factors such as self-control, ostracism and sensation (Goodman, Meltzer and Bailey, 1998). Some of the cultural level variables that may influence an individual's behavior consist of social, political, economic, legal and educational systems (Bronfenbrenner, 1977).

2.6. Conceptual model to analyze the effects of cyberbullying on academic performance.

The approach taken in developing the theoretical model for this study is derived and based on the theories discussed in section 2.5.1 and 2.5.2 above.

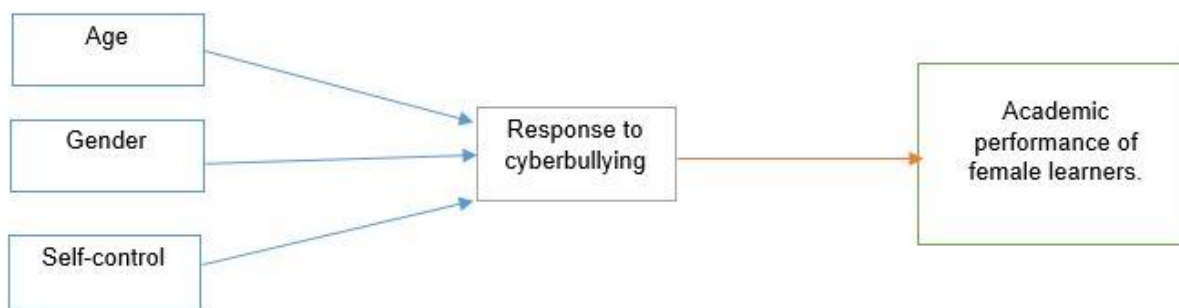


Figure 2: Conceptual model on cyberbullying and female academic performance

2.6.1. Age

According to Zuze et al. (2016) the transition from young to adulthood has a significant impact on an individual's maturity and their way of making decisions. In schools older individuals have a social hierarchy as compared to young individuals (Gulzar & Muzamil, 2016). Younger individuals are most likely not to report of any offenses towards them and usually do not complain about their emotional trauma as compared to older individuals (Gulzar et al, 2016). However, studies show inconsistency regarding the influence of age in the way cyber-victims react. Some researchers conclude that as an individual ages, their level of thinking matures leading to an improvement in how they make their decisions (Cuadro- Gordillo & Fernandez-Antelo, 2016). It is important to obtain an understanding

of the influence of age on the response to cyberbullying by female students as this is a human aspect that is often neglected (Kalla, 2016). A few studies mainly focus on the conceptualization of age and the capabilities of females due to their different ages.

Proposition 1: An individual's response to cyberbullying will differ by age

2.6.2. Self-control

Bumpass (2015) states that low self-control results from failure of parents to control and monitor how a child behaves. Cyber victims are often identified by their bad temper and lack of confidence (Bayraktar, 2015). When an individual has low self-control and becomes a victim of bullying, they will be emotionally affected (Bumpass, 2015). Female individuals affected by being victimized may also be directly affected in their academics (Chukwuere, 2017). Emotionally affected female victims tend to lose interest and motivation to attend school resulting in low grades in their academics (Chukwuere, 2017). The theory of low self-control has been proposed as a plausible forecast of different criminal behaviors. There have been a limited number of studies conducted to investigate the association between the way victims behave and low self-control (Myers et al, 2019).

Proposition 2: An individual with low self-control is likely to respond negatively to cyberbullying than those with high self-control

2.6.3. Response to cyberbullying

In a study done by (Hunt, 2007), that focused on the association between attitudes towards bullying and bully behavior, the relationship was supported. Another study that was conducted by (Mukred and Yusof, 2018) also showed the same significant relationship among the same variables (i.e. attitudes towards bullying and bully behavior). Studies on bullying showed a positive relationship between student attitudes towards aggression and school bullying behavior. Studies of this nature also showed that youths holding positive aggression acceptability had a high potential of taking part in bully behavior as it is present within their potential responses towards problems (Smith, 2004; Cosma, Walsh & Chester, 2020). Onditi (2017), carried out a cyberbullying study on adolescents in Tanzania to establish how cyber-victims managed bullying online. The study revealed that victims retaliated as a coping mechanism. Harmful effects of cyber-

victimization such as poor academic performance was also highlighted in the study. In a different study done by Rigby Kalos (2017), it was also revealed that bullying had negative effects on students' grades as well as well as academic achievements.

Proposition 3: Individuals negatively affected by cyberbullying will produce poor academic performance than those not affected by cyberbullying.

2.6.4. Gender

According to Pryzgoda & Chrisler (2000) gender is defined as behavioral and psychological characteristics of a man or a woman. Studies show that boys participate more in bullying activities as compared to girls (Chukwuere, 2017). In contrary, Perry (2015) argues that females do participate in perpetrating cyberbullying behavior than males. Both genders reported the same percentages of indirect bullying such as social exclusions and spreading of rumors, however, males are normally vulnerable to direct bullying (Hills, 2017). These findings have led researchers to investigate more on gender differences in relation to patterns of cyberbullying. Some researchers' agree that cyberbullying should be placed in the same category as traditional bullying as males have a high tendency of partaking in cyber offenses (Safaria, 2016). While some researchers suggest that when it comes to cyberbullying and victimization the position shifts as females, have a high tendency of being involved in indirect bullying as technology empowers them (Dumas et al, 2017). Females spend more time on social media and the internet as compared to male individuals, leaving them vulnerable to victimization (Dumas et al, 2017). A study was conducted by a cyberbullying research center in United States of America which revealed that female cyber-victims were more emotionally affected than male cyber-victims (Chukwuere, 2017). This was supported by the statistical results that revealed that a large percentage of females reported going through emotions of anger, sadness and frustrations whereas a low percentage of male victims reported the same emotions. These results revealed that male individuals are reluctant to admit their weakness as compared to female victims (Chukwuere, 2017). Gustafsson (2017) states that female victims of cyberbullying worry more about their safety and reputation than they worry about their performance in academics which may result in them absconding from lessons and this may result in them producing poor grades in their standardized

tests. This is supported by a study that was carried out by Klein (2012) which stated that regardless of how cyberbullying negatively affects both males and females, to a large extent female students experience more psychological stress which will hinder their ability to produce good results in their academics.

2.6.5 Academic Performance

Academic performance is a result that shows the measure of performance of individuals in learning institutes. The level of academic performance is significantly influenced by any form of motivation (Effie, 2005). For instance, when learners are demotivated by being placed in a setting that prevents them from focusing on their studies, their academic performance will be negatively impacted (Dweck, 2007). Bullying always has direct or indirect impact on the victim which may lead to poor academic performance. Poor academic performance is performance that falls below expected standard (Asikhia, 2010).

2.7. Summary

The literature review has given an overview on cyberbullying. Insightful results regarding female victimization of students was revealed in this chapter. For example, 62% of the female learners fall victim of cyberbullying (Chukwuere, 2017). Although studies regarding bullying towards females and a comparison between numbers of victims for both genders does exist, there is still lack of prioritization towards the most affected gender that is the female learners and how it could affect their academics. Most studies generalize cyberbullying and how it affects academic performance. This therefore, calls for further research in this area.

From this analysis, cyberbullying theories highlighted in this chapter (i.e. labeling theory and the socio ecological theory) are relevant and can be applied to cyberbullying. These theories suggest that an individual's response to bullying is dependent on factors such as an individual's age, gender and self-control. A theoretical model to understand the effects of cyberbullying on academic performance was developed with the inclusion of variables from the two theories discussed in this chapter.

