

Factors that Influence Mobile Bully-victim Behaviour on Mobile Social Networks: The Case of Facebook

A DISSERTATION PRESENTED TO THE

DEPARTMENT OF INFORMATION SYSTEMS



UNIVERSITY OF CAPE TOWN

BY

ZIZIPHO C. NDYAVE

Supervised By: Prof. Michael Kyobe

October 2018

In Partial fulfilment of the requirements for the Master's Degree in Commerce (Information Systems)

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

PLAGIARISM DECLARATION

1. I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.
2. I have used the APA convention for citation and referencing. Each contribution to, and quotation in, this Research Proposal entitled '*Factors that influence mobile bully-victim behaviour on mobile social networks: The Case of Facebook*' from the work(s) of other people has been attributed, and has been cited and referenced.
3. This paper is my own work.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.
5. I acknowledge that copying someone else's assignment, essay or paper, or part of it, is wrong, and declare that this is my own work.
6. Take note that my previous deliverables which form part of the thesis content were previously submitted on Turnitin including; Research proposal; Introduction; Literature review; and Research Design this resulted in my plagiarism report to have a higher percentage.
7. Other parts of this dissertation were published in conference papers were also submitted on Turnitin and have been cited and referenced. References for the papers are as followed;
 - a) Ndyave C. Z. & Kyobe M. E. (2018, July). Examining social networks applications features that enhance mobile bullying behaviour. Paper presented at ACIST 2018 on *Improving African Livelihoods with Digital Information & Technology*, University of Cape Town, South Africa.
 - b) Ndyave C.Z. & Kyobe M. E. (2017, November 21-23). The Factors that Influence mobile bully-victim behaviour on Social Media: The case of Facebook. *Journal of Advances in Information Technology*, 8(4), 230-233.

Zizopho C. Ndyave

Date: 28 October 2018

ABSTRACT

Mobile bullying on social networks is a growing problem in South African public high schools. It is described as a fairly new form of cyber bullying which is conducted using a mobile phone through communication channels such as text messages, emails, Instant messaging and other chat rooms such as social networks. Excessive usage of mobile phones in schools has elevated the delinquency of bullying in school grounds and challenged how school policies are executed when it comes to mobile bullying. While mobile technology is more widely use than conventional methods to commit anti-social behaviours today, our understanding of mobile bullying is still limited in the South African context. Although studies on bullying in general have been conducted, there has been limited focus on one type called bully-victims. Bully-victims are adolescents that swing between being a bully and a victim and are difficult to identify.

The present study aims to bridge the gap by examining the factors that influence the behaviour of mobile bully-victims on Facebook in South African public secondary schools. Children who are greatly exposed to violence and victimisation at an early age tend to struggle when they become adults and experience emotional trauma, perform poorly in their academics and at times commit suicide. Cyberbullying has similar negative impacts whereby the intention is to frequently harm another person using virtual platforms. Research shows that there is rapid growth in suicidal cases which is one of the leading causes of death among adolescents in South Africa. While suicide has not been associated with bully-victims in South Africa, international studies link adolescent suicidal tendencies with bully-victim behaviour. Facebook has been chosen because it is the most popular and commonly use social network by adolescents.

Extensive literature on the potential causes of mobile bully-victim behaviour has been reviewed and a conceptual model (Mobile Bully-victim Model) of the influencing factors identified. This model aims at assisting schools understand the nature of mobile bully-victims, potential causes of bully-victim behaviour and guide the development of appropriate interventions for this form of aggression.

A total number of 457 school learners participated on the quantitative survey both from Gauteng and Western Cape provinces. The study population is based on learners from Western Cape and Gauteng public schools because there are more school violence cases occurring in communities where there is a high crime rate. These two provinces fall under four provinces including Limpopo and Free State that are leading in high crime rate in South Africa. Due to unavailability to participate from other provinces, only Western Cape and Gauteng public schools were available and willing to participate in the study. 319 of those learners were found to be mobile bully-victims. The degree to which mobile

bully-victim behaviour occur was examined in relation to Anonymity, Collective behaviour, Power, Facebook usage and Emojis and Facebook features. After various tests including spearman correlation, T-tests, and regression analysis were run, the results confirmed that adolescents who have anonymous profiles that follow collective behaviour of public pages, possess power and who are frequent Facebook users are likely to be mobile bully-victims and they demonstrate bully-victim behaviour on Facebook. However, Emoji and features showed an inverse relationship with bully-victim behaviour on Facebook. Therefore, the study confirms that these factors do indeed influence mobile bully-victim behaviour on Facebook except for Emoji and Facebook features.

ACKNOWLEDGEMENTS

I would like to first thank God for allowing me this opportunity and blessing me with people that contributed towards my growth as an Academia. Not only have I become a better person, I have become a better Researcher because of the roles you each played in my career life.

- I would like to extend my outmost gratitude to my Supervisor, Professor Kyobe for his support and guidance throughout my Master's journey at UCT. I am grateful for the financial support that he provided me with from NRF and for his prayers when things were not going well in my life. Your words of encouragement strengthened me. Thank you, Prof. for not giving up on me.
- I would like to thank National Research Fund for Providing me with Funding during the course of my studies. It really assisted me and I would not have been able to conduct my data collection without funding. Thank you.
- I thank the student colleagues from the Information Systems department at UCT for reviewing my work, your advices, and friendships.
- I thank the Departments of Education in Gauteng and Western Cape for granting me permission to their schools.
- I thank the school principals and the teachers from Buhlebuzile secondary, Landulwazi Comprehensive and Thoko-thaba secondary (Gauteng schools); Isilimela High (Western Cape school) for their warm welcome to their schools and allowing me to collect data in their school premises.
- I would like to thank my family, my mother Bukelwa, for her prayers, and understanding the bigger picture on this journey, my younger sister Sivile for always listening to me when I was frustrated and needed someone to talk to.
- Lastly, I thank myself for not giving up when the going got tougher, I am proud of myself.

CONTENTS

PLAGIARISM DECLARATION	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
CONTENTS.....	v
CHAPTER 1: INTRODUCTION	1
1.1. Introduction	1
1.2. Problem statement	1
1.3. Research Questions and Objectives.....	2
1.4. Rationale and Motivation	2
1.5. Research Overview	3
CHAPTER 2: LITERATURE REVIEW	4
2.1. Violence in schools.....	4
2.2. Other forms of bullying in schools.....	5
2.2.1. Traditional bullying	5
2.2.2. Cyberbullying	6
2.2.3. Mobile bullying	6
2.2.4. Bully-victim behaviour on Facebook.....	7
2.2.5. Mobile Bullying and Bully-victims Gaps.....	8
2.3. School Frameworks.....	9
2.3.1. Regulation for Safety in Public Schools.....	9
2.3.2. Legislative Framework	9
2.3.3. National School Safety Framework (NSSF)	10
2.4. Social Network definition and Theory	10
2.5. Mobile Phone -based Features	12
2.5.1. Reproducing content features	12
2.5.2. Features only “Power Users” Know	13
2.6. Adopted Theories for the Study.....	14
2.6.1. Social Network theory.....	14
2.6.2. Influence on the study	14
2.6.3. Social Identity model of De-individualisation Effects (SIDE) and Social Identity	15
2.6.4. Social Identity theory	16
2.6.5. Gaps of theories.....	16
2.6.6. Integration of Theories for a conceptual model	16

2.7.	Usage of Adopted Theories in this study	17
2.7.1.	Characteristics of an Actor	17
2.7.2.	Degree Centrality	17
2.7.3.	Betweenness centrality.....	18
2.7.4.	Closeness Centrality	18
2.7.5.	Relationship	18
2.7.6.	Resources	19
2.8.	Social Influence	19
2.8.1.	Identification	20
2.8.2.	Compliance.....	20
2.8.3.	Internalisation	20
2.9.	Usage of Adopted Theories and Development of Integrative Framework.....	21
	Degree level	22
	Closeness level	22
	Betweenness level	23
	Marginalised level	23
	Interactions	23
2.10.	Development of Conceptual Framework and Propositions.....	24
2.10.1.	Anonymity	25
2.10.2.	Collective behaviour	25
2.10.3.	Power	26
2.10.4.	Mobile phone Features	26
2.10.5.	Facebook Usage Frequency	27
2.11.	Chapter Summary	28
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY		29
3.1.	Introduction	29
3.2.	Research Philosophy	29
3.2.1.	Ontology- Objectivism	29
3.2.2.	Epistemology-Positivism	30
3.3.	Research Methodology	30
3.3.1.	Research Method- Quantitative	30
3.3.2.	Research Strategy and Approach.....	30
3.4.	Time Horizon- Cross-sectional	31
3.5.	Instrument Design, Measures and Data Variables.....	32
3.5.1.	Pilot study	33
3.5.2.	Target Population and Sampling.....	33

3.5.3. Data Collection.....	34
3.5.4. Data Analysis.....	34
3.5.5. Reliability and Validity.....	34
3.6. Ethics and Confidentiality	36
3.7. Chapter Summary	36
CHAPTER 4: ANALYSIS, FINDINGS AND DISCUSSION	37
4.1. Introduction	37
4.2. Reliability Test.....	37
4.3. Demographics Analysis	38
4.3.1. Gender of all Learners.....	39
4.3.2. Age of All the Participants.....	40
4.3.3. Grades of all the participants.....	40
4.3.4. Time spent by Participants on Facebook Daily	41
4.3.5. Gratification for all Learners	41
4.4. Mobile Bully-Victims Analysis	43
4.4.1. Gender of Mobile Bully-victims Analysis.....	43
4.4.2. Age of all Mobile Bully-victim Learners	44
4.4.3. Grades of all Mobile bully-victim Learners	45
4.4.4. Time spent on Facebook by Mobile Bully-victim learners	46
4.5. Further Mobile bully-victim Analysis	47
4.5.1. Mobile bully-victim and Anonymity.....	47
4.5.2. Mobile bully-victim and Collective Behaviour	48
4.5.3. Mobile bully-victim and Power	50
4.5.4. Mobile Bully-victim and Facebook Usage	52
4.5.5. Mobile bully-victim that use Emoji & Features.....	53
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	58
5.1. Introduction	58
5.2. Limitation of the study.....	58
5.3. Summary of Results	59
5.4. Recommendations and Future Research.....	59
6. REFERENCE LIST	61
APPENDIX 1: QUESTIONNAIRE	66
APPENDIX 2: PRINCIPAL LETTER.....	70
APPENDIX 3: PARENT/GUARDIAN LETTER.....	72
APPENDIX 4: STUDENT LETTER	74
APPENDIX 5: ETHICS CLEARANCE LETTER FROM UCT.....	75

APPENDIX 6: DEPARTMENT OF EDUCATION IN WESTERN CAPE LETTER 77
APPENDIX 7: DEPARTMENT OF EDUCATION IN GAUTENG LETTER 78

List of Figures

Figure 1: Social Network theory to explain centrality (Liu et al., 2017). 19
Figure 2: Actor's Social behaviour (Zhou & Li, 2014) 21
Figure 3: Mobile Bully-Victim Model 28
Figure 4: Data for Participants by Province 39
Figure 5: Data for Gender of all learners 39
Figure 6: Ages of all Learners 40
Figure 7: Grades for all learners 40
Figure 8: Time spent on Facebook by all Learners 41
Figure 9: Gender of Bully-Victim Learners 44
Figure 10: Age of Bully-victim Learners 45
Figure 11: Grades of all Mobile Bully-victim Learners 46
Figure 12: Time spent on Facebook by Bully-victim Learners 46

List of Tables

Table 1: Gaps Identified in literature 8
Table 2: Gaps Identified in Social Network literature 12
Table 3: Summary of identified elements from Integrative Theoretical Framework 24
Table 4: Research Time Frame 31
Table 5: Data Variables 33
Table 6: Summary for Reliability Tests 38
Table 7: Gratification results for Mobile bullying on Facebook 42
Table 8: Descriptive Statistics for Bully-victims 44
Table 9: Descriptive Statistics for Mobile bully-victims who are anonymous 47
Table 11: Anonymity with Victimization 48
Table 12: Descriptive Statistics for Mobile bully-victims and Collective behaviour 48
Table 13: Spearman Correlation: Mobile Bully-Victim and Collective Behaviour 49
Table 14: T-test to compare differences between Collective behaviour with Victimization 49
Table 15: Descriptive Statistics for Power 50
Table 16: Spearman Correlation for Mobile bully-victims and Power 51
Table 17: T-test to compare Mobile bully-victim and Power 52
Table 18: Descriptive Statistics for Facebook Usage 52
Table 19: Spearman correlation for mobile bully-victims and Facebook Usage 52
Table 20: T-test for Mobile bully-victim and Facebook usage 53
Table 21: Descriptive Statistics for Emojis & Facebook Features 54
Table 22: Spearman Correlation analysis for Emoji & Features and Mobile Bully-victim 56
Table 23: T-test for comparing Emoji & Feature with Bullying 56

CHAPTER 1: INTRODUCTION

I.1. INTRODUCTION

Technology has improved ways of communication but also enhanced bullying among adolescents (Kyobe, Oorstewyk & Kabauwu, 2016). Bullying committed using mobile phones has been described as mobile bullying (Kyobe et al., 2016). It is one form of cyber bullying which is committed over mobile phones using facilities like text messages, emails, instant messaging and chat rooms. One type of mobile bullies of interest to the present study, and which has not been studied widely is mobile bully-victim (Kwan and Skoric, 2013). A bully-victim may be described as a person who has been both a victim and perpetrator of bullying (Liang, Flisher, and Lombard 2007; Kyobe et al., 2016). This type of bullying is increasing in South Africa and may have more serious implications for young people than other types of bullies (Kyobe et al., 2016).

With the increase of social networks and electronic tools, the online antisocial behaviours have increased and cyber threats have consequently become prevalent world-wide (Wilson, Gosling & Graham, 2012). The new technologies are challenging current networking practices, and this has given rise to cyber threats in South African schools. Learners are not aware of what they should do when threatened online. There is a lack of procedures that can be consistently followed by South African schools, governing boards and educators (Kyobe et al., 2016). The Facebook social network has been chosen for this study as it is one of the most popular social networks to be used by adolescents (Wilson, Gosling & Graham, 2012). Additionally, according to Fitzgerald (2012), young people are twice as likely to suffer cyberbullying on Facebook than on any other social networking site.

I.2. PROBLEM STATEMENT

Bully-victims have not been studied extensively in South Africa and other developing countries (Kyobe et al., 2016). It has been reported that the number of bully-victims among adolescents is increasing and that this category of bully poses serious risks to young people than pure bullies (Stein, Dukes and Warren, 2007; Kyobe et al., 2016). Children who are greatly exposed to violence and victimisation at an early age tend to struggle when they become adults and experience emotional trauma, perform poorly in their academics and at times commit suicide (Kwan & Skoric, 2013). Cyberbullying has similar negative impacts whereby the intention is to frequently harm another person using virtual platforms (Oyewusi & Olerade, 2014). In South African context, it is reported that there is rapid growth in suicidal cases among adolescents (Laas & Boezart, 2014). While there has not been concrete evidence to link suicide to bully-victim behaviour in South Africa, evidence from international studies has attributed adolescent suicidal tendencies to bully-victim behaviour (Dewar, 2008; Marini & Dane, 2010).