Chapter 3: Research Design and Methodology

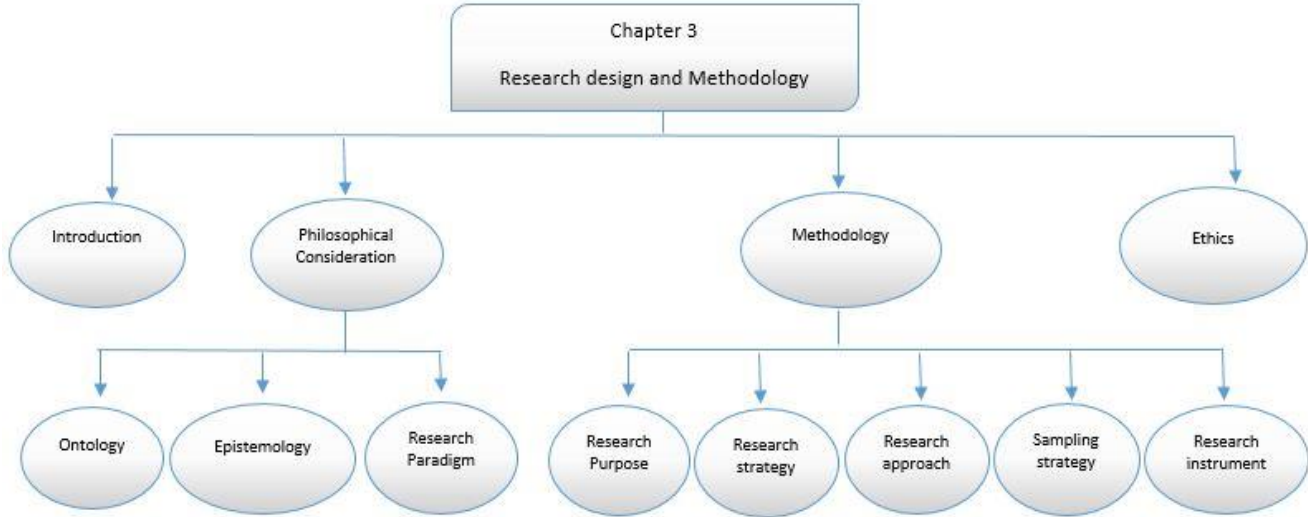
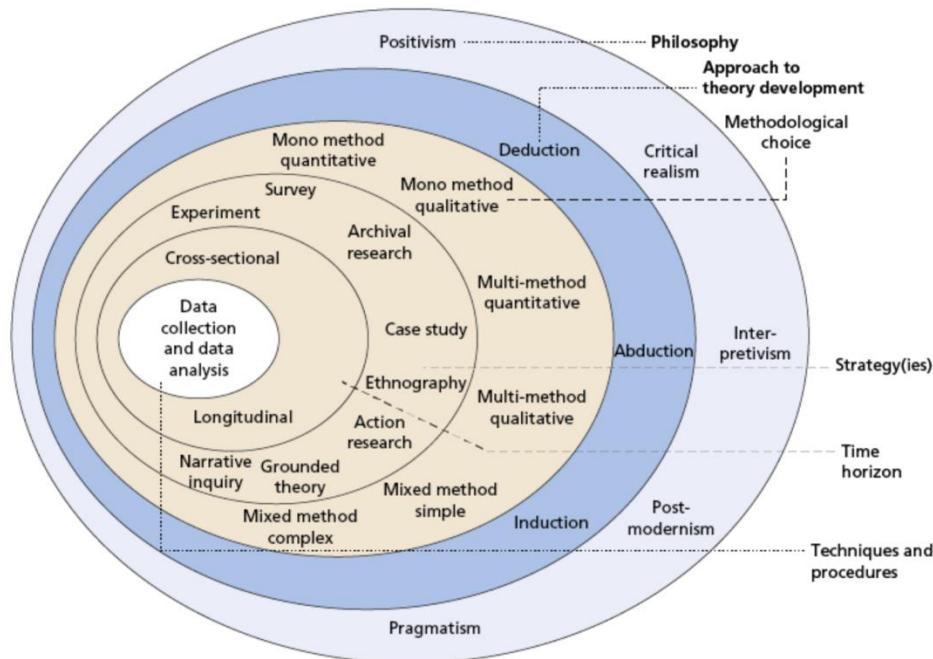


Figure 3: Chapter 3 overview

3.1. Introduction

Research methodology is a structured, theoretical analysis of the procedures applied to a study (Igwenagu, 2016). The data required to be collected as well as the approach of the researcher during the study is greatly determined by the choice of the methodology (Hatch, 2012). Typically, a methodology comprises of concepts such as qualitative and quantitative methods, paradigm and a theoretical model (Mingers, 2001). A methodology does not offer solutions. Instead, it provides a theoretical support for better knowledge on relevant methods to use in a specific case (Mingers, 2001). Figure 4 below is a research onion which was developed by Saunders, Lewis & Thornhill (2007). The research onion explains the stages a researcher should take in mapping out a methodology.



Source: ©2018 Mark Saunders, Philip Lewis and Adrian Thornhill

Figure 4: Research onion (Saunders, Lewis & Thornhill, 2009)

3.2. Philosophical consideration

Research philosophy is defined as a practice of assumptions and beliefs on how knowledge is developed (Saunders, Lewis & Thornhill, 2019). At every stage in research, the researcher may make assumptions about the realities they may encounter (ontological assumptions) as well as their assumptions about human knowledge (epistemology assumption) (Burrell and Morgan, 2016). These assumptions will influence one's understanding of the methods used and how to interpret findings and their research questions (Crotty, 1998). Therefore, it is important to discuss the ontological and epistemological stances that were used in this research and these will be discussed below.

3.2.1. Ontology

Saunders et al (2019) states that Ontology refers to the assumptions about the nature of reality. There are two approaches to ontology and these are subjectivism and objectivism (Saunders et al., 2009). Objectivism is the ontological stance that was used in this

research. Objectivism presumes that the knowledge of human beings and their values are objective (Hatch, 2012).

3.2.2. Epistemology

According to Rescher (2003) epistemology is a theory of knowledge that seeks to give clarity on what the concept of knowledge entails, how it is applied and to explain why it has its existing features. Epistemology presumes that knowledge does exist, and it awaits to be used by researchers for objective measuring. There are three crucial epistemological stances that may be used in research and these are realist, positivistic and interpretivist stances (Hatch, 2012). The positivistic stance was adopted in this study. The positivistic stance puts forward that the situation a researcher intends on studying and observing can be divided into underlying elements (Shanon, 1948).

3.3. Research Methodology

Methodology is the method that is used to collect and analyze data required to answer the research questions guiding a study (Oates, 2006). The research methodology determines the appropriate techniques and research methods to be used in a research (Orlikowski & Baroudi, 1991). The sections below discuss the methods and processes that were used in this study to gather and analyze data.

3.3.1. Research Approach

Saunders (2009) states that there are two approaches that are used in research and these are the deductive approach and the inductive approach. The deductive approach uses existing and available information, premises and facts to reach a conclusion (Marshall, 2005). Deductive approach consists of five steps: (i) formulating the hypothesis, (ii) illustrating the relationship between variables, (iii) testing the relationship between the variables and producing the results, (iv) confirming the theory and acknowledging if it needs to be modified, (v) modifying the theory basing on the findings. Inductive approach is used when a theory is formulated from the beginning (Walker et al, 2011). This study adopted the deductive reasoning approach as it is most suitable for this research. The five steps mentioned above were applied to achieve the objectives of this research.

3.3.2. Research Strategy

This section presents the research strategy that was used in this study. There are different strategies that may be used for research and these are case studies, surveys, experiments, ethnography, design and creation and action research (Saunders et al., 2009). The type of strategy used was chosen on the basis of the type of research questions and objectives for this study (Saunders et al., 2019). The research strategy used for this study is a survey.

3.3.3. Research Purpose

There are four types of purpose in research and these are descriptive, exploratory, explanatory and improving (Neuman, 2006). Descriptive research is a method of research that takes into account the behavior of a participant without influencing them in any way (Runeson & Host, 2009). Exploratory research is research carried out on a phenomenon that has not clearly been studied with intent of establishing priorities, to come up with definitions that are operational and to enhance the final research design (Pinsonneault & Kraener, 1993). Explanatory research is when a researcher observes an existing phenomenon and therefore seeks to obtain a better understanding about it (Neuman, 2006). This study adopted both descriptive and explanatory research approaches.

3.4. Target population and population sample

To manage data collection, the use of sampling techniques is required. Sampling techniques will minimize large quantities of data collected into smaller group that may be used to represent the whole population when analyzing the data (Saunders et al., 2019). The small group of people considered for analysis from the entire population are called a sample. A sample contains individuals that carry certain elements and cases (Saunders et al., 2019). The next section explains on the sampling strategy that was used in this research.

3.4.1. Sampling Technique

According to Cavana et al., (2001) there are two types of sampling techniques and these are non- probability sampling and probability sampling. Non- probability sampling is when the researcher picks a sample of participants, they presume to be the best participants appropriate for the study (Cavana et al., 2001). There are four types of sampling that fall

under non-probability sampling and these are purposive sampling, self-section sampling, convenience sampling and quota sampling (Sekarana, 2003). Probability sampling is when the researcher comes up with a representative sample from a big population (Saunders et al., 2003). There are four types of probability sampling and these are simple random sampling, systematic random sampling, cluster random sampling and stratified random sampling (Sekarana, 2003). This study used stratified probability sampling.

3.5. Data or Variable

This study is a quantitative type of research. Kidder and Fine (1987) state that quantitative studies are advantageous because when they aim for large populations, they gather a large amount of data that will produce representative information that can be concluded upon. The researcher aimed for a big population in order to get correct information from the data collected from the chosen sample for the success of this study.

3.5.1. Target population

For this research, the sampling population was female university students. The target population for this research was female university students at the University of Cape Town in the Western Cape. The sample used was as a result of an assumption of the ideal participants who would provide reliable and useful information for this study as Western Cape has advanced universities with learners who are exposed to a lot of technological resources. Welman, Kruger and Mitchel (2005) specify that a sample should be large enough to be a representative of the full population and to allow for the inference of the complete population's results. Therefore, from the University of Cape Town, 200 participants were expected to be the total number of students selected to participate in this study. A total of 200 participants was considered a large enough sample size to produce meaningful findings based on the nature of the topic and time frame for this study. However, a total of 280 questionnaires were administered to make an allowance for possible incomplete questionnaires from respondents. After the data was cleaned up of outliers, the sample size ended up being 262 participants altogether. Participants surveyed were all above the age of 18 as it is the expected entry level age for most University students.

3.6. Research Instrument

There are different ways of collecting data, for example interviews, questionnaires, observations and documents. The method of data collection chosen for this research was based on the research strategy of this study. The researcher chose questionnaires as the most appropriate research instrument for this study. The questionnaires were developed for this particular study. Questionnaires administer respondents into answering predetermined questions which will make it easier to compare and standardize the data collected (Saunders, 2003). Questionnaires were also ideal for this study as they yield data for a quantitative type of research (Cavana et al., 2001). Online questionnaires were used for this study. Online surveys are the most suitable surveys to use for individuals who may not have access to questionnaires through other channels (Wright, 2005). Obtaining a lot of responses from the participants became easier as students only had to answer the questionnaires online on their own time. A closed-ended questionnaire was used. The questionnaire was also in form of a five-point likert scale in which participants chose appropriate responses.

3.7. Data analysis

For this study, data analysis was done with the use of an application called Statistica. Statistica was used to measure and examine the hypothesis from the constructs formulated in the conceptual model for this study. An equation model was created with Statistica to evaluate the relationship between the variables.

3.8. Time Frame

The time frame highlights the amount of time to be taken in this research. The time horizon may either be cross-sectional or longitudinal (Saunders et al., 2009). Cross-sectional time horizon is when data is collected within a short period of time and longitudinal time horizon is when data is collected over a long period of time (Chamliss & Schutt, 2010). The time horizon that was adopted and best suited for this research is the Cross-sectional. It was deemed more ideal for this study as it would capture cyberbullying victimization considering it is presently occurring in schools.

3.9. Ethics and Confidentiality

The ethics approval forms were signed and submitted to the university of Cape Town ethics committee for approval to conduct research. Upon approval from the University of Cape Town the research commenced. Before carrying out the survey, respondents were made aware of the fact that their participation in the research was voluntary and they were allowed to withdraw from the study at any time. The participants were required to complete a consent form before they could complete any questionnaires. To ensure that the research did not harm the participant, the researcher provided contact details for counselling units at the beginning of each survey so that participants could get counselling in case they need any. The researcher explained to the participants the aim of the research for their better understanding of what they were taking part in. Real names of the participants were not used in the research. Privacy and confidentiality of the research subjects was maintained. The results of the research were submitted to the university as part of this dissertation and none of the names of the participants were exposed.

3.10. Summary of research design

| Methodology | Approach |
|---------------------|--|
| Type of research | Quantitative |
| Approach | Deductive |
| Philosophy | Positivistic |
| Research strategy | Survey |
| Research purpose | Explanatory and descriptive |
| Sampling technique | Probability sampling |
| Target population | <ul style="list-style-type: none">• South Africa.• Students from University of Cape Town in Western Cape.• From ages of 18 years and above |
| Research Instrument | Questionnaire |
| Data Analysis | Statistica |
| Time Horizon | Cross Sectional |

Table 2: Summary of Research Design

Chapter 4: Research Analysis and discussion

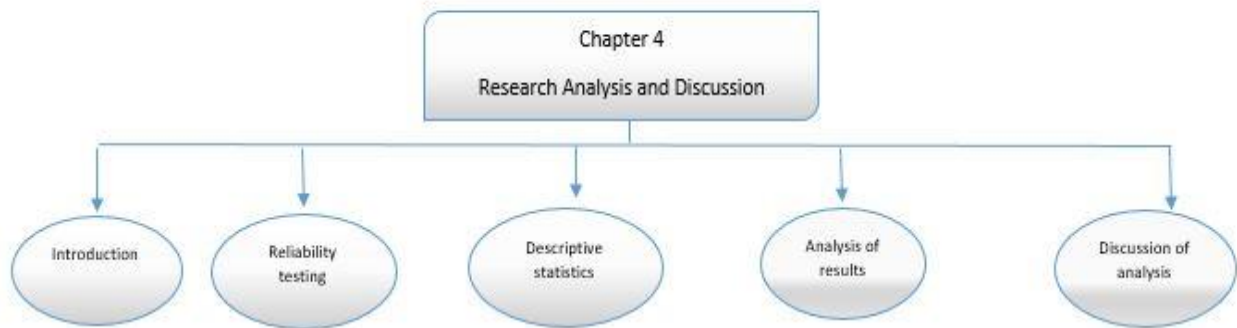


Figure 5: Chapter 4 overview

4.1 Introduction

This chapter covers the presentation and discussion regarding the effect of cyberbullying on the academic performance of female university students. Data were collected through the use of questionnaires, recorded in Microsoft excel and outliers were cleaned out. The final spreadsheet was then exported to statistica for analysis. The first part in this chapter presents the profile and characteristics of the group of respondents who participated in this study. The second part provides an analysis of the study data using descriptive and hypothesis testing. The third part entails the discussion of the findings.

4.2 Reliability Testing

A reliability test was carried out for each of the construct (i.e. Academic performance). The values of the factors were calculated by finding an average for the variables that represented these factors. A Cronbach's Alpha reliability coefficient was used to measure data reliability.

4.2.1. Summary of reliability results

The conceptual model consisted of five constructs. However, one construct was tested for reliability as it had more than two variables. A reliability test was not carried out for Gender and Age as age was not measured by a likert scale and no further analysis was done for gender. Self-control and response to cyberbullying constructs had one variable each. A reliability test required two or more variables. A reliability test was carried out for academic performance. The Cronbach's alpha coefficient value obtained for Academic performance was 0.803 which is regarded as good. A cronbach alpha that ranges from 0.7- 0.9 is regarded as acceptable. 0.7 being good, excellent if it is 0.9 (Ibrahim, Kelly, Challenor & Glazebrook, 2010). A cronbach's Alpha that ranges from 0.5 and below is regarded as poor and unacceptable (Ibrahim et al., 2010).

4.3 Demographics and study of Participants

As mentioned above, one university participated in this study. As stated in section 3.5.1 in chapter 3, a total of 280 university students completed the questionnaire. However, due to some students leaving out the questionnaires incomplete and some incorrect, only 262 of the responses were used for data analysis. This section provides a descriptive statistics of the 262 students who participated in this study.

4.4. Analysis of Participants

Table 3 below in section 4.4.1 shows that the questionnaire yielded 262 completed responses and all 262 (100%) of the participants were female students. The table indicates that 73 (28%) of the participants are doing their postgraduate studies, while 189 (72%) are undertaking their undergraduate studies. This indicates that of the female participants studying towards their tertiary education, the majority of the participants are undergraduate students.

On the ethnicity of the participants the dominant participants are whites 105 (40%), followed by blacks 72 (27%), colored 52 (20%), other 24 (9%) and 3 (3%) preferred not to answer on their ethnicity. This shows racial representation in the study as all races are represented in the study. Of the 262 participants, 145 (55%) fall in the 18-20 age category, 80 (31%) in the 21-25 age range, 19 (7%) in the 26-30 age category while, 11 (4%) fall in the 31-35 age category. Results in table 3 also show that, 4 (2%) of the participants fall

in the 36-40 age category, 2 (1%) in the 41-45 age range whereas 1 (0%) fall in the age range 56-60. This indicates that the majority of the participants fall in the age range 18-20 and the study was able to cater for different age groups who are currently studying in the tertiary institution.