Considering the above, it is imperative therefore to examine the nature of bully-victims in popular social media and the factors influencing this behaviour.

I.3. RESEARCH QUESTIONS AND OBJECTIVES

- I. What factors influence mobile bully-victim behaviour of learners on Facebook?
- II. To what extent do learners and educators understand mobile bully-victim behaviour and its implications?
- III. How can Facebook be use to prevent young people from becoming mobile bully-victims?

Objectives of this study are:

To examine factors that influence mobile bully-victim behaviour on social networks.

To propose effective strategies that can reduce the level of mobile bully-victims on social networks.

I.4. RATIONALE AND MOTIVATION

This study argues that a limited understanding of mobile bully-victim behaviour poses a challenge in identifying adolescents who are at risk on the Facebook social network. Also, there are no current interventions to manage bully-victim behaviour on social networks in general. The present study seeks to examine factors that influence the behaviour of mobile bully-victims on Facebook in South African public secondary schools, as well as, to propose effective strategies that can reduce the number of mobile bully-victims on social networks.

Recently research on social networks focus on the type of platforms such as Facebook, Twitter, Instagram, and MySpace to name a few (Dogruer, Menev, and Eyyam, 2011). The Facebook research was found to be stemming from various disciplines (Dogruer et al., 2011). Although researchers were fascinated by assessing the impact of Facebook in social life (Wilson et al, 2012); Keeping track of various findings become a challenge. Researchers maintained that relevance of Facebook research provided a compelling source of measurable behaviour traces, with information being added on real-time (Wilson et al, 2012). Researchers believe that Facebook research offered a unique source of information about human behaviour with levels of ecological validity. Also, a study of social networks such as Facebook advanced new benefits and dangers to society, which require careful considerations (Wilson et al, 2012).

Therefore, this study will learn and adopt from various literature to develop a conceptual model that will answer the research question- *'What factors influence mobile bully-victim behaviour of learners*

on Facebook'. This model provides theoretical contribution which will assist schools to understand the potential causes of bully-victim behaviour and provide for the development of appropriate interventions for this form of aggression.

1.5. RESEARCH OVERVIEW

The rest of this paper is organised as follows:

Chapter 2: This chapter focuses on literature review derived from various academic research about violence in schools, bullying and other forms of bullying. In this chapter, the theories adopted to support literature including Social Network and Social Influence theories are discussed. Factors that influence mobile bully-victims are derived and propositions are developed from the factors identified. Lastly, the integrative and conceptual frameworks are developed and discussed.

Chapter 3: This chapter focuses on the research design and methodology for this study. Research Philosophy and methodology are discussed briefly. This chapter also outlines the research method, research strategy, time horizon, instrument design, measures and data variables. And lastly, the ethics and confidentiality are also discussed.

Chapter 4: Presents the analysis, and discusses the findings for this study.

Chapter 5: Presents the conclusions and recommendation for future studies. The next chapter is a literature review of this study.

CHAPTER 2: LITERATURE REVIEW

This section reviews literature on school violence in South Africa and provides a background to bullying and mobile bullying. In this section, background to social networks and Facebook which shares similar features of a social network in general is provided. The discussions are based on the theoretical work that explained mobile bullying behavior on social networks and identified factors that influence the behaviour on Facebook. This section also uses Social network theory to evaluate traits of an actor, the formulation of relationships and the location the actor occupies within a social network. Additionally, discussion and formulation of propositions are presented and the development of the conceptual framework for mobile bully-victim behaviour on Facebook is presented. Lastly, this thesis identifies the gaps from various theories, formulates the research question with three sub-questions and objectives to be achieved.

2.1. VIOLENCE IN SCHOOLS

According to Zulu, Urbani, and Van de Merwe (2004) violence is an intentional act to cause harm on another person using physical force or belief of an imminent threat to another person (Laas & Boerzaat, 2014). Zulu et al. (2004) believe that school violence in South Africa become popular back when students were protesting for the use an Afrikaans as the only learning language during 1976. Students resorted to violent behaviours as a way of highlighting their issues with the education system of that time (Zulu et al., 2004). Since then, schools and government do not seem to have dealt well with such behaviours as students continue to damage school properties by burning or breaking (Ngcongco, 1995:18; Zulu et al., 20014). School violence has become a trend as students still use it as a form of showing their frustration whenever there are disagreements between them and the education system (Zuze, Reddy, Juan, Hannan, Visser & Winnar, 2016). As much as school violence is not a local concern but internationally as well, Zuze et al. (2016) found that school violence is more prevalent in South Africa than in any other country based on survey a that was conducted on grade 9 learners in 2011 by Trends in International Mathematics and Science Study (TIMSS). Zulu et al. (2004) argue that school violence is highly motivated by conflicts between political parties as well as with the historical culture of protesting in schools. Amongst other factors that Zuze et al. (2016) mentioned, socio-economic status is found to influence violent acts by school learners and being in communities where crime is high also negatively impact children's behaviour.

It has also been discovered that government schools are less safe when compared to private schools and the level of safety is not the same (Zuze et al., 2016). However, there were instances where violent acts were committed in private schools. It was reported that one out of five children, is attacked on a

weekly basis (Zuze et al., 2016). Violence may come from teachers as well. Female learners have been found to likely fall victims of sexual harassment from their teachers (Zulu et al., 2004). School violence breaks down good relations between teachers, parents and learners (Ngcongco, 1995:18; Zulu et al., 2004). School violence also results from other factors such as age difference, gender, and racial clashes to mention a few (Zuze et al., 2016). There are concerns about the emergence of new forms of violence in schools such as bullying, cyberbullying, and mobile bullying which are rapidly escalating (Zuze et al., 2016). The next section will discuss how learners are bullied by their peers in the school environment and the impediments that affect children's learning and psychological behaviour (Laas & Boerzaat, 2014).

2.2. OTHER FORMS OF BULLYING IN SCHOOLS

According to Liang et al. (2007) violence and bullying both results from aggressive behaviour. Children who are greatly exposed to violence and victimisation at an early age tend to struggle when they become adults (Zuze et al., 2016). Bullying imposes great levels of psychiatric and physical symptoms on both the victim and the perpetrator, as the inequality of strength between the bully and the victim is psychological or physical (Stein et al., 2007; Liang et al., 2007). There are various contexts that bullying emerges in and their impact on the victim is not the same.

2.2.1. Traditional bullying

Traditional bullying is done when the perpetrator who is perceived to be more confident and powerful, physically attacks the victim by pushing, pinching, teasing or swearing (Kyobe et al., 2016). Perpetrators are most likely to be boys, where victims are typically physically weaker, are less able to defend themselves, and tend to avoid physical fights. Additionally, this bullying occurs where there is less supervision of an adult such as school teacher, guardian or a parent (Oyewusi & Olerade, 2014). In some instances, victims of bullying would experience emotional trauma, perform poorly in their academics and at times commit suicide (Kwan & Skoric, 2013; Zuze et al., 2016). Some studies show that South Africa ranks higher on community violence (Liang, et al., 2007), the consequences are that boys tend to become bullies. Previous studies also indicate that bullying in schools has not really been explored in developing countries including South Africa (Ohsako, 1999; Seedat, Nvamai, Njenga, Vythilingum & Stein, 2004).

In terms of handling this bullying in schools, Nigeria managed to reduce its prevalence by introducing severe punishments including corporal punishment (Oyewusi & Olerade, 2014). However, in South African schools' corporal punishment has been outlawed in terms of the South African Schools Act no. 84 of 1996 (Zuze et al., 2016). Teachers have to come up with other strategies of handling misbehaving

children in school premises (school policies and frameworks are discussed in section 2.3). On the other hand, girls are found to be more of indirect bullies such as by spreading of false information, writing mean letters and swearing to their victims (Seedat, et al., 2004; Oyewusi & Olerade, 2014). Girls' bullying behaviour escalates more when they use technological devices such as computers, tablets and mobile phones (Liang, et al., 2007). This form of bullying is discussed in the next section.

2.2.2. Cyberbullying

Cyberbullying is described in many terms depending on the kind of technology that is being use. Many studies reveal that in order for cyberbullying to occur one has to have access (Oyewusi & Olerade, 2014) and use to the internet, emails, mobile phone camera (Campbell, 2005), mobile phones, chat rooms, to name a few (Vandebosch, & Van Cleemput, 2009). Also, cyberbullying has some similarities with traditional bullying in that the intention is to frequently harm another person by in this case sending threatening messages, emails, or bad pictures that are captured while the victim is not aware (Liang et al., 2007; Laas & Boezaart, 2014). The difference in the two is that cyber the bully cannot always see the reaction of their victims (Zuze et al., 2016), they can hide their real identity when online (Campbell, 2005; Kwan and Skoric, 2012).

As much as cyberbullying occurs outside school premises, its negative impacts the learning environment for other children (Oyewusi & Olerade, 2014). For instance, children may not be able to concentrate in class, lose self-esteem (Vandebosch and Van Cleemput, 2009), and also it creates anti-social behaviour among their peers (Ling et al., 2007). Cyberbullying is a challenge for teachers because they cannot easily detect when a child is being cyberbullied (Zuze et al., 2016) as it would be with the case when traditionally bullied (Oyewusi & Olerade, 2014). Also, parents of cyber victims are not as technologically savvy as their children, so they struggle to understand what their children are experiencing (Vandebosch and Van Cleemput, 2009; Zuze et al., 2016). Therefore, the damages that cyber victims experience is far worse than traditional bullying as this kind of bullying occurs even in the comfort of their homes (Kwan and Skoric, 2012). Cyberbullying can also take another form known as mobile bullying (Kyobe et al., 2016), which has not been much explored in South African researches. It will be discussed in the next section below.

2.2.3. Mobile bullying

Kyobe et al. (2016) describe mobile bullying as that form of cyberbullying which is conducted using a mobile phone through communication channels such as text messages, emails, Instant messaging and other chat rooms. In this digital age, mobile phone usage is a common practice especially among adolescents, which shields mobile phone bullying from being noticed (Zuze et al., 2016). Use of mobile

phones in schools has improved the teaching and learning environments for both teachers and students (Zuze et al., 2016). However, it has also elevated the delinquency of bullying in school grounds and challenged how school policies are executed when it comes to mobile bullying (Oyewusi & Olerade, 2014). Researchers maintain that the study of this nature in South Africa is very limited and also that the prevalence of mobile bullying is very high in this country (Stein et al., 2007; Polastri et al., 2010). It has been observed that the effects of mobile bullying differ from those of general cyberbullying because of the technology use (Seedat et al., 2004; Campbell, 2005). The section below discusses bully-victims and their behaviour on the Facebook social network.

2.2.4. Bully-victim behaviour on Facebook

A bully-victim is described as a person that has been a victim of bullying and is a bullying perpetrator (Liang et al., 2007). Bully-victims possess attributes of both a pure bully and victim which becomes difficult to solely distinguish them from a pure bully or a victim (Kyobe et al., 2016). Pure bullies are described as those people who are confidently inflicting fear or intentionally causing harm on others (Stein et al., 2007; Zuze et al., 2016). Although there is not much known about mobile bully-victims in a South African context, these people are said to be at greatest risk exposure (Liang et al., 2007; Stein et al., 2007). Some of the risks that studies have identified include psychological adjustment, social problems (Stein et al., 2007), and the potential being involved in violence (Liang et al., 2007). Additionally, international studies have found mobile bully-victims struggle to control their emotions and exhibit suicidal tendencies (Dewar, 2008; Marini & Dane, 2010). It is therefore difficult to predict or anticipate what a bully-victim may do when they are on Facebook. However, there are some theories that may possibly evaluate a bully-victim behaviour on Facebook.

The theory of Social Identity model of De-individualisation Effects (SIDE) as explained by Reicher, Spears and Postmes (1995), describes the change in the behaviour of people when in a crowd as opposed to when they are closer to the network or the group. It examines how these individuals hide their identity with the intention of misbehaving in the group. People may create fake accounts in order to be accepted in certain groups and hide their real identities. SIDE theory argues that the great involvement of a person in-group has cognitive consequences, which affect the social and personal identities. Anonymity improves the prominence of social identity (Reicher, et al., 1995), and this provides an opportunity for individuals to express what they would not say if their identities were to be revealed.

Another theory that describes the behaviour on social networks is the theory of Social Identity. According to Tajfel and Turner (1986), social identity theory predicts definite intergroup behaviours based on perceived group culture. This perception includes different statuses, legitimacy, and the

ability to move within these groups (Tajfel & Turner, 1986). Newman and Newman (1976) outline peer pressure as one of the factors that shape adolescents' decision-making when they are within a group of their peers. This improves how individuals perceive themselves from other people who are not in the group. Such perception creates a clash of personalities between people who are not in the same groups. However, the clash may also come where some of the group members are favoured over the other members, leading to an in-group favoritism (Tajfel & Turner, 1986).

2.2.5. Mobile Bullying and Bully-victims Gaps

Although Kyobe et al. (2016) conducted a study on mobile bullying in South Africa, they found that it was important to examine gender as it influenced bullying at various stages. Rodkin, Espelage and Hanish (2015) found that bullies and bully-victims use aggression to obtain status and power in a peer social structure. They claim that those who were effective in using aggression to obtain power rise in the hierarchy while others would fall. Van Dijk, Poorthuis and Malti (2017) found that there was limited research in early childhood which compared psychological processes between bullies and bully-victims. They found that bullies and bully-victims shared similar psychological processes underlying their bullying behaviour. Much of literature studies in the in the South African context have been focusing on comparing bullies and bully-victim's psychological processes and limited focus have been given to the behaviour of bully-victims on social networks. Table 1 below describes the gaps identified. The table shows that studies have focuse more on bully-victims and their behaviour and have not mentioned how social networks escalates bullying behaviour. Also, not much studies have been conducted pertaining to the link between bully-victim behaviour and social network in recent studies (Rodkin et al., 2015). Additionally, research on social networks behaviour is still emerging as the usage of social networks is gaining popularity amongst adolescents (Zuze et al., 2016). The next section will give a background to School Frameworks that are currently in place in South Africa.

Table 1: Gaps Identified in literature

Source(s)	Mobile bullying	Bully-victims	Bully-victim behaviour	Technology	Social Network
Kyobe et al. (2016)	X	X	X	X	
Kyobe (2016)	X	X	X	X	
Rodkin et al. (2015)		X	X		
Van Dijk et al. (2017)		X	X		

The (X) represent what each study covered

2.3. SCHOOL FRAMEWORKS

This section evaluates the existing legislative frameworks that relate to bullying in South African high schools. The importance of school frameworks is about providing a safe, violence and threat free learning environment for all students, teachers, and parents (Laas & Boezaart, 2014). According to the South African Constitution of 1996 violence in schools which constitutes bullying is an illegal act as it infringes upon the human rights of another person by putting them in danger or intentionally causing harm towards another person (Laas & Boezaart, 2014).