All of the study participants 262 (100%) have access to social media platforms and chat applications. Of the different platforms used by the participants 262 (100%) are using WhatsApp, 189 (72%) are using SMS, 214 (83%) are using Instagram, 248 (95%) are using email, and 155 (59%) use Facebook. All the female participants have access to social media platforms and chat applications and most of them use different social media platforms and chat applications.

4.4.1: Characteristics of participants

| Variable | N | % |
|--|----------|----------|
| Gender: | | |
| Female | 262 | 100 |
| Year of study: | | |
| Postgraduate | 73 | 28 |
| Undergraduate | 189 | 72 |
| Ethnicity: | | |
| Black | 72 | 27 |
| Colored | 52 | 20 |
| White | 105 | 40 |
| Other | 24 | 9 |
| Prefer not to answer | 3 | 3 |
| Age Range: | | |
| 18-20 | 145 | 55 |
| 21-25 | 80 | 31 |
| 26-30 | 19 | 7 |
| 31-35 | 11 | 4 |
| 36-40 | 4 | 2 |
| 41-45 | 2 | 1 |
| 56-60 | 1 | 0 |
| Access to social media platforms: | | |
| Yes | 262 | 100 |
| No | 0 | 0 |
| If yes, indicate platform used: | | |
| WhatsApp | 261 | 100 |
| SMS | 189 | 72 |
| Instagram | 214 | 83 |

| | | |
|----------|-----|----|
| Email | 248 | 95 |
| Facebook | 155 | 59 |

Table 3: Characteristics of participants

4.5. Statistics and results of cyber victimized learners

Of the 262 students who participated in the study, only 68 students reported to be victims of cyberbullying. The statistics of the victimized students show that, although the number of victimized learners was less than 50% of the total number of learners who participated, cyberbullying does exist in female students. As mentioned in section 2.3 in chapter 2 above, victimization is defined as the act of singling someone out for inhuman treatment (Akhter, 2020). Cyber victimization is when victimization is done through the use of technology which is also referred to as cyberbullying (Langos, 2012; Akhter, 2020). Therefore, cyber victimized learners in this study refers to individuals who have been cyberbullied.

Table 4 in section 4.5.1 below shows the means of the sample's response in relation to past cyberbullying experience. The sample's responses' means range between 1.980916-1.133588. According to the responses, there was very little cyberbullying reported among pupils.

Variable, "I have received insulting messages or comments on social media" had the highest mean of 1,980916, while variable, "Are you currently being bullied" had the lowest mean of 1.133588. By reviewing the means of these variables it shows that although cyberbullying exists among students, it was minimal.

4.5.1: Past cyberbullying experience

| Valid No | Variable | Mean | Minimum | Maximum | Std. Dev |
|----------|---|----------|----------|----------|----------|
| 262 | Have you ever been cyberbullied in the past? | 1.942748 | 1.000000 | 5.000000 | 0.951186 |
| 262 | How often were you cyberbullied in the last 2 years? | 1.503817 | 1.000000 | 4.000000 | 0.751744 |
| 262 | Are you being bullied? | 1.133588 | 1.000000 | 4.000000 | 0.447746 |
| 262 | I have received insulting messages, images or comments social media | 1.980916 | 1.000000 | 5.000000 | 0.911621 |

| | | | | | |
|-----|--|----------|----------|----------|----------|
| 262 | I have received threatening messages or comments on social media | 1.511450 | 1.000000 | 5.000000 | 0.847502 |
| 262 | Some posted or circulated embarrassing images, private information or ideas of me on social media platforms. | 1.427481 | 1.000000 | 4.000000 | 0.75338 |

Table 4: Past cyberbullying experience

*Mean Value: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Cyberbullying can be done by fellow school mates, peers not from school or the perpetrators might not be known. The students were asked to respond to a question about who had bullied them. The information obtained is presented in figure 6 below.

Figure 6: Who bullied you?

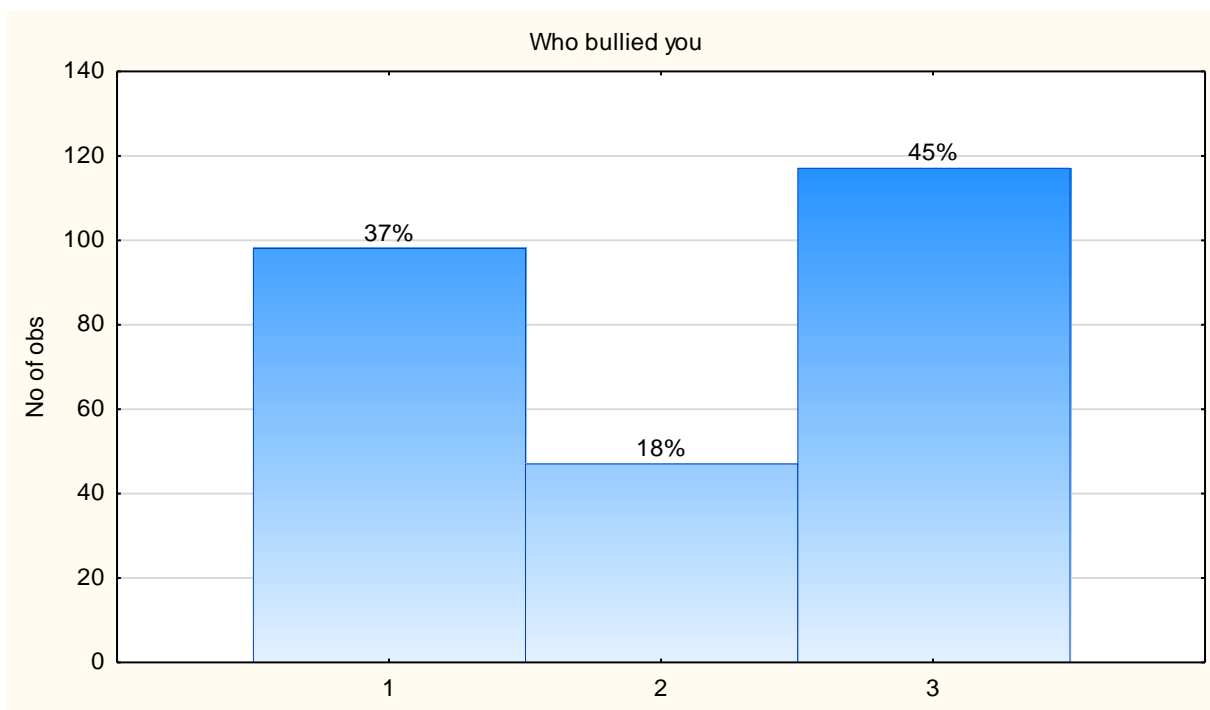


Figure 6: Who bullied you?

Key:

1. Fellow school mates
2. Peers not from school
3. Not knowing the perpetrator

Figure 6 above shows that 37% of the students were bullied by fellow school mates, 45% by peers not from school and 18% were not aware of the perpetrators who bullied them. This indicates that cyberbullying can be done by fellow school mates, people not from school and also the perpetrators of cyberbullying might not be known. This also indicates that cyberbullying is not limited by location and time.

Students can either be bullied by females, males or someone that they do not know their gender. However, studies still argue over the different roles of different genders when it comes to different forms of bullying. In the survey, the learners were asked to answer the question, “The person who bullied you was?” The students had to choose from three options that is, female, male and I do not know. On the sample’s responses to the question, figure 7 below shows: 1 represents females, 2 represents males and 3 represents I do not know.

Figure 7: The person who bullied you was?

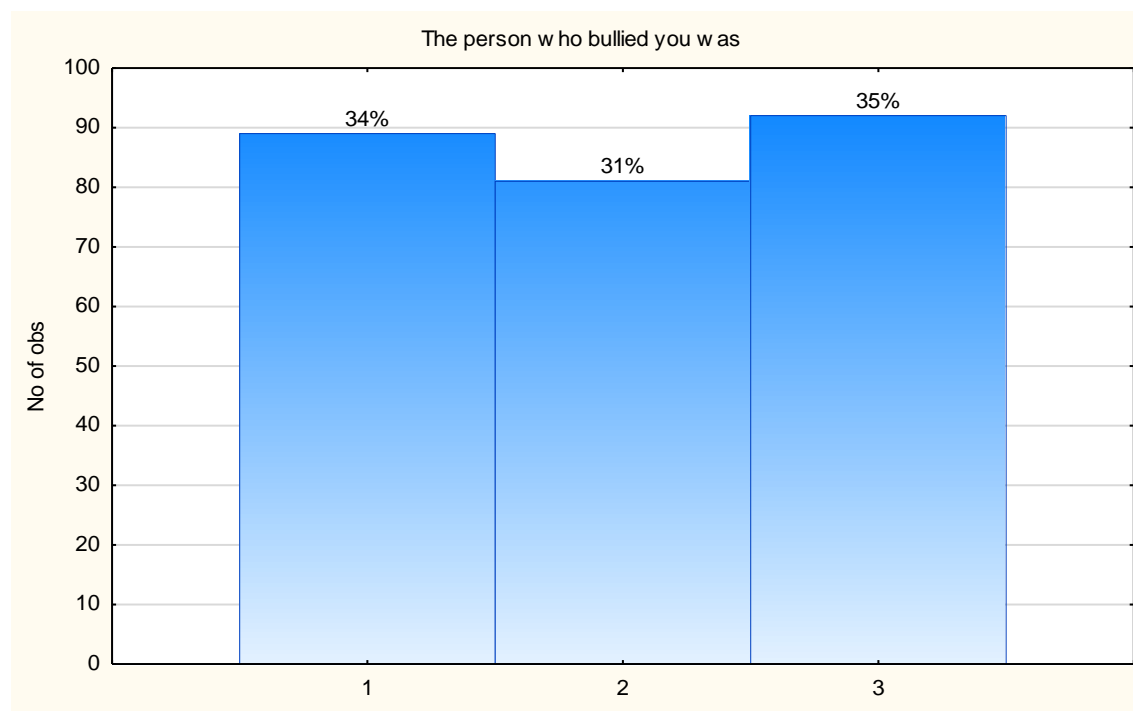


Figure 7: The person who bullied you was?

From figure 7 above 34% of the students were bullied by females, 31% were bullied by males and 35% did not know who bullied them. This indicates that both genders females and males are almost equally involved in some form of cyberbullying against students.

Bullying on social media can occur anywhere as it is not limited to time and location. In the survey, the learners were asked where they were bullied on social media. The students had to choose from five options that is, within the school premises, outside of the school premises, both in and out of school premise, I do not know and not applicable.

Figure 8: Where were you bullied on social media?

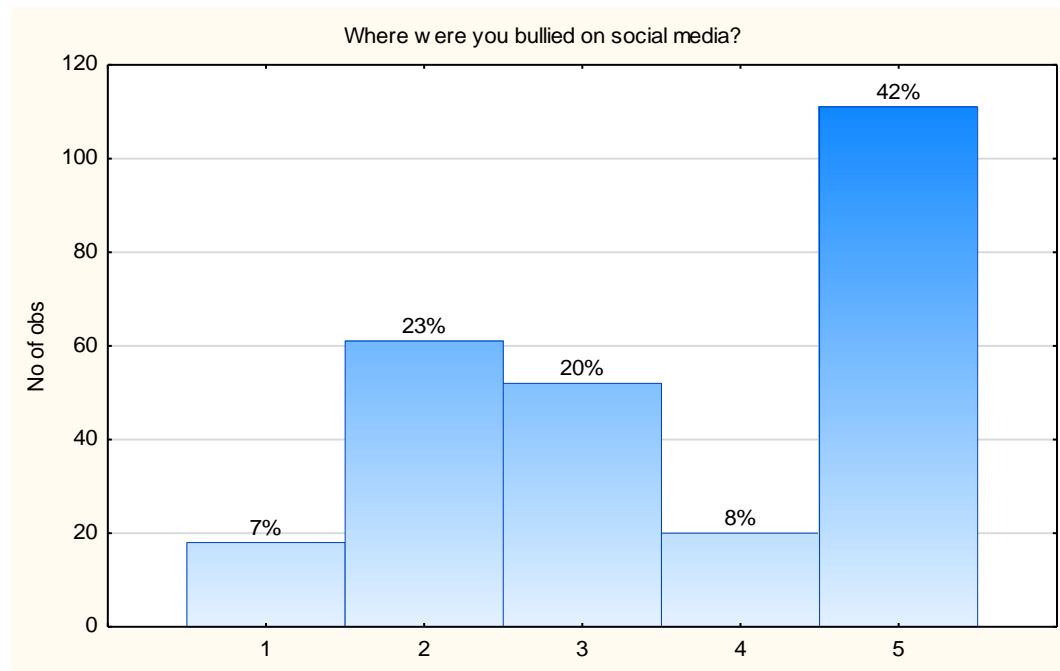


Figure 8: Where were you bullied on social media?

Key:

1. Bullying within the school premises
2. outside of school premises
3. Both in and outside of school premises
4. Do not know where the bullying is coming from
5. Not applicable

Figure 8 above shows that 7% of the students responded that bullying on social media occurred within school premises, 23% of the students were bullied outside of the school premises, 20% where bullied both and in and outside of school premises, 8% did not know where the bullying came from and 42% of the students found the question not to be applicable.

4.6. Analysis of social media and Application usage.

Tables 5 to table 9 below are statistics on the frequency of emojis that learners use on social media. Emojis are used by people to respond, react or comment on posts and messages on social media. The following tables give a descriptive analysis of the emoji's used by students on different social media platforms and applications to respond to messages or comments directed at them. Below is a general description of the five levels of scales for table 5 to table 9.

Love: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Like: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Ha: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Angry: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Sad: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

Wow: (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)

4.6.1. WhatsApp emoji usage

| Variable | Valid N | Mean | Minimum | Maximum | Std.Dev |
|----------|---------|----------|----------|----------|----------|
| Love | 262 | 3.778626 | 1.000000 | 5.000000 | 1.119593 |
| Like | 262 | 2.946565 | 1.000000 | 5.000000 | 1.242991 |
| Ha | 262 | 4.007634 | 1.000000 | 5.000000 | 1.127817 |
| Angry | 262 | 1.973282 | 1.000000 | 5.000000 | 0.863950 |
| Sad | 262 | 2.961832 | 1.000000 | 5.000000 | 1.008809 |
| Wow | 262 | 2.950382 | 1.000000 | 5.000000 | 1.158601 |

Table 5: WhatsApp emoji usage

Table 5 in section 4.6.1 above shows the mean and standard deviation of sample responses in relation to WhatsApp emoji usage by the students. The sample's responses' means range from 1.97382-4.0007634.

Variable, "Ha" had the highest mean of 4.007634 whilst variable, "Angry" recorded the lowest mean of 1,9773282. Through reviewing the means of the variables, the most used WhatsApp emoji was "Ha ha" as it had the highest emoji. The Angry emoji is the least used as it recorded the lowest mean.

4.6.2. SMS emoji usage

| Valid N | Variable | Mean | Minimum | Maximum | Std.Dev |
|---------|----------|----------|----------|----------|----------|
| 262 | Love | 1.625954 | 1.000000 | 5.000000 | 1.012079 |
| 262 | Like | 1.488550 | 1.000000 | 5.000000 | 0.891565 |
| 262 | Ha Ha | 1.606870 | 1.000000 | 5.000000 | 1.002884 |
| 262 | Angry | 1.160305 | 1.000000 | 5.000000 | 0.397633 |
| 262 | Sad | 1.286260 | 1.000000 | 5.000000 | 0.617530 |
| 262 | Wow | 1.316794 | 1.000000 | 5.000000 | 0.713059 |

Table 6: SMS emoji usage

Table 6 in section 4.6.2 above shows sample response's means and standard deviations in relation to students SMS emoji usage. The sample's responses' means range from 1.160305-1.625954. Variable, "Love" had the highest mean of 1.625954, while variable, "Sad", had the lowest mean of 1.160305. From analyzing the means of the variables, the most used emoji for SMS was the love emoji and the sad emoji was the least used by the students. The review also shows that there is minimal usage of SMS emojis among students.