2.3.1. Regulation for Safety in Public Schools

Previous frameworks mostly covered school violence and substance abuse in school premises, whereas, little has been said about mobile bullying has not been recognised as a serious problem (Government Gazette, 2001). This is according to the Regulation for Safety in Public Schools which was published back in 2001 (Government Gazette, 2001). This regulation was more focus on how public schools should work with law enforcement to combat school violence. Bullying and cyberbullying were put under the umbrella of violence because there were few research studies and other policies focusing on them. This regulation was bias in the sense that it did not accommodate the private school policies. Additionally, this regulation infringed on parents' right to enter the school premises (Government Gazette, 2001). Even the Minister of Education in 2006 showed concerns that parents and principals have limited powers to utilise tools in instilling discipline and suitable behaviour in schools (Government Gazette, 2001). More frameworks are being modified and some have been newly established with the changing trends of technology in school premises.

2.3.2. Legislative Framework

Present studies show that although bullying is a continuous delinquency, (Laas & Boezaart, 2014) it should be considered by the Protection from Harassment Act because victims suffer from harassment. The South African Schools Act 84 of 1996 seeks to provide solutions that benefit both the victim and the bully in a positive way (Laas & Boezaart, 2014). By governing well, the code of conduct in schools, learners' discipline, responsibilities, and positive behaviour are maintained (Lass, 2012). This rectifies bullying as a misconduct at schools. It is therefore advisable to adopt the restorative system of justice for students who come into clash with the law (Laas & Boezaart, 2014). Using these acts in schools becomes proof that bullying is treated as an element of a criminal justice system. With that being said, Sonhera, Kritzinger, and Loock, (2015) argue that there are still no correct procedures that schools use

to deal with cyberbullying or mobile bullying. Furthermore, as much as there are policy frameworks that address South African Cyber Security Legal Framework (Sonhera et al., 2015), they are controlled in various government departments. That legal framework was established as a way of closing the gap between the use of technology and the law (Sonhera et al., 2015). Recent studies have brought attention to the dominance of cyber and mobile bullying in schools (Laas, 2012; Sonhera et al., 2015; Kyobe, 2016). The department of education along with the Center for Justice and Crime Prevention has produced a safety framework that generally focuses on bullying (Sonhera et al., 2015). This framework is discussed in the next section.

2.3.3. National School Safety Framework (NSSF)

This framework has been placed in government's vision for 2030, to ensure safety in schools as a priority especially about cyber safety (Qwabe, 2013). It assumes that schools have different needs and that it should provide various tools in order to accommodate individual needs. Each member of a school should take part in maintaining school safety (Qwabe, 2013; Department of Education, 2015). It modified and integrated existing school safety and prevention strategies of violence, bullying, discrimination and other threats that occur in school premises. As much as there are many stakeholders that collaborated in establishing this framework, some challenges were also identified. For instance, children who do not report illegal acts in schools and poor parenting could hinder the success of this framework (Department of Education, 2015). NSSF scope includes special school and even tertiary level of education while the previous frameworks have excluded them (Qwabe, 2013).

2.4. SOCIAL NETWORK DEFINITION AND THEORY

We provide background to social networks and Facebook which shares similar features of a social network in general. Today, social networks are used as platforms for communication. Social networks are defined as a connection of socially relevant nodes which may represent an individual, an organisation or a group of people (Marin & Wellman, 2011). The attributes that these nodes regularly share strengthen their ties, such as their location, trust, demographics, understanding (Claywell, 2011), tacit knowledge, and social capital (Brunetto & Farr-Wharton, 2007).

Borgatti and Halgin (2011) claim that research on social networks has grown significantly over a decade, although there has been confusion about network theory such as its distinctiveness. Social networks research enables other research fields to evaluate job performance, innovation and unethical behaviour (Borgatti & Halgin, 2011). They use theories of weak ties and structural to evaluate the relationships of networks and found that weak ties between two separate networks are based on the flow model.

Zhou and Li (2014) argues that sustained usage is crucial to the success of mobile social networks. He integrated viewpoints of social influence and privacy concerns and found that for social network sustained usage to be encouraged, service providers need to address issues of social influence and privacy concerns.

According to Liu, Sidhu, Beacom, & Valente, (2017) social network theory has been extended by researchers from the previous traditional approaches to improving their understanding from formal and informal societal relations. They emphasised more on the position of an individual node within a network (Liu et al., 2017). Serrat (2017) use social network theory to explain the relationships between actors in a specific social context such as leadership networks to maintain and strengthen those relationships. A node or an actor could represent an individual (Claywell, 2011), a group of people or an organisation in a network (Liu et al., 2017) that share resources such as ideas, social contacts, kinship, or conflicts.

Serrat (2017) also claim that social networks theory assumed the importance of relationships in a network. He maintained that social network theory measure and presented who knows whom, the kind of media communication they use to share the kind of information in a network (Serrat, 2017). He also claims that social network analysis is growing and is applied in various research fields including electronic communication, business organisations, health and psychology to name a few Morgain, (2013). Use of social network theory has not been widely studied to examine how social networks influence social behaviour (Sih, Hanser & McHugh, 2009). They presented an overview approach to the importance of social networks and its usefulness for behavioural ecology (Sih et al., 2009).

Online bullying research is significantly increasing, little is still known about how negative action occur in such a social context (Wegge, Vandebosch & Eggermont, 2014). Results that Wegge et al. (2014) found, indicate that victims received bullying in both online and offline platforms from the same perpetrators and that online bullying occur in students of the same age and class. Researchers maintain that use of social network theory has grown and has been applied in various fields (Sih et al., 2009). However, its application has not gained momentum on social behaviour and bully-victims especially in the South African context (Kyobe, 2016). While social network theory has been successfully applied to most of the literature studies; this theory has not been used effectively to evaluate or explain the behaviour of bully-victims on social networks (Sih et al., 2009). Below a table (Table 2) is drawn to display the gaps in the literature on social networks and bully-victim behaviour. Social network theory has been used and applied in research. However, there is limited study that explores social network and social behaviour in online platforms. In the next section, a discussion of the characteristics of an actor at various positions within a social network is provided.

Table 2: Gaps Identified in Social Network literature

Source(s)	SN theory	Application of SN to study	SN on Behaviour	SN Usage
Borgatti & Halgin (2011)	X	X		
Zhou & Li (2014)	X	X		X
Liu et al., (2017)	X	X		X
Serrat (2017)	X	X		X
Sih et al. (2009)	X	X	X	
Wegge et al. (2014)		X	X	

The (X) represent what each study covered

2.5. MOBILE PHONE -BASED FEATURES

2.5.1. Reproducing content features

According to Morgain (2013), the opportunity that social network platforms offer adolescents without adult supervision allow them to misbehave without fear. While some users complained and reported about specific features being use to promote anti-normal behaviour, Perez (2017) found that instead of social media companies removing those features; companies improved those features instead. For instance, Twitter have a "time-out" feature that would temporarily block a person who was using vulgar and hateful speech phrases (Perez, 2017). Even though Twitter users reported the feature not to be making much difference, Twitter later announced an expansion of the feature instead (Perez, 2017). The new and improved time-out feature would check phrases and context of the tweet and be able to identify the abuser's account. However, Perez (2017) argued that Twitter failed to produce statistical figures of how many accounts they have closed since the release of the improved feature.

According to Fitzgerald (2012), about 15000 bully-related tweets are posted every day, and some retweeted. A retweet occurs when another Twitter user tweet someone else's tweet as though it was hers (Fitzgerald, 2012). The original tweeter gets notified when their tweets has been retweeted. The content of the tweet then spreads through those retweets (Fitzgerald, 2012). At times it happened that the original tweet was not violating any person, but the retweets have a potential of changing the context of the tweet and retweeted add what they prefer to add as part of the content (Fitzgerald, 2012).

Another popular feature on Twitter is the usage of a hashtag (#). A hashtag on Twitter is mostly used to search for a specific topic which was created by another person (Fitzgerald, 2012) or making that particular topic trend on the Twitter timeline. Creating a hashtag to encourage an online harassment campaign or pushing for retweets of a "grossly offensive message" (Fitzgerald, 2012) are given as examples of unacceptable cyber behaviour (Perez, 2017). According to Chatzakou, Kourtellis, Blackburn, De Cristofaro, Stringhini, and Vakali (2017), Twitter bullies use more hashtags as compared to regular Twitter users with the intention of rebroadcasting content aiming at attracting attention on their topic. On a comparison made between regular Twitter users and bullies regarding creating hashtags, it was found that Twitter bullies created the most hate-related hashtags (Chatzakou et al., 2017). In a network, these features are most effective when used in centre, closeness and betweenness positions as they enable masses to receive content much quicker.

2.5.2. Features only "Power Users" Know

Twitter has a feature that would allow users to embed or pin a tweet to remain on their timeline. Embedding a tweet meant that the user could direct her followers to a specific email or another account if they wanted to sign up for whatever the product the user was selling (Campbell, 2014). Although this feature developed with the intention to allow users who wanted to grow their businesses online by linking all their details to the tweet they have made, bullies have exploited this feature as it gave them a direct path to their victim's email address exposing the victim even beyond Twitter (Campbell, 2014). Similarly, Campbell (2014) also found that Twitter copied Facebook post pinning as a way of business marketing strategy on social media. A tweet would be pinned on top of the Twitter user's timeline to be the most visible tweet just like in Facebook. However, at the same time, this meant that everyone including people who are not friends or followers could find by searching for pinned posts or tweets (Campbell, 2014).

Many social networks like Facebook, Twitter and Instagram, allow their users to post their location or check in each time they tweet or post a status update (Perez, 2017). It might seem like fun for friends to know where they are, but it can also mean other people do not know who will see a location especially if a user is updating a tweet, Facebook post or Instagram picture from mobile on a profile that is public (Perez, 2017).

Lastly, Screenshots are also used as a way of reproducing content although they are not application based but mobile based (Bernazzani, 2017). A screenshot application is a feature that is mobile enabled and downloaded from any mobile application store (Bernazzani, 2017). This feature has been used to take a picture of conversations or other images displayed and use them as evidence

of what took place on another platform. A screenshot can be taken in a group to spread or harass another person about the private conversations they have (Bernazzani, 2017). In a social network, these features are used as a means of keeping track of victims or perpetrators.

Previous research shows that cases of cyberbullying and aggression have been increasing on social media especially among teenagers (Chatzakou et al., 2017). Using machine learning classifiers to analyse online user behaviour on Twitter (Chatzakou et al., 2017) as means of automatically detecting Twitter aggressors and bullies. Chatzakou et al. (2017) found that they could distinguish between an aggressive, bully and an average user on Twitter with the precision of 87, 8% and 90,1 % recall.

Machine learning methods have been applied to other related social network platforms such as YouTube. Not only was it found possible to detect users that would potentially be suspended (Chatzakou et al., 2017), Dinakar, Reichart and Lieberman (2011), found that bystanders also positively contributed to the harassment between an aggressor and a victim online. However, researchers have highlighted that useful tools that detect damaging actions are scarce (Chatzakou et al., 2017) due to the ambiguous nature of cyberbullying (Kyobe & Shongwe 2011).

2.6. ADOPTED THEORIES FOR THE STUDY

2.6.1. Social Network theory

Claywell (2011) describes social network theory as an evaluation of how socially relevant nodes interact within a network. A network comprises of nodes that interact with each other. The nodes could represent a person, an organisation or a group of people in a network. There are three types of social networks such as an Ego-centric, Socio-centric network and open-system network. According to Claywell (2011), an Ego-centric network represents a single node being connected to related nodes. For instance, a person uses Facebook to connect with her close friends. Secondly, Socio-centric networks are closed social networks by default. This means that not everyone can be part of the social network group. This kind of network is mostly use by employees of one organisation or children in one school. Lastly, there is an open-system network which is believed to be the most difficult network to study because the boundary lines are not clearly defined (Claywell, 2011). An example that Claywell (2011) use is a connection between corporations.

2.6.2. Influence on the study

Social network theory explains the relationships between nodes (people) in a social network. This research is studying Facebook as a social network so this theory provides the author with the

fundamentals of a social network. These fundamentals include the level of closeness between people in a network, explains how random people easily connect with each other, the usefulness of the platform being use to interact and the spread of the content (Granovetta, 1983) between people inside and outside the network. This theory explains how the piece of social media content goes viral with just a few steps (Claywell, 2011).

However, Social network theory challenge is that relationship interpretations can be based on individual opinions (Claywell, 2011). On this study, we adopted the socio-centric network because the study is about adolescents who are bully-victims at high schools in Western Cape. This means that by default adolescents spend most of the time in one environment for at least 8 hours every day and they interact with each other even if they are not friends with each other. An ego-centric social network would not be appropriate to explain the study because it focuses more on a small scale such as a person's relationship with their friends.

2.6.3. Social Identity model of De-individualisation Effects (SIDE) and Social Identity

According to Reicher, Spears and Postmes (1995), SIDE theory describes the change in the behaviour of people when in a crowd as opposed when they are closer to the network or the group. This theory is important in understanding computer-mediated technology and communication. SIDE theory has been expanded on the basic deindividuation theory that examines how in the crowd people will act in ways that are often not perceived as rational (Reicher et al, 1995). For instance, when a person is in a crowd there is a certain amount of anonymity that can impact their behaviour. If a normal person did not agree with a controversial decision made by an organisation, they would not usually go up to the organisation's building by themselves and throw a glass bottle at it. On the other hand, if a person is in a crowd of one hundred people and everyone is throwing glass bottles, then the person may be inclined to act irrationally and proceed to deface the building with glass bottles.

Reicher et al. (1995) argued that deindividuation has been found to foster group identification and to encourage greater opinion division in small groups communicating online. He, therefore, urged that in order to understand effects of factors such as anonymity and reduced signs on group behaviour, one needs to take the social and inter-group context into account (Reicher et al., 1995).

SIDE theory has been adopted in the research because it explains how anonymity influences individuals to behave when in an online platform such as Facebook. Reicher et al. (1995) identified two aspects of anonymity which are, cognitive and strategic. Whereas, in Cognitive SIDE, anonymity and engagement in a group enhance the prominence of social identity and thereby reducing social perceptions of others and self (Claywell, 2011). SIDE theory argues that this occurs because anonymity

confuses individual features and interpersonal difference. Strategic SIDE, explains that anonymity affects the ability to express personal and social identities (Reicher et al., 1995). Also, anonymity may be mostly use by people with less power in order to express themselves.

2.6.4. Social Identity theory

According to Tajfel and Turner (1986), social identity theory predicts definite intergroup behaviours based on perceived group culture. This perception includes different statuses, legitimacy, and the ability to move within these groups (Tajfel & Turner 1986). Social identity is a person's sense of who they are based on their group memberships. Tajfel and Turner (1986) proposed that the groups such as social class, family, football team, which people belonged to were an important source of pride and self-esteem. Groups give us a sense of social identity: a sense of belonging to the social world (Tajfel & Turner 1986). Social identity theory predicts that group members of an in-group will seek to find negative aspects of an out-group, thus enhancing their self-image.

2.6.5. Gaps of theories

Social Network theory focuses more on the relationships between people within a network and the resources that are being shared in the network. However, this theory does not identify the behaviour of the people inside the network. For instance, Li and Chen (2014) found that the use of social networks and weak ties (weak relationships in the network) have a positive relationship in bridging social capital. However, not many studies that reveal a positive relationship in the case of mobile bully-victims.

SIDE and Social Identity theories focus more on the behaviour of the individual maintaining their anonymity within a social group. They do not provide information about bully-victim behaviour. These theories have not been used to evaluate the behaviour of bully-victims on social network platforms in general in the South African context. However, their constructs allow us to identify aspects that adolescents possess in a social network platform to conduct bad behaviours.

2.6.6. Integration of Theories for a conceptual model

Social network theory enables the researcher to evaluate Facebook usage amongst the adolescents who are bully-victims. Since Facebook has similar features with the social network, it becomes easy to identify relationships and resources shared on Facebook. SIDE and Social Identity theories evaluate the behaviour of the bully-victims. This provides an opportunity for the author to offer a better understanding of bully-victims behaviour on social networks since they are use as better means of communication among adolescents.

2.7. USAGE OF ADOPTED THEORIES IN THIS STUDY

Social networks are defined as a connection of socially relevant nodes which may represent an individual, an organisation or a group of people (Marin & Wellman, 2011). Freeman (1979) use centrality theory to measure the distance and the position that a node occupies in a network. While Social network theory is being used to explain direct links and symmetric relationships in Facebook. Symmetric relationships are relationships that focus on the similarities than differences (Freeman, 1979). In this study, Social network model from Liu et al., (2017) is use to explain the behaviour of bully-victims in Facebook. Liu et al. (2017) also use a two-step flow of communication process to explain the characteristics of an actor including the level of centrality such as degree, betweenness and closeness within a network.

2.7.1. Characteristics of an Actor

According to Liu et al. (2017) who one is, meant the traits that identified an individual such as personality, demographics (Serrat, 2017), charisma and socio-economic background (Vilanova, Beria, Costa & Koller, 2017). What one knows, includes information that the person has (Vilanova et al., 2017), personal competencies such as good leadership skills (Kyobe et al., 2016), attractiveness, popularity or social skills (Claywell, 2011). Whom one knows, include the social status of a person in a social network (Liu, et al., 2017). For instance, a person who has the right social connections and is in the right social position is likely to have better information (Granovetter, 1983; Liu, et al., 2017). Liu et al. (2017) state that centrality has been used to measure and identify leaders in the network location.

2.7.2. Degree Centrality

According to Liu et al. (2017), degree centrality measures the interactions each node or an actor has in a network. Such nodes are likely to become leaders' due to more social ties which create better opportunities to receive and spread information represented by a black node in Figure 1 (Liu et al., 2017). Granovetter (1983), refers to an actor or a node that is at the centre of the network as an Ego who is closely in touch with his associates. Being at the centre of the network allows actors to be in a better position to hold resources (Liu et al., 2017).

With more social ties it becomes easy to attract other personalities with similar features (Granovetter, 1983) and enables them to obtain authority over those who choose to follow them (Vilanova et al., 2017). Vaillancourt, McDougall, Hymel &Sunderani (2010) found that while power differences are easily identified in physical bullying, they are more difficult to identify in online/mobile bullying (Rodkin et al., 2015). However, SIDE theory focuse on the behaviour of people when in a crowd as opposed when they are closer to the network or the group (Reicher, Spears & Postmes, 1995).

2.7.3. Betweenness centrality

According to Liu et al. (2017), this betweenness centrality determines frequency which a single actor lies on the shortest location linking with other actors on the network. Actors with higher betweenness centrality have a potential of serving as a bridge in the network (Liu et al., 2017). Such actors (represented by a light grey node in Figure 1), have an influence on the flow of information between actors who are not within a network. For instance, when betweenness actors are opposing the distribution of information, that information will not reach actors who are outside the network periphery (Liu et al., 2017).

On the other hand, Kim and Park (2011) found that individuals who felt that being too similar with most people infringes their distinctive individual preferences and hinder them from sharing similar opinions. For instance, a person might feel the need to have different opinions from the majority. Such behaviour tends to isolate the individual from the network and has the potential of exposing their vulnerabilities (Kim & Park, 2011). Therefore, betweenness actors likely joined marginalised actors (represented by the white nodes in Figure 1) when they feel unwanted by the group members (Kim & Park, 2011; Rodkin et al., 2015).

2.7.4. Closeness Centrality

Closeness centrality is believed to determine the average between an individual actor and other actors in the network (Liu et al., 2017). Actors who have high closeness position (represented by dark grey nodes in Figure 1) in the network easily moved information to other actors (Liu et al., 2017). Such actors are highly influential in a network as they reach any node within the group (Kim & Park, 2011). Naturally, a person attempts to be acceptable by other people of the same group by adopting customs of that group by not voicing their different views as they fear being rejected (Kim & Park, 2011; Rodkin et al., 2015).

2.7.5. Relationship

According to Granovetter (1983) strong and weak ties theory, weak ties are more important in a social network as they bridge a gap between two unconnected actors in different networks. He maintains that these ties enable actors who are on the periphery of the network to receive outside information (Granovetter, 1983; Liu et al., 2017). The value of the ties between these actors was found to depend on the strength of their relationship in the network (Claywell, 2011). It is also important to note that the diluted information received by the people outside the social network group (Granovetter, 1983) could, in turn, be used to hurt the people inside the network as at times sharing of information on social networks is mostly based on trust (Mayer, Davis, & Schoorman, 1995). According to Liu et al., 2017 the bridge between networks was possibly a result of a dyad relationship. Dyad being described as the

social relationship between two actors from the Vertical Dyad Linkage Theory (Granovetter, 1983; Liu et al., 2017). SIDE theory postulates that as the network grows with more people connecting into it; those who are far from the network received diluted information (Marin & Wellman, 2011). Also, the more people on the network, the less their identity become a factor (Marin & Wellman, 2011) becomes difficult to detect their behaviour (Kyobe et al., 2016).

2.7.6. Resources

According to Liu et al. (2017) having resources such as information, social skills (Claywell, 2011), attractiveness or leadership skills (Kyobe et al., 2016) allow actors in a network to be popular and have power over others. However, power and popularity could be obtained by other means such as aggression (Rodkin et al., 2015). According to Rodkin et al., (2015) an augmented aggression is a result of children who prioritised public demonstrations of their social power, status and popularity. Rashotte (2007) described power as the capability to force or coerce in a way to control the outcomes of another person. Rodkin et al., (2015) also found that aggressive behaviours would activate other adolescents to respond with aggression of their own. The diagram in Figure 1 illustrates nodes in different locations.

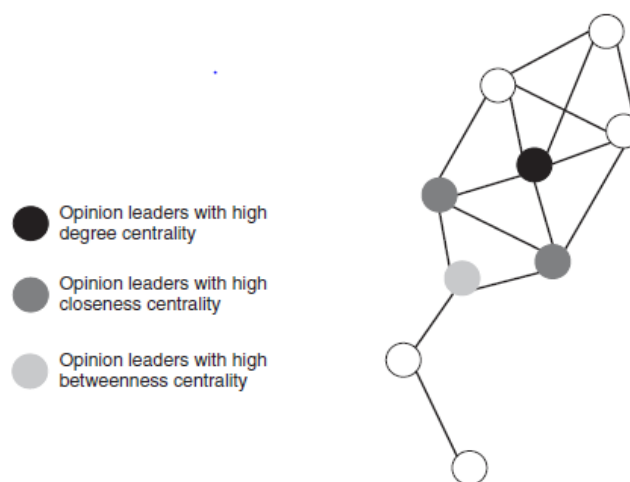


Figure 1: Social Network theory to explain centrality (Liu et al., 2017).

2.8. SOCIAL INFLUENCE

Social influence is described as the change in emotions, attitude (Zhou & Li, 2014) and behaviour of an individual that results from interacting with other individual or group of people (Rashotte, 20017). Social influence theory has been adopted in this study to assist in the learning of how bully-victim behaviour is influenced by other peers on social network platforms. In the field of Information

Systems, social influence theory has been found to have substantial influences on user behaviour (Zhou & Li, 2014). Researchers found that Social influence affects the longing and intent to use social networks (Zhou & Li, 2014) and value perception influences consumer participation on these platforms which included social identity and group norms (Liu et al., 2017). This theory also assumed that individual personality is influenced by three processes including, compliance, identification and internalisation. These processes are discussed further in the next section.

2.8.1. Identification

According to Zhou & Li (2014) Identification replicates how a user regards herself by means of a group defining features. Social Identity theory postulate that individuals create part of their identity which is identical to a group in which they belong (Liu et al., 2017). Vilanova et al. (2017) use SIDE theory to explain how these actors lose personal qualities to obtain new traits and power in a social network. When awareness attention is not focus on oneself, the decision of whether to produce a behaviour weakened and that reduced inner limitations and made room for antinormative behaviour (Vilanova et al., 2017). According to Reicher et al., (1995) increase in crowds is an indication of what is normative within that group and in that situation. When personal qualities fade, other online users can only identify them with information that is provided on the social network (Vilanova et al., 2017). SIDE theory assumed that lack of individual personal qualities such as facial expressions, or body language (Kim & Park, 2011), in a virtual communication potentially make group membership prominent and encourage the adoption of collective norms better than facial interactions (Vilanova et al., 2017).

2.8.2. Compliance

Compliance is believed to occur when individuals accept influence and encourage behaviour to obtain approval of others or and avoid punishment (Zhou & Li, 2014; Vilanova et al., 2017). In a social network, it is highly possible that an actor will receive influence from other actors (Zhou & Li, 2014). When a person shares similar features with other people, it makes one feel like they belong to that majority and will likely adapt to that group's norms (Kim & Park, 2011). Research on social influence has found a positive association between similarity in appearance and conformity to a majority opinion and that majority sources are highly influential (Kim & Park, 2011).

2.8.3. Internalisation

Zhou & Li (2014) claim that internalisation occurs when users integrate the sentiments of others into their own beliefs. Operating as a feature to a common group membership, similar appearance raises identification with other members while diluting individual differences (Kim & Park, 2011). The reduced attention on individual differences and augmented attention to group membership is known as depersonalisation (Kim & Park, 2011). Additionally, SIDE theory postulates that the more individuals

classify with their group and group members, the more they are willing to adapt to a majority opinion being raised by these members (Kim & Park, 2011). Figure 2 illustrates the determinants that influence an actors' social behaviour. Following this section is the discussion of the theories that explain bullying behaviour and the development of the theoretical framework.

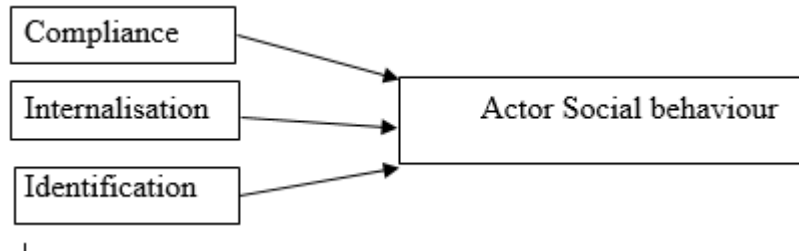


Figure 2: Actor's Social behaviour (Zhou & Li, 2014)

2.9. USAGE OF ADOPTED THEORIES AND DEVELOPMENT OF INTEGRATIVE FRAMEWORK

While social network theory discusses characteristics of an actor and the importance of position an actor can occupy; some aspects of an actor such as a behaviour and sharing of resources of an actor in these various positions are not covered. Therefore, to identify those aspects, social network theory is enhanced to incorporate aspects from various theories which explains the occurrence of bullying behaviour in a social network. The integrative theoretical framework assists in identifying and overcoming the limitations that previous research encountered previously. Also, it provides an understanding of an actor behaviour in various positions in a social network.

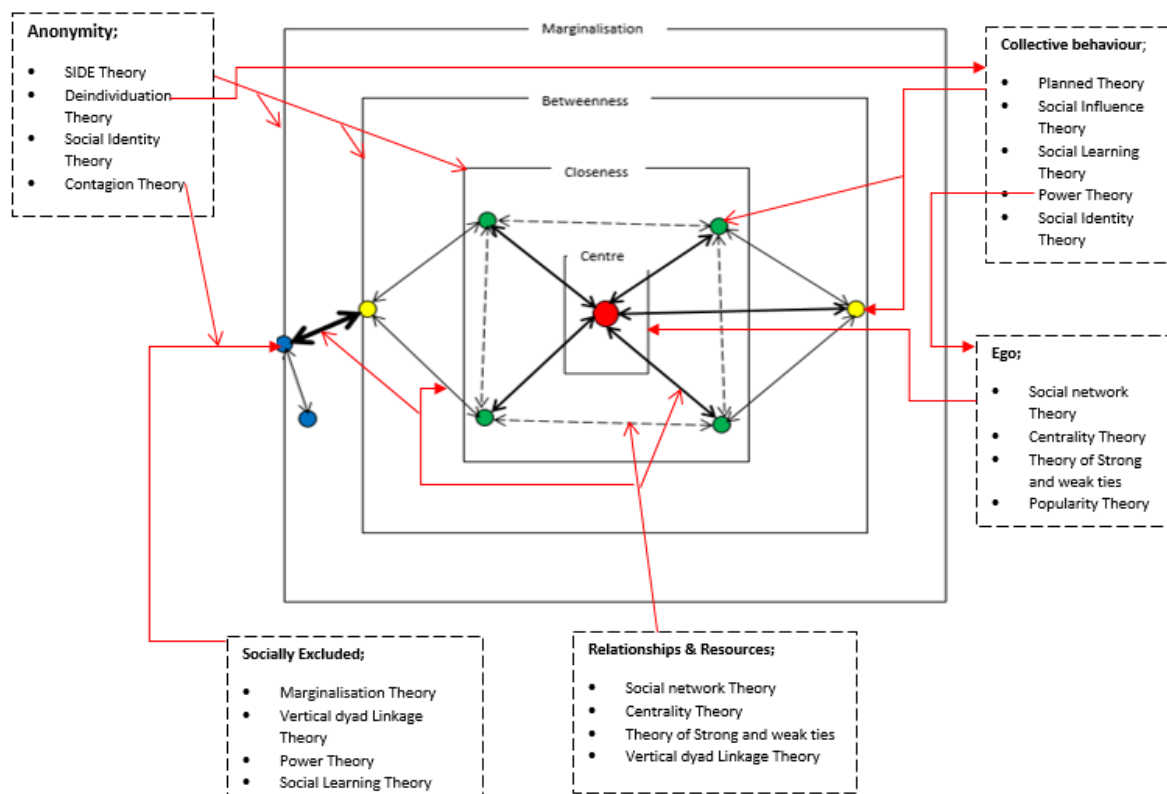


Figure 3: Integrative theory Framework

Degree level- Actors (represented by a red node) that occupy this position mostly have resources and direct links with other actors. The direct links lead to the cohesion of the actors. Actors (Ego) with more resources hold more power to control the distribution of these resources within a network (Vilanova et al., 2017). Theory of weak ties by Granovetter (1983) postulates that actors with many relationships have strong ties. Theory of Planned behaviour also claim that an actor will change behaviour based on the attitude towards the behaviour and the intention to change the behaviour in any position. Also, Rodkin et al., (2015) claim that actors in degree position are popular.