4.6.3: Email emoji usage

| Valid N | Variable | Mean | Minimum | Maximum | Std.Dev |
|---------|----------|-----------|----------|----------|----------|
| 262 | Love | 1.270992 | 1.000000 | 5.000000 | 0.660197 |
| 262 | Like | 1.328244 | 1.000000 | 5.000000 | 0.777487 |
| 262 | Ha Ha | 1.297710 | 1.000000 | 5.000000 | 0.657345 |
| 262 | Angry | 1.087786 | 1.000000 | 3.000000 | 0.333224 |
| 262 | Sad | 1.1106870 | 1.000000 | 3.000000 | 0.333377 |
| 262 | Wow | 1.152672 | 1.000000 | 5.000000 | 0.479036 |

Table 7: Email emoji usage

Table 7 in section 4.6.3 above indicates the mean and standard deviation of the sample responses in relation to email emoji usage by students. The means ranged from 1.328244 -1.087786 and the responses indicate how participants were not frequent in using the email emoji. The like emoji ranked first, while the angry emoji ranked last. Through reviewing the means the like emoji was used the most by students as an email emoji.

4.6.4: Instagram emoji usage

| Valid N | Variable | Mean | Minimum | Maximum | Std.Dev |
|---------|----------|----------|----------|----------|----------|
| 19 | Love | 3.347328 | 1.000000 | 5.000000 | 1.442902 |
| 20 | Like | 2.767176 | 1.000000 | 5.000000 | 1.489166 |
| 21 | Ha Ha | 2.786260 | 1.000000 | 5.000000 | 1.456957 |
| 22 | Angry | 1.553435 | 1.000000 | 5.000000 | 0.890030 |
| 23 | Sad | 1.870229 | 1.000000 | 5.000000 | 1.082051 |
| 24 | Wow | 2.270992 | 1.000000 | 5.000000 | 1.271195 |

Table 8: Instagram emoji usage

Table 8 in section 4.6.4 above indicates the mean and standard deviation of the sample responses in relation to Instagram emoji usage by students. The means ranged from 1.553435-3.347328. Participants' responses indicate how participants were not frequently using the angry emoji as it had the lowest mean. Responses show that participants never or rarely used the angry emoji. Through also reviewing the means the love emoji was used the most by students as it had the highest mean.

4.6.5: Facebook emoji usage

| Valid N | Variable | Mean | Minimum | Maximum | Std.Dev |
|---------|----------|----------|----------|----------|----------|
| 262 | Love | 2.416031 | 1.000000 | 5.000000 | 1.477355 |
| 262 | Like | 2.515267 | 1.000000 | 5.000000 | 1.518013 |
| 262 | Ha Ha | 2.412214 | 1.000000 | 5.000000 | 1.490045 |
| 262 | Angry | 1.553435 | 1.000000 | 5.000000 | 0.890030 |
| 262 | Sad | 1.748092 | 1.000000 | 5.000000 | 1.012137 |
| 262 | Wow | 1.92781 | 1.000000 | 5.000000 | 1.231176 |

Table 9: Facebook emoji usage

Table 9 in section 4.6.5 above indicates the mean and standard deviation of the sample's response in relation to Facebook emoji usage by students. The mean ranged between 1.553435-2.515267. Through analysis of the means the like emoji was the most used on Facebook by students and the angry was the least used Facebook emoji.

4.7. Descriptive Statistics

4.7.1. Normality Test

A normality test was first carried out on the response to cyberbullying construct as it is a dependent variable. The normality test was done with the use of a Shapiro-Wilk test. The output of the test yielded a p value of 0.00000. This shows that the data is not normal as the P value was below 0.05. When the P value is less than the standard level of 0.05, the normality hypothesis will be rejected (Shapiro and Wilk, 1965).

4.8. Descriptive Statistics for Self-Control.

As illustrated in Table 10 in section 4.8.1 below, between the two groups of students of those with high self-control and those with low self-control, group 2 of those with high self-control had the highest mean. This shows that high self-control does have an influence on response to cyberbullying as compared low self-control.

4.8.1 Mean for self-control

| | Aggregate Results descriptive statistics | | | | | |
|---------------------------|--|---------|----------|----------|----------|----------|
| Variable | Self-control group 1 & 2 | Valid N | Mean | Minimum | Maximum | Std. Dev |
| Response to Cyberbullying | 1 | 117 | 2.213675 | 1.000000 | 5.000000 | 1.135850 |
| Response to Cyberbullying | 2 | 145 | 1.841379 | 1.000000 | 5.000000 | 0.813735 |

Table 10: Mean for self-control

Group 1: Low Self-Control **Group 2:** High Self-control

In Hypothesis A we predicted that an individual with low self-control is likely to respond negatively to cyberbullying than those with high self-control. As shown in table 11 in section 4.8.2 below, the Mann Whitney U test was done between the two groups of self-control (i.e. respondents high self-control vs respondents with low self-control). The criteria used to split the two groups was derived from the way they responded to questions on the questionnaire survey. Questions relating to self-control were ranked from 1 to 5. 1 to 2 represented responses of people with high self-control and responses ranked from 3 to 5 represented responses from people with low self-control.

4.8.2. Influence of Self-control on response to Cyberbullying

| Mann Whitney U Test (w/continuity correction) | | | | | | | | | |
|---|------------------|------------------|----------|----------|----------|------------|----------|-----------------|-----------------|
| By Variable Self-control group 1 & 2 | | | | | | | | | |
| Marked tests are significant at $p < .05000$ | | | | | | | | | |
| Variable | Rank Sum Group 1 | Rank Sum Group 2 | U | Z | p-value | Z adjusted | p-value | Valid N Group 1 | Valid N Group 2 |
| Response to cyberbullying | 16801.50 | 17651.50 | 7066.500 | 2.321377 | 0.020267 | 2.461770 | 0.013826 | 117 | 145 |

Table 11: Influence of Self-control on response to Cyberbullying

Group 1: Low Self-Control **Group 2:** High Self-control

The Null hypothesis and alternative hypothesis were as follows:

H₀: There is no significant influence of self-control on the response of students to cyberbullying

H₁: There is significant influence of self-control on the response of students to cyberbullying

The P value yielded a result of 0.01 which was less than 0.05. Therefore, Hypothesis H1 is accepted. Self-control has a significant influence on response to cyberbullying.

4.9. Descriptive Statistics for Age

In Hypothesis 2 we predicted that an individual's response to cyberbullying will differ by age. As shown in table 12 in section 4.9.1 below, a Kruskal-Wallis Anova test was done for different ages. Ages were grouped into age ranges they all fitted in.

4.9.1. Influence of age on students' response

| Depend: Response to Cyberbullying | Kruskal-Wallis ANOVA by Ranks: Response to cyberbullying | | | |
|---|---|---------|--------------|-----------|
| | Independent (grouping) variable: Age range | | | |
| | Kruskal Wallis test: $H(6, N=262) = 3.156753$ $p = .7889$ | | | |
| | Code | Valid N | Sum of Ranks | Mean Rank |
| 28-32 | 1 | 23 | 3176.50 | 138.1087 |
| 18-22 | 2 | 190 | 24847.00 | 130.7737 |
| 23-27 | 3 | 35 | 4698.50 | 134.2429 |
| 53-57 | 4 | 1 | 46.50 | 46.5000 |
| 38-42 | 5 | 3 | 409.50 | 136.5000 |
| 33-37 | 6 | 9 | 1228.50 | 136.5000 |

| | | | | |
|-------|---|---|-------|---------|
| 26-30 | 7 | 1 | 46.50 | 46.5000 |
|-------|---|---|-------|---------|

Table 12: Influence of age on students' response

The Null hypothesis and alternative hypothesis were as follows:

H₀: There is no significant effect of age on students' response to cyberbullying

H₁: There is a significant effect of age on students' response to cyberbullying

In Tables 12 above, the Kruskal- Wallis Anova test was done to ascertain the influence of age on an individual's response to cyberbullying. The Anova test was determined by age ranges. The ages for the respondents were grouped in fives'. Age range acted as the independent variable and response to cyberbullying acted as the dependent variable. The results of the Kruskal-Wallis Anova test yielded a p value of 0.7889 which was above the required p value of 0.05 and below. Hence, the output was insignificant. Therefore, the null hypothesis is correct. There was no significant influence of age on students' response to cyberbullying.