Closeness level- actors that occupy this position (represented by green nodes) tend to identify themselves with the traits of an Ego. Although closeness reveals the capacity to communicate (Freeman, 1979), Social influence theory postulates that these actors will lose their personal identity to comply with the commands of the actor at the centre to avoid punishment or get rewards (Zhou & Li, 2014). According to Liu et al. 2017), bullying behaviour manifests because of collective behaviour. Contagion theory views crowd as providing their members with a cloak of anonymity, which in turn enables people to abandon personal responsibility for their actions and to behave in irrationally and negligent ways. Also, Deindividuation theory postulates that when people join crowds, they often give up a sense of personal responsibility (Liu et al., 2017). Being part of a group provides a degree of

anonymity allowing them to be more impulsive, irrational, aggressive and even violent (Liu et al., 2017).

While these actors reveal the capacity to communicate (Freeman, 1979); Social Learning Theory of Aggression use 4 processes (attention, retention, reproduction, and motivation) to explain how actors display aggression (Bandura, 1977). SLT postulates that behaviour is learned through attention; For instance, actors close to the Ego pay attention to how the Ego behaves. Actors will then retain the behaviour. Depending on whether a behaviour is rewarded or punished, the actor will reproduce the behaviour and lastly have a motivation to keep the behaviour when it is rewarded.

Betweenness level- Actors (represented by the yellow nodes) that occupy this position are the most important actors in the network because they control and able to alter the flow of information between two unconnected networks (Freeman, 1979). The actor's role is to provide a bridge for exchanging of resources in the network. Similar to actors that occupy closeness, betweenness reveals the quickest way actors can reach each other in the network. However, as *Social Identity Theory* postulates that people look to the group to provide guidance in what is and is not acceptable behaviour. When actors with high betweenness decide to leave a certain network, the unconnected networks will disband (Freeman, 1979). A theory of planned behaviour suggest that such actors intentionally break the connection in the networks. It is a challenge to dictate the behaviour of the actors with betweenness as they have dyad relationships and undirected links in the network (Freeman, 1979). Social influence postulates that actors with indirect links internalise their traits and behaviour with that of actors with closeness. At the same time, actors with betweenness have dyad relationships with actors that are excluded in the network. Such actors are marginalised in the network.

Marginalised level- actors in this position (represented by blue nodes) become excluded to the network due to lack of resources or social status which lead to lack of many interactions in the network (Rodkin et al., 2015). According to Rodkin et al. (2015), marginalised actors use aggression to obtain social status. For these actors to occupy an inner level, they have to lose their personal qualities which are supported by the deindividuation theory as well with social identity theory (Liu et al., 2017). Also, to maintain dyad relationships they have with actors' in-between level, they will follow the 4 processes of SLT.

Interactions- According to Freeman (1979) and Granovetter (1983) interactions occur because of resources, traits and position that each node has in a network. There are direct links which exist between actors that occupy the degree position and those that occupy closeness. These direct links are referred to as strong ties according to Granovetter (1983). Indirect links, on the other hand, occur

between actors with closeness and those with betweenness. Also, indirect links exist between actors with closeness. The next section will discuss mobile applications that lead to bullying behaviour.

Figure 3 illustrates elements which are identified from the use theories. Some of these elements included anonymity, collective behaviour, relationships, resources and social exclusion. Theories related to anonymity postulates that anonymity influenced antinormative behaviour in virtual communication platforms (Liu et al., 2017; Kim & Park, 2011). Also, the collective behaviour could lead to bullying because actors tend to focus on their similar qualities while their prosocial behaviour fades with their personal identity. Additionally, some theories demonstrate that behaviour is learned from actors that occupy the centre position who have many relationships, resources and leading to higher social status within a social network (Zhou & Li 2014). Lastly, it is revealed that actors who lack resources and few relationships tend to be socially excluded from the network. Table 3 summarises elements identified from the integrative theoretical framework. Following this section will be the discussion of the constructs depicting a conceptual framework for this study.

Table 3: Summary of identified elements from Integrative Theoretical Framework

Theories used	Elements Identified
SIDE Theory	Anonymity, Antinormative behaviour
Social Identity Theory	Anonymity, collective and antinormative behaviour
Deindividuation Theory	Anonymity, collective behaviour
Contagion Theory	Collective behaviour
Theory of Planned behaviour	Behavioural intention
Social Influence Theory	Compliance, Group identification, internalisation
Social Learning Theory of Aggression	4 processes- ARRM (Attention, Retention, Reproduction, Motivation), Vicarious Learning
Power Theory	Implicit and explicit power
Popularity Theory	Perceived popularity
Marginalisation Theory	Lack of resources, social exclusion
Vertical dyad linkage theory	Dyad Relationships
Theory of Weak ties	Ego, Interactions, weak and strong ties
Centrality Theory	Centrality levels, direct links, indirect links,
Social network Theory	Nodes, Actor Traits, Resources, Relationships, Position

2.10. DEVELOPMENT OF CONCEPTUAL FRAMEWORK AND PROPOSITIONS

This section discusses the development of a conceptual framework. The constructs have been derived from the developed integrative theoretical framework including, anonymity, collective behaviour,

power, Facebook Features and Facebook usage to also assist in the formulation of the propositions from the constructs.

2.10.1. Anonymity

Anonymity is described as the condition of remaining anonymous (Claywell, 2011). For instance, some researchers have found that Facebook users tend to enhance their profiles by exaggerating or reducing their looks (Wilson et al., 2012). Bullies may create as many fake accounts using their victim's information to misbehave or to be accepted on certain groups and hide their real identities (Vaillancourt et al., 2010) or even attack their victims (Bem, 1972). As SIDE Theory postulates that when people are anonymous in virtual communication platforms, they do not account for the consequences of their actions (Liu et al., 2017).

While anonymity improves the prominence of social identity (Bem, 1972), it provides an opportunity for bullies to find their targeted victims without being caught (Claywell, 2011). Facebook allows people to follow each other without being friends and this increases the opportunities of targets being victimised (Wilson et al., 2012). However, some researchers argued that Facebook is different from other social networks in the sense that online friendships result from friendships that existed outside the application (Wilson et al., 2012). Therefore, possibility of victimisation continuing on Facebook resulted from a positive relationship between school bullying and Facebook bullying has been found to exist (Tsai, Lucas, & Kawach, 2014). Bullies are able to attack their victims via the third party on Facebook. For instance, a user requests an administrator of a Facebook page to publish their status without revealing their identity (Wilson et al., 2012). From this statement then a proposition is derived:

Proposition 1. Anonymity enhances victimisation of bully-victims on Facebook.

2.10.2. Collective behaviour

According to Liu et al. (2017) bullying behaviour manifests because of collective behaviour. While these actors reveal the capacity to communicate (Freeman, 1979); Contagion theory claim that crowd behaviour provides members who share similar traits with a cloak of anonymity (Tsai et al., 2014), which in turn enables adolescents to abandon personal responsibility for their actions and to behave in irrationally and in negligent ways (Liu et al., 2017). Being part of a group provides a degree of anonymity allowing adolescents to be more impulsive, irrational, aggressive and even violent. For instance, bully-victims that follow their favorite celebrity on Facebook pay attention to how the celebrity behaves online. Bully-victims will then learn and retain the behaviour (Bandura, 1977).

Depending on whether a behaviour is rewarded or punished, the bully-victim will reproduce the behaviour (Tsai et al., 2014), and lastly, have a motivation to keep the behaviour when it is rewarded. Social Identity Theory postulates that people look up to the group to provide guidance on what is good and is not acceptable behaviour (Vilanova et al., 2017). As much as Facebook settings allow a person to limit who their content should be visible to (Wilson et al., 2012); a close friend may share their friend's post with the intention of making it trend (Van Dijk et al., 2017), while unknowingly exposing their friend to the bullies (Wilson et al., 2012). The following proposition is predicted that:

Proposition 2. Collective behaviour enhances victimisation on Facebook.

2.10.3. Power

Power is an important factor in bullying as it distinguishes a perpetrator from a victim (Tajfel, & Turner, 1986). A bully may possess both explicit and implicit powers to build and maintain their status within a group, where explicit power is obtained through forceful actions (Kwan, & Skoric, 2013; Rashotte, 2007), by being aggressive towards the victim (Tajfel, & Turner, 1986). In Facebook, implicit power is mostly obtained by adolescents with high social status and other attractive skills (Kwan, & Skoric, 2013). For instance, a user with a high social status tends to have many Facebook friends and followers (Wilson et al., 2012). The number of followers on Facebook is said to affect the identity of the profile (Wilson et al., 2012) user especially if they write on the wall of the user. Bullying behaviour can manifest when these adolescents with many resources become arrogant and choose not to share with other Facebook friends (Kwan, & Skoric, 2013).

Other studies have found that adolescents who do not have sufficient resources to attract friends and followers use aggression to obtain power (Rodkin et al., 2015). Marginalised adolescents use explicit power to become relevant to their peers (Wilson et al., 2012). For instance, on Facebook, a perpetrator can threaten to upload pictures of their victims when they do not obey (Vaillancourt et al., 2010). So, given the kind of power to use in an online environment, it is then predicted that:

Proposition 3. Implicit power influences bully-victim behaviour on Facebook.

2.10.4. Mobile phone Features

The use of technology has a potential to assimilate into improving an existing feature by replacing other methods or interfere with the feature by dominating its developmental phase in everyday life (Swingle, 2016). Technology may also possess the power to interfere with psychological behaviours, in a way that transforms them by facilitating acceleration of negative or suppressed behaviour, this changes the natural social behaviour and fast-tracking behaviours to an extent where they become obsessive-compulsive

(Swingle, 2016). Mobile Added Value (MAV) theory has been used to illustrate how mobile technology's ubiquity, context-sensitivity, identifying functions, and command and control functions can add value, facilitate communication and knowledge sharing (Pousttchi, Weizmann and Turowski, 2003). While mobile phone application features can encourage people to communicate openly, and simplify avenues for adolescents to report their bullying; such features may also escalate cyberbullying and discourage adolescents from reporting bullying (Kyobe & Shongwe, 2011; Ndyave & Kyobe, 2017). We, therefore, predict that:

Proposition 4. Usage of Emojis and Facebook Features enhances bullying resulting in mobile bully-victim behaviour on Facebook.

2.10.5. Facebook Usage Frequency

Research studies show that the rapid growth of mobile adoption and internet usage has attracted a lot of Internet Service Providers (ISP) to offer more online services (Keaveney, & Parthasarathy, 2012). The movement of customers between these online services has become an issue for these ISPs (Zeithaml, 2000) because they compete on keeping the customers satisfied (Keaveney, & Parthasarathy, 2012). However, due to frequent usage of some of these social network applications, some ISPs such as Cell C, MTN, Telkom, and Vodacom offer social network applications for free as a way of maintaining customer satisfaction and attracting new customers (Keaveney, & Parthasarathy, 2012). Easy access to these applications increases usage especially among adolescents, which escalates the problem of bullying behaviour on Facebook (Keaveney, & Parthasarathy, 2012; Wilson et al., 2012). Moreover, excessive usage of Facebook is found to be positively associated with Facebook victimisation (Kwan & Skoric, 2013). We, therefore, predict that:

Proposition 5. Frequent usage of Facebook will enhance bully-victim behaviour.

From the above discussion of literature which is drawn from various theories to understand the prevalence of mobile bully-victim behaviour on Facebook, we have developed a conceptual model. This model includes some of the common factors considered to influence bully-victim behaviour on Facebook.

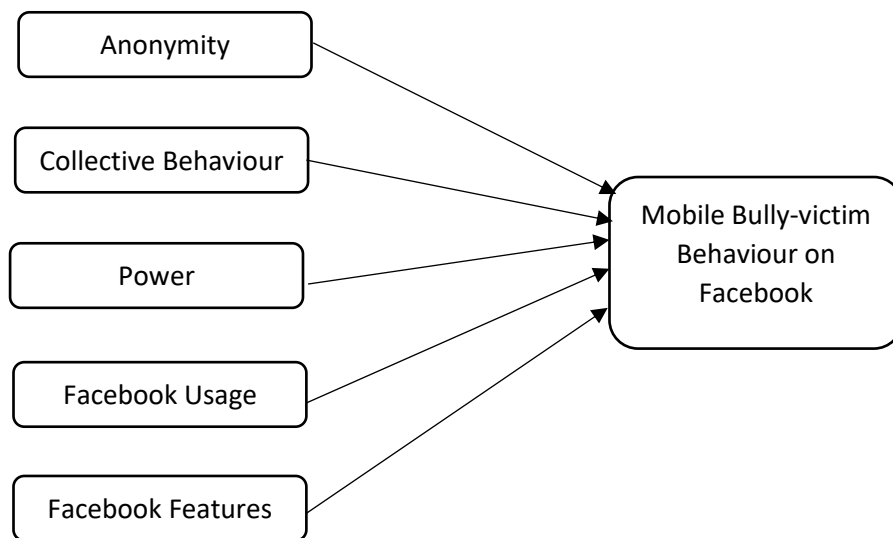


Figure 3: Mobile Bully-Victim Model

2.11. CHAPTER SUMMARY

The purpose of this chapter is to review the literature and propose a model that examines the factors that evaluate bully-victims' behaviour on Facebook. The literature review is conducted from various disciplines highlighted some of the gaps within the paper. A conceptual model with propositions is developed from an Integrative Framework. Such conceptual model revealed some of the factors that are overlooked by previous researches. Therefore, this conceptual model can further guide researchers on how to assess and identify bully-victims on Facebook and other social networks in general. These studies will assist in the development of anti-bullying policies in schools and government policies in cybercrimes. This study aims to contribute to the body of knowledge on mobile bullying research by extracting theories and providing expanded understandings of bully-victims in schools. The next chapter will be looking at the research design and methodology for this study.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1. INTRODUCTION

A research design is described as the methods and procedures that are utilised to collect and analyse procedures of the variables detailed in the research problem (Saunders, Lewis & Thornhill, 2012). Research design can be explanatory, descriptive, experimental or correlational. In this study, the researcher adopts the explanatory design to discover the nature of bully-victims on social networks (Saunders et al., 2012).

The purpose of Explanatory research is to assist the researcher in finding the problem that is not studied in-depth. For instance, in the South African context, bully-victim behaviour has not been well explained in academic research. Therefore, this research design assists the researcher in understanding the problem being studied efficiently. Also, explanatory research allows the researcher to use secondary data from published literature. Following this section is an outline of the research methodology, strategy and approach, population and sampling, data collection and analysis and lastly, the ethics and confidentiality.

3.2. RESEARCH PHILOSOPHY

3.2.1. Ontology- Objectivism

Ontology is the study of being and the assumptions are concerned with what constitutes reality. The researcher believes that there is an objective reality and we can understand it through the laws by which it is governed (Scotland, 2012). This study adopted an objectivism approach as an ontological position to determine the nature of mobile bully-victim behaviour on Facebook. This approach is informed by other researches which adopted objectivism to study to bullying behaviour in adolescents. Objectivism is used to discover laws that govern behaviour (Scotland, 2012). The belief is that, regardless of the researcher's perspective or believes there is a single objective reality to any research phenomenon or situation (Easterby-Smith, Thorpe, & Jackson, 2012). For instance, Lian et al. (2007) adopted objective ontology to discover that violence and bullying are resulting from aggressive behaviour. Therefore, a researcher's role is to discover this knowledge independent of their interest in it. According to Scotland, (2012) ontological position of objectivism is one of realism because realism is the understanding that objects have an existence independent of the knower.

3.2.2. Epistemology-Positivism

Epistemology is concerned with how knowledge is obtained. Scotland (2012) maintained that epistemological assumptions are concerned with how knowledge can be created, acquired and communicated. This study has minimal interaction, made time and context-free generalizations, to maintain participants' anonymity when collecting data to allow for free expressions when participating by adopting a positivist epistemology. Positivists remain detached from the participants of the research by creating a distance, which is important in remaining emotionally neutral to make clear distinctions between reason and feeling (Easterby-Smith et al. 2012).

Also, While Positivism uses scientific experimental methods which offer a better opportunity to establish the truth and objective reality (Scotland, 2012). Specifically, factual data is collected to ascertain how anonymity, collective behaviour, power, Facebook Features and Facebook usage influence bully-victim behaviour on Facebook. Additionally, this research has uncovered and measure mobile bully-victims behaviour, using deductive and quantitative strategies because they produced precise mathematical statements about the facts they are investigating (Scotland, 2012).

3.3. RESEARCH METHODOLOGY

Presented below are different methods that are undertaken in conducting this study. This section explains the research strategy, purpose, approaches and techniques that are adopted for the purpose of this study as well as their respective applications and supporting reasons.

3.3.1. Research Method- Quantitative

According to Richards (2003), there are two main research methods namely, quantitative and qualitative. In this study, however, the quantitative research method is adopted because they are mostly employed by positivists (Richards, 2003). Also, data is usually easy to replicate and are easy to generalize. Scotland (2012) also claim that positivist methodology sought to explain relationships by attempting to identify grounds which influence outcomes. The aim is to have direct and exact relationships which are indisputable. Although quantitative research employs two methods such as surveys and statistics (Scotland, 2012), statistical methods including surveys are used in this study.

3.3.2. Research Strategy and Approach

This study makes use of surveys because surveys that are not expensive and they are easily accessible (Scotland, 2012). Surveys are important tools because they assess opinions and trends. These surveys are structured in a way that is easy for student participants to use and understand. This study has

developed a conceptual framework from theories and from there, propositions are to be evaluated. This means that the study has followed a deductive approach to confirm or reject propositions and that deductive approach is mostly use in quantitative research (Scotland, 2012). This approach aimed to generate meanings from the data set collected which identified patterns and relationships to build a theory. Deductive approach is believed to be concerned with conclusions from premises or propositions.

3.4. TIME HORIZON- CROSS-SECTIONAL

This tool is use to capture information based on data gathered for a specific point in time. It has been chosen because it is not costly to perform and does not require a lot of time (Cherry, 2018). Cross-sectional time frame is used to prove or disprove assumptions. It contains multiple variables at the time of the data snapshot; Can be used for various types of research (Cherry, 2018). Cross-sectional cannot be use to analyse behaviour over time. Data for this study are collected between March and April 2018. The study captured data during this time in four public schools between two provinces (Western Cape and Gauteng) respectively. While the researcher uses paper-based questionnaires, all the data is captured once in each school. The below table 4 illustrates the duration and activities that took place while conducting this study.

Table 4: Research Time Frame

TASK	DUE DATE
<i>High-Level Research Proposal Submitted</i>	<i>15/06/2017</i>
<i>Mid-Year Vacation</i>	<i>11/07/2017-13/08/2017</i>
<i>Literature Survey submitted</i>	<i>24/08/2017</i>
<i>Mid-Term Vacation</i>	<i>22/09/2017- 29/09/2017</i>
<i>Draft Questionnaire</i>	<i>01/11/2017- 04/11/2017</i>
<i>Research Design Submitted</i>	<i>13/11/2017</i>
<i>Pilot and Refine Questionnaire</i>	<i>15/02/2018- 19/02/2018</i>
<i>Approval from the Ethics Committee</i>	<i>15/03/2018</i>
<i>Data Collection: Identify participants and distribute a questionnaire</i>	<i>23/03/2017- 12/04/2018</i>
<i>Research Progress and Wrap-up</i>	<i>07/12/2017</i>
<i>Research Submission</i>	<i>26/09/2018</i>

3.5. INSTRUMENT DESIGN, MEASURES AND DATA VARIABLES

Literature is filled with multiple tools to measure the elements under study in various environments. For this research, a survey tool is created based on elements from the conceptual model. Questions are drawn and rephrased from existing questionnaires and all are measure using a five-point Likert scale. The benefit of using an existing instrument is that this ensures a greater chance of reliability and validity (Takavol & Dennick, 2011). The table 5 below outlines some of the questions that are extracted from literature published by experts in the field. Appendix 1 is attached at the end. The instrument that is used to collect data for this research have three sections.

- **Section A:** this section measure demographics of the participants during the survey. Information captured included Gender, Grade, Age, and whether participants owned any active Facebook account which is adopted from a paper by (Oerodorf-Hirsch & Sundar, 2015). The importance of this information would illustrate different characteristics on how they influence one to become a bully-victim on Facebook.
- **Section B:** Measure information with regards to the factors that may influence bully-victim behaviour. These factors included; Emoji& Facebook Features, Anonymity, Collective behaviour, Power, bullying and victimisation, and Facebook Usage. Some of these questions are adopted from various research papers (See Table 5 summary).
- **Section C:** Measure gratification for this study. Gratification questions are adopted from an academic paper by (Gur et al., 2015). Other questions are adopted and rephrased from Kwan & Scoric (2013).

Table 5: Data Variables

Construct	Question(s)	Source
Anonymity		
A1	I use a different name on Facebook so I can reach people I know	Kwan & Skoric, 2013
A2	I have created a different account so I can reach others on Facebook	Kwan & Skoric, 2013
Collective Behaviour		
C1	If I see someone being criticized on Facebook I also attack them	Dumas et al., 2012
C2	If I see a picture of someone I do not like being made fun of, I also make fun of them	Dumas et al., 2012
Power		
P1	I have my pages I control on who I want to be part of on Facebook	Rodkin et al., 2015
P2	I report when I see someone being bullied on Facebook	Oerodorf-Hirsch & Sundar, 2015
Facebook Emoji/Features		
E/F1		Gur Et al., 2015
E/F2		Gur Et al., 2015
Facebook Usage		
FU1	I always use Facebook to attack people I do not like	Keaveney & Parthasarathy, 2012
FU2	Always share status updates of people I do not like to make fun of them	Kwan & Skoric, 2013
Gratification		
G1	I use Facebook because I enjoy to harm others	Gur Et al., 2015
Demographics		
D1	Age, Gender, Grade	Oerodorf-Hirsch & Sundar, 2015

3.5.1. Pilot study

Is a small-scale preliminary study conducted in order to evaluate feasibility, time, cost adverse event and effect size (Weathington, Cunningham, & Pittenger, 2012), an attempt to predict an appropriate sample size and improve upon the design prior to performing a full-scale research (Basic Education, 2015). The questionnaire is evaluated by three senior students and approved by the Supervisor for this study and the Ethics department at UCT. The contents of the questionnaire are then reviewed and the feedback is combined into the final version of the questionnaire.

3.5.2. Target Population and Sampling

The targeted population are learners from various high schools ranging from grade 10 to grade 12 who have one or more active Facebook accounts. Also, the learners are both females and males from different cultural backgrounds. The study population is based on learners from Western Cape and Gauteng public schools because there are more school violence cases occurring in communities where there is a high crime rate (Basic Education, 2015). These two provinces fall under four provinces including Limpopo and Free State that are leading in high crime rate in South Africa. Due to unavailability to participate from other provinces, only Western Cape and Gauteng public schools are available and willing to participate in the study (Basic Education, 2015). Targeted population is obtained in one public school in Cape Town in Western Cape and three public schools from Alberton in Gauteng. Grades that are given surveys are 10, 11 and grade 12's.

Sampling method which is the statistical procedure that is concerned with the section of the individual observation will assist in making a statistical interpretation of the population (Hajimia, 2014). This

study uses the probability sampling technique where every individual unit of the population have an equal and independent opportunity of getting selected into a sample (Hajimia, 2014). This technique is chosen because of its simplicity to conduct and meet assumptions of many statistical procedures (Hajimia, 2014). In order to determine the sample size, statistical information such as confidence level, standard deviation or margin of error is use. Sample size varied in each school due to the unavailability of some classes to participate in the survey.

3.5.3. Data Collection

The aim of this study is to collect large amounts of information from as many respondents in the Western Cape and Gauteng public high schools. For this study, a questionnaire is constructed in a way that enabled the researcher to quickly and easily quantify results (Weathington et al., 2012) and it is completed by (n=457) learners from Western Cape and Gauteng. Questionnaires can be analysed more scientifically and objectively than other forms of research (Weathington et al., 2012). The researcher makes use of both Likert and Rating scale. Likert scales can be used on researches that employ questionnaires. They assume variables measure to be duplicates of each other (Burns & Burns, 2008) and are the most used approach to scaling responses in survey research. Rating scales used in this study allow participants to choose the number which better reflects their perceived quality of an answer (Burns & Burns, 2008).

3.5.4. Data Analysis

The research instrument is quantitative in nature and therefore caters for quantitative data types. The data for this study is collected using a paper-based questionnaire which is distributed and personally managed by the researcher (Scotland, 2012). Once the data has been collected, it is analysed using software tools such as Microsoft Excel 2016 and Statistica 64. These tools compare, measure the similarities and differences of data set and minimise human error (Scotland, 2012).

3.5.5. Reliability and Validity

As mentioned in the Pilot study section, the instrument is analysed by the supervisor to ensure the content validity of the questionnaire. Construct validity tests are done to test whether variables for the same construct are drawn from the same pool and that the construct and concepts being studies have been correctly identified (Yin, 2009). Threats to the validity may be influenced by participant error and participant bias (Saunders et al., 2009). Participant error is cause by how participants feel at different times or environments. Participant bias is when participants respond to questionnaires in order to fit a certain ideology or what they assume would be expected of them. For this, anonymity is often implemented. Anonymity ensures that the participants respond without being influenced to

respond a certain way as their responses will not be traced back to them (Saunders et al., 2009). The questionnaire (Appendix 1) indicate that the study is anonymous and assured the participant that the information given would only be use for this study. The survey cover letter written to the principals of the schools asking them for permission for their students to participate in this study (Appendix 2) also assured the principals of the anonymity of their students. Validity can also be assured through the use of a panel of experts and a field study (Radhakrishna, 2007). For this, the questionnaire is piloted with the supervisor of this research and other experts and colleagues in the Department of Information Systems and went through several iterations in which the questions are modified and improved. To check for reliability and validity of the instrument, a Cronbach alpha test is conducted. When this test is run values greater than 0.7 imply that the internal consistency for these constructs is acceptable and satisfactory (Straub, Gefen & Boudreau, 2005). This is based on Cronbach (1951) who posits that reliability can be accepted for alpha values that are greater than 0.7. A large number of quantitative Information Systems studies have employed internal consistency measures in order to ensure reliability, one way to ensure this is to ensure that the survey instrument does not provide respondents with leading questions (Straub et al., 2005). The overall Cronbach Alpha obtained for the construct is 0.77 (explained in Chapter 4). Constructs identified for this study including, anonymity, Facebook features, power, collective behaviour, and Facebook usage are adapted from previous bullying research through literature review. Spearman rank order correlation test is also run to see the correlation between the factors measuring different variables to verify the reliability of the questionnaire.

Additionally, since data collected for this study is quantitative, results can, therefore, be generalised to the larger population based on the fact that statistical methods will be employed (Yin, 2009). According to Yin (2009), conclusions about a population can be drawn based on the sample population through statistical generalisations. Ensuring that findings can be generalised to the larger population tests for external validity. To ensure external validity for this study, a conceptual model is developed and constructs are defined, these constructs will be quantitatively tested. The target population is then identified in order to gather data that will assist in testing these constructs; this target population are public high school learners that are currently in grade 10 to grade 12. This population fits the mobile bully-victim problem ages/grades as identified in the literature review. The results of the study can, therefore, be reproduced in future studies in different settings considering that the conditions are similar.

3.6. ETHICS AND CONFIDENTIALITY

The researcher took full responsibility in ensuring the confidentiality of the entrusted information from participants. Researcher fulfilled the ethical duty of confidentiality by protecting, not disclose, modify, or lose information to unauthorized people. A researcher is granted an ethical approval from the University to conduct a study in public schools. Also, approval letters are written and sent to the Departments of Education both in Western Cape and Gauteng Province. Permission to conduct surveys in these provinces is also granted along with recommended districts to visit.

Consent letters are sent to the school principals, parents and learners explaining the purpose of the study to the participants before they are allowed to participate. Researcher notified the participants that they are not forced to participate nor are they would be harmed during the conduction of the study. The questionnaire is explained in simple languages including, isiXhosa, Zulu and English and participants are allowed to ask questions. However, participants are not assisted in answering a questionnaire. Collected data is ethically reviewed and not manipulated or discarded if it does not answer certain questions.

Measures such as maintaining the anonymity of participants, securing and protecting any information that is provided by students, giving students the definition of cyber/mobile bullying and briefing students about the nature of the study and potential risks are measures that are implemented in order to protect the students. Participation is also voluntary and students are allowed to exit the study at any time

3.7. CHAPTER SUMMARY

The purpose of this chapter is to provide an outline of how the researcher went about conducting and collecting data for the research topic presented. By adopting the explanatory research design, the researcher is able to investigate the nature of mobile bully-victim behaviour on Facebook. The researcher also adopted an Objectivism ontology which has been use to discover laws that govern the behaviour of problems being studied. This study also planned to have minimal interaction, make time and context-free generalizations, to maintain participants' anonymity when collecting data to allow for free expressions when participating by adopting a positivist epistemology. Data is collected around the Western Cape and Gauteng Provinces public High schools. These Provinces have been found to be rating high in school violence because of high crime. Confidentiality of participants is maintained and data is ethically analysed. The next chapter presents the analysis, findings and discussion for this study.

CHAPTER 4: ANALYSIS, FINDINGS AND DISCUSSION

The purpose of this section is to analyse the research findings in order to answer the research questions and also determine if the research objectives are met, and also if the propositions can be accepted or rejected. The results of the tests are also presented and discussed.