5.0 Descriptive statistics for response to cyberbullying

In Preposition C we predicted that Individuals negatively affected by cyberbullying will produce poor academic performance than those not affected by cyberbullying. As shown in table 14 in section 5.0.2 below, the Mann Whitney U test was done between two groups (i.e. positive responses to cyberbullying and negative response to cyberbullying)

5.0.1. Mean for Response to Cyberbullying

| Variable | Aggregate Results descriptive statistics | | | | | |
|------------------------------|--|---------|----------|----------|----------|----------|
| | Response to cyberbullying 1 & 2 | Valid N | Mean | Minimum | Maximum | Std. Dev |
| Average academic performance | 1 | 66 | 4.189394 | 2.833333 | 5.000000 | 0.521246 |
| Average academic performance | 2 | 196 | 4.317177 | 2.166667 | 5.000000 | 0.546311 |

Table 13: Influence of age on students' response

Group 1: Negative responses to Cyberbullying | **Group 2:** Positive response to Cyberbullying

5.0.2. Influence of response to cyberbullying on academic performance

| Mann Whitney U Test (w/continuity correction) By Response to cyberbullying Group 1 & 2 Marked tests are significant at $p < .05000$ | | | | | | | | | |
|---|------------------|------------------|----------|----------|----------|------------|----------|-----------------|-----------------|
| Variable | Rank Sum Group 1 | Rank Sum Group 2 | U | Z | p-value | Z adjusted | p-value | Valid N Group 1 | Valid N Group 2 |
| Average Academic Performance | 7630.000 | 26823.00 | 5419.000 | -1.96916 | 0.048935 | -1.97991 | 0.047715 | 66 | 196 |

Table 14: Influence of response to cyberbullying on academic performance

Group 1: Positive responses to Cyberbullying | **Group 2:** Negative response to Cyberbullying

The Null hypothesis and alternative hypothesis were as follows:

H0: There is no significant influence of students' response to cyberbullying on academic performance

H1: There is significant influence of students' response to cyberbullying on academic performance

The P value yielded a result of 0.04 which was less than 0.05. Therefore, Hypothesis H1 is accepted. Response to cyberbullying does has a significant influence on academic performance.

5.1. Testing the relationship between variables

To evaluate the relationship that existed between the variables (i.e. the hypothesis), regression analysis was conducted. Regression analysis was conducted to test and show if age and self-control (Independent variables) had an influence on how an individual responded to cyberbullying as well as how an individual's response to cyberbullying had any effect on their academic performance (dependent variable). The output of the regression analysis is presented in table 15 below:

5.1.1 Multiple regression analysis

| Regression Summary for Dependent Variable: Avg Academic perf (Cyberbullying analysis R=.11761565 R ² =.01383344 Adjusted R ² =.00236639 F(3,258)=1.2064 P<.30791 Std.Error of estimate: .54133 | | | | | | |
|---|-----------|----------------|-----------|------------------|----------|----------|
| N=262 | b* | Std.Err. b* | B | Std.Err. of b | t(258) | p-value |
| Intercept | | | 4.4109973 | 0.195015 | 22.61862 | 0.000000 |
| Age | -0.022696 | 0.061897 | -0.002403 | 0.006554 | -0.36668 | 0.714158 |
| Response to cyberbullying | -0.10732 | 0.062872 | -0.058980 | 0.034542 | -1.70748 | 0.088937 |
| Self-Control | 0.030131 | 0.062808 | 0.012760 | 0.026599 | 0.47973 | 0.631824 |

Table 15: Multiple regression analysis

The results shown in table 5.1.1 above show that all the three variables do not have a significant relationship. The resultant R² (0,01) was too low and it only explained 1% of the variance. This might have been caused by the fact that few variables were used.

5.2 Discussion of analysis results

When assessing the results, 262 students participated in the study and of the total learners, 68 were victims of cyberbullying. Regardless of the small number of students who recorded as cyberbullying victims. This proves the claim made by (Davis et al, 2017; Chukwuere, 2017) who support that cyberbullying has been existing for years and still exists due to technological advancements. Moreover, female cyberbullying does exist and it still needs to be addressed (Chukwuere, 2017).

From analysis done on the usage of social media and frequency in emoji usage it is concluded that students do spend most of their time engaging and interacting on their digital devices. This is supported by a study that was done by Juvonen and Gross in 2008 that also revealed that females are frequent users of blogs, social media platforms and emails. The students may have fallen victims of cyberbullying as a result of their exposure to frequent use of social media and the internet as all learners confirmed having access to the internet. Results from analysis done on social media and application usage in this research confirms how highly active learners use technological platforms. This supports the claim by Davis et al. (2017) regarding how females place themselves in vulnerable positions of being victimized, through constant use of the internet.

This research revealed how the nature of technology breaks barriers in terms of time and location. As stated by (Cuadrado- Gordillo et al., 2016) the nature of technology makes it easy for the offenders to bully regardless of their location whilst maintaining their anonymity. Figure 6 shows that victims not only experienced bullying from peers within the school premise, but they also experienced bullying from peers not from the same school. Learning institutes need assistance in coming up with strategies to protect students from the dangers emanating from constant use of technology and the internet.

The differences in the role of gender in relation to committing cyber offenses was an interesting finding in this study. There have been inconsistent findings with regards to the role of gender in cyberbullying. Some studies believe males are more involved in physical aggression as compared to females who avoid physical aggression and prefer carrying out cyber aggression (Cuadrado- Gordillo et al., 2016). The results presented in figure 5 indicated that although there was a slight difference in the total numbers of 3% between male and female perpetrators, both females and males equally contributed to cyber victimization. This validates a claim made by Syts (2004) and Patchin et al. (2006) stating that gender does not determine who carries out more cyberbullying as both genders equally engage in cyberbullying.

According to Bumpass (2015) an individual who has low self-control will be highly affected if they face any form of cyber aggression. The present finding of this study indicated that self-control had a significant influence on how individuals responded to cyberbullying. This finding emphasizes the importance of taking students through stress management courses as well as ways on how to improve personal self-control.

Age was found to have no influence on how an individual responds to cyberbullying. The ages of the participants were put into suitable age groups to compare if there were any differences in their responses to bullying basing on their age. Zuze et al. (2016) states that an individual's maturity and decision making improves with age. Cuadro-Gordillor et al., (2016) believes that younger individuals suffer more when they are emotionally affected. However, from analysis done in this study, it showed that age had no significant influence on the responses of bully victims to cyberbullying. This contradicts findings

regarding the influence of age on cyberbullying, hence, more studies need to be carried out on the influence of age.

Response to cyberbullying was found to have an influence on academic performance. Individuals who had negative responses towards being cyberbullied had a poor outcomes in their academic achievement as opposed to those who had positive responses to cyberbullying. This corroborates Onditi (2017) and Rigby (2017), observations on their previous studies that revealed how academic performance was heavily influenced by an individual's response to bullying.

Chapter 5: Conclusion

This chapter concludes and summarizes the research findings obtained from this study. The importance of this study as well as the recommendations are also provided below.

5.1. Introduction

The aim of this research was to investigate the influence of cyberbullying on female students' academic performance. In the process of carrying out this research, the researcher looked for the relatedness of factors that may contribute to the effects cyberbullying might have on academic performance of students. A substantial review of literature revealed what authors believed to be the possible cause of the existence of cyberbullying and female victimization. Literature on cyberbullying suggested that an increase in technological advancements as well as the constant use of the internet and social media by the female gender may have led to female cyberbullying. In trying to understand this female cyberbullying phenomenon as well as the factors surrounding it, a theoretical model that best suited the subject at hand was formulated. The claims formulated were used alongside to measure these factors, their relatedness to each other as well as cyberbullying and female academic performance.

5.2. Summary

The results revealed that all the victimized students were frequently active on social media as well as in using the internet. This may have led to them being vulnerable to being bullied. As mentioned above, literature supported exposure to technology and internet being a major reason of an individual being victimized (Cuadrado- Gordillo et al., 2016). In revealing the victimized students, there are factors that were put into consideration in analyzing the results and these were the age of the victims, their response to cyberbullying and their self-control. These were used as a measure on how these factors contributed to the effect of cyberbullying on their academic performance. Regardless of the age differences of the victims, this study revealed that in overall cyberbullying had a significant effect on the academic performance of the victimized students.

5.3. Importance of the study

Regardless of the outcome of this study, this study may be beneficial in the development of policies and laws that address cyberbullying. The information provided in this study may be used in relevance to policy decisions that may work towards protecting students whilst giving more special attention to female students. Since the existence of online bullying has been detected, being aware of this aggression may be of benefit in formulating measures towards preventing cyber-victimization from happening in the lives of students.