4.1. INTRODUCTION

The objectives of this study are to examine factors that influence mobile bully-victim behaviour on Facebook. This study aimed to propose effective strategies that can reduce the level of mobile bully-victims on Facebook and other social networks in general. The research question is formulated, along with propositions, research design and data collection from adolescents in public high schools. A number of quantitative analysis techniques analyses the data. These techniques included running statistical tests such as descriptive for the data, reliability, correlation between variables of each construct in the model, T-test for the propositions. Lastly, regression analysis to test the overall fit of the model is conducted.

The data for this study was collected from four public high schools (1 in Cape Town, and 3 in Gauteng) during the period of March and April 2018. After collection, the data was transferred into Microsoft 2016 Excel spreadsheet and coded. The coded data are then cleaned by removing all the records that are not complete. After the data is cleaned, it is loaded onto the Statistica 13 for analysis. The second phase of processing data is to check for its reliability and internal consistency of the variables that measure each construct. First descriptive data analysis is conducted. This helped the researcher to familiarise herself with the data and understand it better. Following the Descriptive test, other tests that are conducted included regression analysis, correlation and T-tests to test the Mobile Bully-Victim model and the propositions.

4.2. RELIABILITY TEST

In this study, Cronbach's Alpha is used to measure the internal consistency for mobile bully-victim behaviour and its influencing factors including; Anonymity, Collective behaviour, Power, Facebook frequent usage and Facebook Features which contribute to mobile bully-victim behaviour. Reliability test is described as the way of assessing the quality of the measurement

procedure that is use to collect data in academic research (Warrens, 2015). Internal consistency of the variables is then tested by running the reliability test to obtain the Cronbach's Alpha. The Cronbach's Alpha for all the constructs loaded high with Facebook Features at 0.90; Anonymity at 0.85; Collective Behaviour at 0.84; Facebook Usage at 0.84; Bully-victim behaviour at 0.89 and lastly, Power at 0.65 which have the lowest value amongst the rest of the constructs. Although Power have a value lower than (0.70) threshold, it is higher than (0.60) which is applicable in an exploratory study research (Hair et al., 2006). A threshold of 0.70 is normally use and is the acceptable value of Cronbach's alpha; however, a threshold of 0.60 can be considered in the case of an exploratory research (Fornell & Larcker, 1981; Hair et al., 2006). To conclude, the scales adopted in this study are reliable. The table below presents the reliability test results t.

Additionally, the overall instrument's reliability is then tested to assure the reliability of the instrument and produced a Cronbach's Alpha of 0.77 and a standardised alpha value of 0.78. In addition to the reliability testing method of using Cronbach's Alpha, a Split-Half reliability test is run. A Split-Half reliability test divides the variables in a random manner into halves. If the data is reliable, the halves will be perfectly correlated (Statsoft, 2013). The results of the Split-Half revealed that Cronbach's Alpha of the instrument to be 0.77, which is similar to that of the Cronbach's Alpha stated for the overall instrument above.

Table 6: Summary for Reliability Tests

Construct Measured	No. of Variables	Cronbach's Alpha
Facebook Features	14	0.90
Anonymity	3	0.85
Collective Behaviour	3	0.84
Power	3	0.63
Facebook Usage	2	0.84
Bully-Victim	6	0.89
Overall reliability	31	0.77

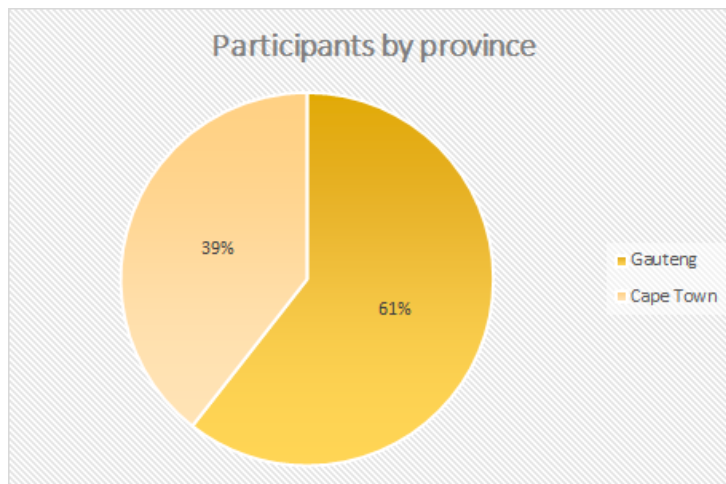
4.3. DEMOGRAPHICS ANALYSIS

Participants who completed the survey are asked to indicate their gender, age and grade and to indicate the time they spent on Facebook. Also, a relationship between usage and time spent on Facebook by adolescents has been established to be one of the predictors of mobile bullying behaviour. In this study, the questionnaire is given to the target sample for this study – target sample consisting of learners who attended public secondary schools in Gauteng (61%) and Cape Town (39%), see **Figure 4**. The higher percentage of participants in Gauteng is due to the

distribution of surveys in 3 secondary schools. Whereas, in Cape Town, only 1 school partook in the surveys. Private schools did not respond to our invitation to participate. The age of the targeted learners is between 14 and 18. School principals are involved in the study as they have a final say on whether the surveys are to be conducted at their schools.

The next subsection will discuss the demographics of the study population. Furthermore, it is assumed that all participants owned a mobile phone and at least one active Facebook account.

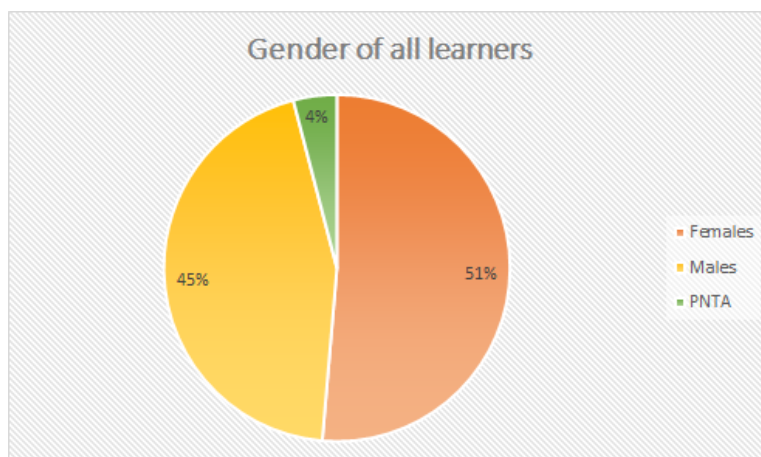
Figure 4: Data for Participants by Province



4.3.1. Gender of all Learners

Of the 457 ($n=457$) participants that are surveyed, 51% are Females, while Male participants are 45% and those that preferred not to answer are at 4% of the population see **Figure 5**.

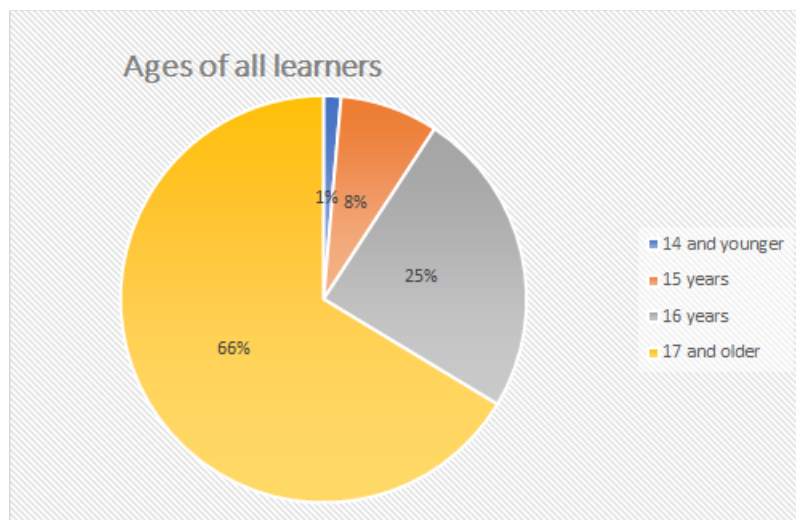
Figure 5: Data for Gender of all learners



4.3.2. Age of All the Participants

Participants are asked to indicate their age which ranged between 14 and 18 years old in this study. Majority of the participants are 17 years or older (66%), followed by participants who are 16 years old (25%), participants who are 15 years old at 8% and lastly, participants who are 14 years and younger are at 1% of the population respectively see **Figure 6**.

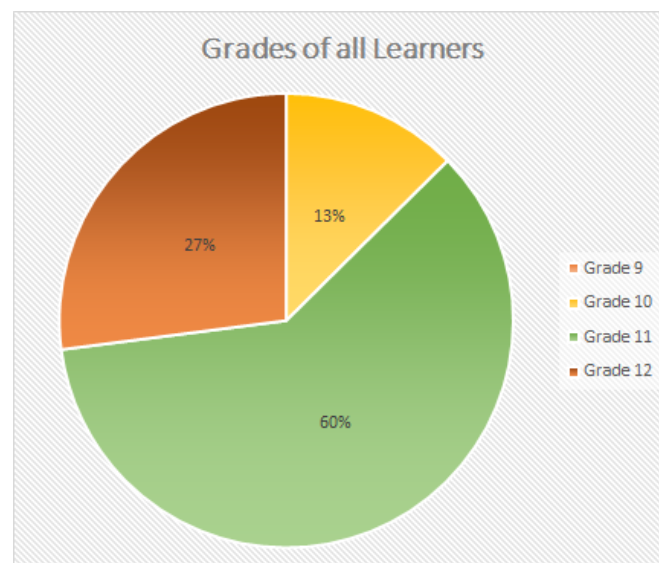
Figure 6: Ages of all Learners



4.3.3. Grades of all the participants

The grades that are surveyed started from grade 10 to grade 12 respectively. Majority of the participants are from grade 11 with 60%, followed by Grade 12 with 27%. And lastly, Grade 10 with 13% of the population. while Grade 9 did not participate in the survey.

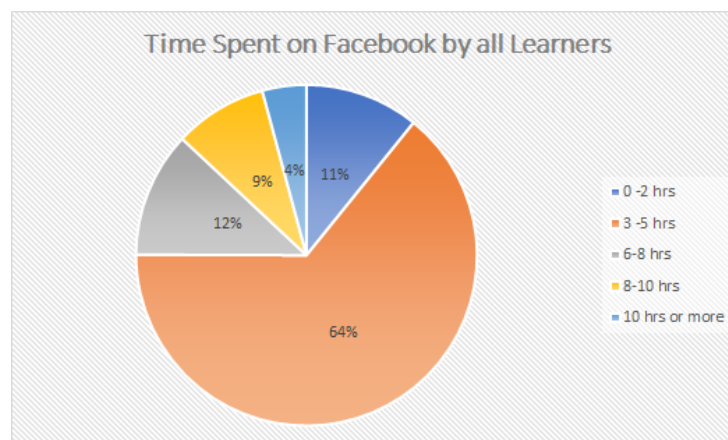
Figure 7: Grades for all learners



4.3.4. Time spent by Participants on Facebook Daily

Participants are also asked to indicate the time they spent online on Facebook. The rating scale for this question is as follows: [1 = (0-2hrs); 2 =(3-5hrs); 3 = (6-8hrs); 4 = (8-10hrs) 5= (above 10hrs)]. Majority of participants indicate that they spent around 3-4 hours on Facebook daily (64%). It is followed by participants who spent 6-12 hours on Facebook daily (12%). Those participants that spent 0-2 hours on Facebook daily are at (11%) respectively. The lowest percentages are of those participants that spent 8-10 hours and 10 hours and more on Facebook each day.

Figure 8: Time spent on Facebook by all Learners



4.3.5. Gratification for all Learners

According to Anderson. (2017), gratification is described as pleasure that grew from the satisfaction of a desire. In this study, gratification is measure using different scales including Likert scale, nominal and ordinal scales. The Researcher needed to know the gratification of participants when they are mobile bullying or mobile bullied by other adolescents on Facebook. The structure of the results is formulated in a table due to different scales of a measure adopted and for simplicity. Six questions for this section are then asked and the number of responses presented on **table 7**. Results indicate that of the 457 participants, 222 indicate that they *rarely threaten others on Facebook*, and 101 participants indicate that they have *never* threatened anyone on Facebook. About 321 participants indicate that they *talk to friends* when they are bullied on Facebook. 3 of the 457 participants indicate that they talk to their teachers when they are bullied on Facebook. Anderson (2017) found that adolescents do not report cyberbullying to their parents or teachers due to fear of losing access to their devices and social world. 65% of the parents digitally ground their children as punishment for misbehaviour (Anderson, 2017). 201 Participants also indicate that they are mostly *bullied by females* while only 50 participants indicated that they did not know the person that is bullying them. Participants are able to identify

the gender of their perpetrators. About 283 participants indicate that they are *bullied on Facebook both in school and outside of school* while 58 participants indicate that they are bullied on Facebook when inside school premises only and 47 participants indicate that they are bullied on Facebook when outside school premises. About 156 participants indicate that they *have not heard or seen anyone else being bullied in the last three months on Facebook*, while 103 participants indicate that they have seen or heard someone being bullied on Facebook in the past three months. Lastly, 279 participants indicate that they do not have Anti-Facebook bullying policy on their schools while 173 indicate that they did have Anti-Facebook policy in their schools respectively. The results presented by table 7 for gratification indicate that participants rarely threatened others on Facebook, also they preferred to talk to friends when they are bullied. Additionally, participants indicate that they mostly bullied by females both in and outside school premises. Most participants indicate that they have not seen or heard anyone being bullied in past three months and also indicate that they do not have any anti-Facebook bullying procedure in their schools.

Table 7: Gratification results for Mobile bullying on Facebook

Gratification results for Mobile Bullying on Facebook					
Please answer the following questions by choosing one appropriate Answer					
I like threatening others on Facebook	Never	Rarely	Sometimes	Often	Always
	101	222	65	22	5
Who do you talk to when you are bullied on Facebook?	None	Friends	Parent	My teacher	Not Applicable
	15	321	74	3	15
The person(s) who bullied you on Facebook was: (Check only one that apply)	Female	Male	Both Male & Female	Unknown	Not Applicable
	201	80	98	50	39
Where were you bullied on Facebook?	On the school premises	Outside of school premises	Both in and out of school	Unsure	Not Applicable
	58	47	283	27	49
Have you seen or heard of anyone else being bullied in the last 3 months? Choose One answer	It has only happened once or twice	I'm not sure	About once a week	Two or three times a month	I haven't seen or heard of anyone else
	81	65	53	103	156
Does your school have an anti-Facebook bullying policy? Choose one Answer	Yes	No	Not sure		
	173	279	106		

4.4. MOBILE BULLY-VICTIMS ANALYSIS

The previous section analysed demographics of the whole population that participated in the survey. This section focuses on the analysis of mobile bully-victims. Mobile bully-victims are those learners whose mobile victimisation and mobile bullying scores are equal to the value of 3 and above in terms of the Likert scale. Learners who scored less than 3 are not considered to be bully-victims as the Likert scale measure is as follows: **1 = Never; 2 =Rarely; 3= Sometimes; 4= often; 5= Always** respectively.