5.4. Recommendations

Although this study has given awareness on female cyberbullying, there are some limitations in this study. The nature of this study may require further exploration to expand knowledge of female victimization and the students that may have been victims of cyberbullying. Future studies may expand this research by implementing qualitative research methods. These methods may include having one on one interviews with the victimized learners. In doing so, a better understanding of what would have transpired for the learners to be victimized as well as their experiences will give a clearer picture and more tangible information to use when giving reference to cyberbullying as a whole. Students must also be encouraged to report of any cyberbullying activities.

Other areas of cyberbullying may also be considered, that is the existence of bullying policies within the school. The existence of policies will act as regulatory measures that will help minimize or avoid the effect bullying may have on students. If anti-bullying policies are already in place within the school, it is essential ensuring students understand what these policies mean as well as the severity of the measures to be carried out on students who may act in contradiction to these policies.

In conclusion, although the size of the sample had 262 learners, only 68 learners were identified as victims of cyberbullying. The researcher recommends future studies to consider using a sample size bigger than 68 learners as victims. This will provide data adequate and relevant enough to provide more accurate results. Future studies should also collect information from male students for comparison of academic outcomes.

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Appendices







APPENDIX A- Cyberbullying Survey

PLEASE CAREFULLY READ BEFORE ANSWERING THE QUESTIONS

Cyber bullying is bullying that takes place over digital devices such as mobile phones, computers, text messages, SMS, social media, emails and applications. It includes sending or sharing false and harmful information about someone else to cause embarrassment or humiliation towards that person.

| A. Demographics | | | | | | |
|------------------------|--|--------------|---------------|------------------|----------------------|----------------------|
| Institution | | | | | | |
| Age | | | | | | |
| Course of study | | | | | | |
| Year of study | | | | | | |
| Ethnicity | | Black | Colored | White | Other | Prefer not to answer |
| Gender | | Male | | Female | Prefer not to answer | |
| B. Social media | | | | | | |
| 1. | Do you have access to any social media platforms and chat applications (e.g. SMS, WhatsApp, and Facebook)? | YES | | | NO | |
| 2. | If yes, please indicate which platform you use? | WhatsApp | SMS | Instagram | Email | Facebook |
| C. Application usage | | | | | | |
| 3. | Indicate how often you use the following applications. | | | | | |
| | | Never | Rarely | Sometimes | Often | Always |
| | WhatsApp | 1 | 2 | 3 | 4 | 5 |
| | Email | 1 | 2 | 3 | 4 | 5 |
| | Instagram | 1 | 2 | 3 | 4 | 5 |
| | Facebook | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|-------------------------------------|---|---|---|---|---|
| SMS | 1 | 2 | 3 | 4 | 5 |
| D. Application feature usage | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|--|----------|---|---|---|---|-----|---|---|---|---|-----------|---|---|---|---|-------|---|---|---|---|----------|---|---|---|---|---|---|---|---|---|
| 4. | Indicate how often you use the following emoji features to respond to comments or messages you receive on social media and other platforms. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-Never 2-Rarely 3-Sometimes 4-Often 5-Always | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | WhatsApp | | | | | SMS | | | | | Instagram | | | | | Email | | | | | Facebook | | | | | | | | | |
| |  Love | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| |  Like | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| |  Haha | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| |  Angry | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| |  Sad | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| |  Wow | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |

E. Past Cyberbullying Experiences.

Rate your past or present experience

| | | Never | Rarely | Sometimes | Often | Always |
|-----|--|-------|--------|-----------|-------|--------|
| 5. | Have you ever been cyber bullied in the past? | 1 | 2 | 3 | 4 | 5 |
| 6. | How often were you cyber bullied in the last 2 years? | 1 | 2 | 3 | 4 | 5 |
| 7. | Are you currently being bullied? | 1 | 2 | 3 | 4 | 5 |
| 8. | I have received insulting messages, images or comments on social media | 1 | 2 | 3 | 4 | 5 |
| 9. | I have received threatening messages or comments on social media | 1 | 2 | 3 | 4 | 5 |
| 10. | Someone posted or circulated embarrassing images, private information or videos of me on social media platforms. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|-----|------------------------|---------------------|-----------------------|---------------------------------------|--|--|
| 11. | Who cyber bullied you? | Fellow school mates | Peers not from school | I do not know who the perpetrator was | | |
|-----|------------------------|---------------------|-----------------------|---------------------------------------|--|--|

| | | | | | | |
|-----|---|------------------------|----------------------------|-----------------------------------|---------------|----------------|
| 12. | The person who cyberbullied you was: | FEMALE | MALE | I DO NOT KNOW | | |
| 13. | Where were you bullied on social media? | Within school premises | Outside of school premises | Both in and out of school premise | I Do not know | Not applicable |

F. Response

| | | | | | | |
|-----|--|--------------|---------------|------------------|--------------|---------------|
| | | Never | Rarely | Sometimes | Often | Always |
| 14. | How often do you ignore mean and hurtful remarks directed towards you on the internet or on your mobile phone? | 1 | 2 | 3 | 4 | 5 |

G. Self-Control

| | | | | | | |
|-----|--|--------------|---------------|------------------|--------------|---------------|
| | | Never | Rarely | Sometimes | Often | Always |
| 15. | What is the likelihood you would retaliate at them using your digital devices? | 1 | 2 | 3 | 4 | 5 |

G. School performance

| | | | | | | |
|-----|--|--------------|---------------|------------------|--------------|---------------|
| | | Never | Rarely | Sometimes | Often | Always |
| 16. | I make myself prepared for my subjects or academic Modules | 1 | 2 | 3 | 4 | 5 |
| 17. | I pay attention during lectures | 1 | 2 | 3 | 4 | 5 |
| 18. | I do my assignments regularly | 1 | 2 | 3 | 4 | 5 |
| 19. | I study and try catching up for the lectures I would have missed. | 1 | 2 | 3 | 4 | 5 |
| 20. | I study and prepare for my tests and quizzes | 1 | 2 | 3 | 4 | 5 |
| 21. | I study hard to improve my grades in my tests and assignments when I get low grades. | 1 | 2 | 3 | 4 | 5 |

You have reached the end of the survey

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE



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Request to conduct research and survey participation

Dear Sir or Madam,

I am an Information Systems Masters student supervised by Professor Michael Kyobe at the University of Cape Town. I am kindly requesting to conduct my research in your institution in academic research titled, “Factors influencing university female students’ response to cyberbullying and effects on academic performance”. The aim of this study is to determine how and the extent to which cyberbullying will negatively or positively have an impact on the academic performance of female students.

Participants will voluntarily participate in this survey and all information will be confidential and only to be used for the purpose of this study. No information of any nature of the participants will be published or exposed. Participants will not be required to produce any form of identification and if they feel overwhelmed during completion of the survey, they will be allowed to withdraw at any time in accordance with ethical research requirements. To avoid harm of the participants, the researcher will provide the participants with contacts of counselling units so that they get help if they need any. Questionnaires will be used for data collections within the school premise and they will last for approximately 35 minutes.

Should you request more information and clarity please feel free to contact me on details I have provided below:

Yours sincerely

Vimbayi Theresa Mataga

Researcher: UCT, MCOM Student

Department of information systems

University of Cape Town

Email: MTGVIM001@myuct.ac.za.

Professor Michael Kyobe

Research: Supervisor

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INFORMED CONSENT FORM

Researcher: Vimbayi Theresa Mataga (MTGVIM001)

Institution: University of Cape Town, Department of Information systems

Topic: Factors influencing university female students' response to cyberbullying and effects on academic performance

Purpose of study: This study is about cyberbullying. Cyberbullying is bullying that takes place over digital devices such as mobile phones, computers, text messages, SMS, social media, emails and applications. It includes sending or sharing false and harmful information about someone else to cause embarrassment or humiliation towards that person. The purpose of this study is to investigate how this phenomenon impacts the outcome in the academic performance of female students. Data collection for this study will be in the form of an anonymous questionnaire to be completed by participants. All responses will be kept private and confidential.

Dear Learner

Thank you for your interest in participating in the study. Bullying has negative effects on the victim which may cause emotional stress when one recalls these experiences. Therefore, there are risks associated with this study and these are, this study may trigger emotions and distress from past experiences. Information on counselling resources will be provided up-front in case the participant may need it after the completion of this study. The researcher will not attempt to identify you with the responses to your questionnaire, or to name you as a participant in the study, nor will they facilitate anyone else's doing so.

- I acknowledge that I am participating in this study of my own free will.
- I understand that I may refuse to participate or stop participating at any time without penalty.
- If I wish, I will be given a copy of this consent form

Signature of Learner _____

Date _____