4.4.1. Gender of Mobile Bully-victims Analysis

Of the $n= 457$ learners that are surveyed, it is found that 319 are mobile bully-victims. Of these mobile bully-victims, 50% females; 44% males and the other 6% preferred not to answer the gender question see **Figure 9**. Also, **Table 8** confirms that on average all bully-victims have bully-victim behaviour (see average score of 4.14 for bully-victim behaviour). Female bully-victims scored (4.2) on average, which is slightly higher than that of male bully-victims (4.1) on average. This is consistent with earlier studies by Mishna, Khoury-Khassabri, Gadalla & Daciuk (2011), who found that females are more likely to be bully-victims than males in virtual platforms. Also, females tend to use indirect bullying than boys; online space thus provides a better platform and opportunity for females to engage in aggressive behaviours (Mishna et al., 2011). Also, females have a relatively higher mean for anonymity (4.0) while the mean for males is (3.9). This is also consistent with Mishna's et al., (2011) earlier observation that males tend to resort mostly to traditional bullying than cyberbullying when compared to females. For Emoji & Features (average score 3.8) and Anonymity (average score 3.9), Females have means 3.9 for Emoji & Features and 4.0 Anonymity that are higher than that of males 3.8 Emoji & Features and 3.9 anonymity respectively. However, for Collective behaviour (average mean scored 3.7), males have a higher mean (3.8) and females have a mean score of 3.6. Additionally, females have higher means for Power than males and lower mean Facebook usage than males.

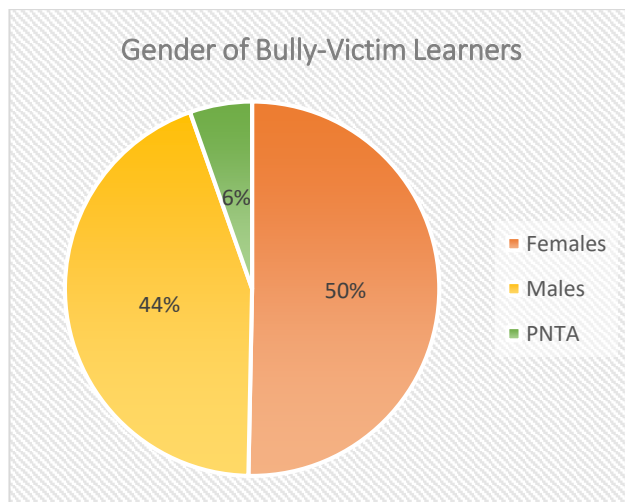


Figure 9: Gender of Bully-Victim Learners

Table 8: Descriptive Statistics for Bully-victims

Variable	Descriptive Statistics: All Bully-victims					Females			Males		
	Valid N	Mean	Minimum	Maximum	Std.Dev.	N	Mean	Std.Dev.	N	Mean	Std.Dev.
Gender	316	2,45	1,00	3,00	0,60	159	3,00	0,00	140	2,00	0,00
Age	314	3,64	1,00	4,00	0,59	156	3,69	0,61	138	3,57	0,57
Emoji &Features	319	3,90	1,00	4,94	0,57	159	3,96	0,50	140	3,84	0,62
Anonymity	319	3,99	1,00	5,00	0,63	159	4,04	0,58	140	3,99	0,65
Collective Behvaio	319	3,74	1,00	5,00	0,74	159	3,65	0,68	140	3,85	0,80
Power	319	3,78	1,50	5,00	0,70	159	3,85	0,68	140	3,74	0,72
Facebook Usage	319	3,70	1,00	5,00	0,78	159	3,69	0,64	140	3,75	0,86
BullyVictim Behav	319	4,14	3,00	5,00	0,46	159	4,21	0,34	140	4,14	0,51

*Age: 14 years to 18 years Oldest | *Constructs scale: 1 = Never; 2 =Rarely; 3= Sometimes; 4= often; 5= Always.

4.4.2. Age of all Mobile Bully-victim Learners

The age of these mobile bully-victims indicated by **Figure 10** illustrated that 70% are 17 years and older, 25% are 16 years, 5% are 15 years. These results indicate that bullying behaviour grows with the adolescents age, and this is consistent with Mishna et al. (2011) who found that the older the learners get, the more they are becoming bully-victims on online platforms. While certain attributes decline with age such as school bullying, some attributes become prevalent and applicable to older adolescents such as online dating and cyberbullying (Mishna et al., 2011). Additionally, descriptive statistics for bully-victims (Table 8) for this study, indicate that the average age for bully-victims is been 17 years and older and that they are female bully-victims.

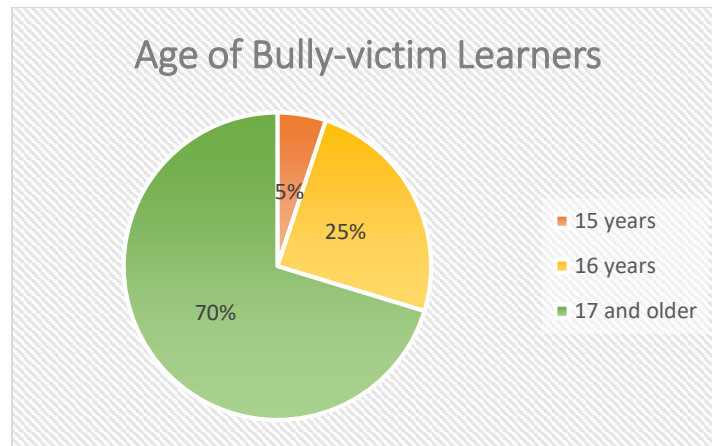


Figure 10: Age of Bully-victim Learners

4.4.3. Grades of all Mobile bully-victim Learners

Also, it is found that 81% of the mobile bully-victims are in grade 11, while 17% are in grade 12 and lastly 2% are in grade 10 respectively. The high percentage in grade 11 is due to the number of responses that are received as compared to other classes which have fewer participants. These results are consistent with Marin & Wellman. (2011) and Kyobe et al. (2016) findings (see section 2.7.5) that there more people are in a network; identity become less of a factor which made it difficult to detect their behaviour. Additionally, **Table 8** presented that there are more female mobile bully-victims, who have a higher mean for anonymity and power than male mobile bully-victims on Facebook. SIDE theory (see section 2.6.3) postulates that people behave differently when in a crowd and that anonymity is use by people with less power to express their inner feeling in virtual platforms. Furthermore, Seedat, et al., (2004) and Oyewusi & Olerade, (2014) findings are that female use more indirect bullying methods than males (see section 2.2.1), and that their bullying behaviour escalates more when using technological devices (Liang et al., 2007 and Kyobe et al., 2016) which further confirms to female mobile bully-victims having higher mean (3.8) for power than male mobile bully-victims (3.7).

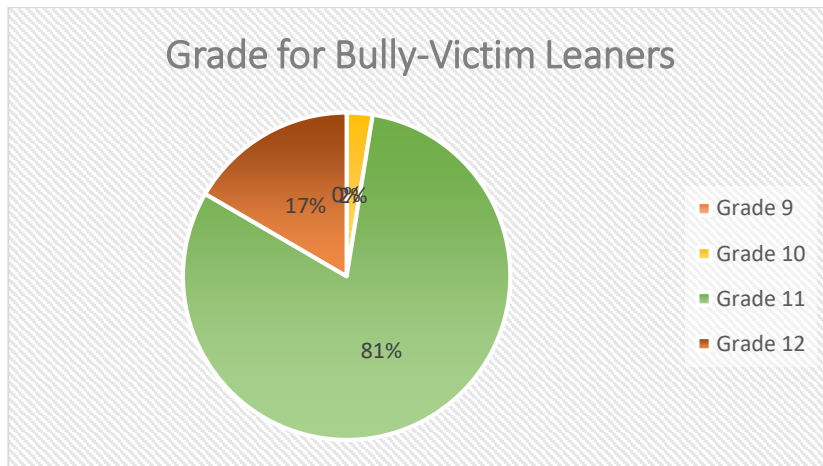


Figure 11: Grades of all Mobile Bully-victim Learners

4.4.4. Time spent on Facebook by Mobile Bully-victim learners

About 75% of the mobile bully-victims spent 3-5 hours on Facebook daily, while 8% of the mobile bully-victims spent 6-8 hours on Facebook daily. About 7% of the mobile bully-victims spend 0-2 hours and 8-10 hours on Facebook daily. And lastly, only 3% of the mobile bully-victims that spent 10 to more hours daily on Facebook. A survey by Statstica.com (2018) on Statistica Portal revealed that in 2017, people of the age group between 16- 24 years in Africa are found to spend about 194 minutes (3 hours and 14 minutes) on social networks daily which is almost equivalent to what the results in this study are showing.

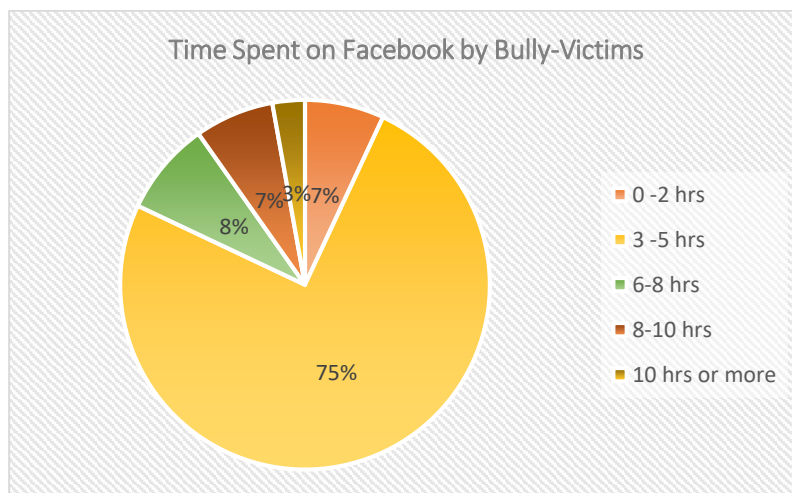


Figure 12: Time spent on Facebook by Bully-victim Learners

4.5. FURTHER MOBILE BULLY-VICTIM ANALYSIS

4.5.1. Mobile bully-victim and Anonymity

Three variables measure anonymity on a 5-point Likert scale (1 = strongly disagree) to 5 (strongly agree). These are: Bully-victims that scored above 3 (sometimes agree), 4 (agree) and 5 (Strongly agree) on this scale are considered to be mobile bully-victims that are anonymous on Facebook. **Table 8** illustrated that Female bully-victims tend to be more anonymous on Facebook than male bully-victims. **Table 9** results show that these bully-victims have use someone else's account on Facebook (mean= 4.5) more than they use a different name (mean= 4.0). Bully-victims also indicate that they do not really create a new Facebook account. Anonymity allowed bullies to create a false identity which reduced the chances of being caught (Watts, Wagner, Velasquez & Behrens, 2017). Other researchers also add that once cyberbully-victims discard their identity, it can lead to increased aggression, impulsivity, and irrationality in online platforms (Mishna et al., 2011; Watts et al., 2017). While this study shows that Female bully-victims prefer to use someone else's identity; other research studies supported that cyberspace provided especially female bully-victims with additional ways to be aggressive without resorting to physical violence (Mishna et a., 2011). Social norms tend to limit females to illustrate their aggression as compared to their male counterparts. Thus, Females are more involved in relational bullying act such as spreading rumours, silent treatments and excluding their peers while males are more involved in direct bullying acts such as fighting, nicknaming to name a few (Peker, 2015).

Table 9: Descriptive Statistics for Mobile bully-victims who are anonymous

Variable	Descriptive Statistics: Mobile Bully-Victims and Anonymity				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
I have used a different name on the Facebook so I can reach people I Know	319	4,03	1,00	5,00	0,77
I have created a different account so I can reach others on the Facebook	317	3,43	1,00	5,00	0,84
I have used someone else's Facebook account	318	4,53	1,00	5,00	0,88

*Scale: 1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree

To obtain the average of mobile bully-victim, the score on bullying is added to that of victimisation and divided by 2. The t-test is also conducted to test the effect of anonymity on mobile bully-victim behaviour. This is done by comparing the means between two categorical groups of Anonymous and non-anonymous bully-victims. As indicate earlier, mobile bully-victims are determined by those who indicate that they are both bullies and victims.

This T-test determined whether or not the differences in means between non-anonymous and anonymous mobile bully-victims are significant. The results are presented in **table 10** below.

Proposition 1: Anonymity enhances victimisation of bully-victims on Facebook.

Table 10: Anonymity with Victimisation

Variable	T-tests Grouping for: Anonymous with Victimisation (Group 1: Non-Anonymous; Group 2: Anonymous)										
	Mean 1	Mean 2	t-value	df	p	Valid N 1	Valid N 2	Std.Dev. 1	Std.Dev. 2	F-ratio Variances	p Variances
BullyVictimAve	2,63	4,24	-4,70	278,00	0,00	10	270	0,78	0,38	4,14	0,00

*Scale: 1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree

Results in table 10 show that those mobile bully-victims who are anonymous on Facebook are victimised more than those mobile bully-victims who are non-anonymous. Proposition 1 is then supported in this study. Those mobile bully-victims who are anonymous on Facebook are victimised more than those who are not anonymous, then it means anonymity in some way increases bully-victim victimisation on Facebook. The following section discusses collective behaviour construct analysis.

4.5.2. Mobile bully-victim and Collective Behaviour

The construct Collective Behaviour is measure by 3 variables. The Likert scale measure variables from 1 (strongly disagree) to 5 (strongly agree). Participants who obtained a score of 3 to 5 are considered to be mobile bully-victims that liked to participate collectively on Facebook. A descriptive statistics analysis is done for the variables and the results are displayed in the table below. The results in the **Table 11** indicate that mobile bully-victims agreed that when they see someone being made fun of on Facebook, they also make fun of them. This variable has a higher mean of (4.1). Also, participants who are mobile bully-victims indicate that they always feel like they should comment on a public Facebook page where people are made fun of (mean= 3.6). Lastly, mobile bully-victims also indicate that when they see a post about someone they know being shared, they also share it. This variable has the lowest mean (3.3). Results for this study in **Table 11** also indicate that Mobile bully-victims often use the comment feature and sometimes the share button feature on Facebook.

Table 11: Descriptive Statistics for Mobile bully-victims and Collective behaviour

Variable	Descriptive Statistics for Mobile Bully-victims and collective Behaviour				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
If I see someone being made fun of on Facebook post I also make fun of them	319	4,14	1,00	5,00	0,73
When a post about some I know is being shared I also share it	316	3,38	1,00	5,00	0,80
I always feel like I should comment on a public Facebook page where people are made fun of	316	3,69	1,00	5,00	1,03

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree

A correlation analysis is also conducted for this construct to examine the relationship between the variables of this construct and mobile bully-victim. Spearman correlation test is done and the results are displayed on the table below. The results in **Table 12** indicate that there is a positive

significant relationship between mobile bully-victim and collective behaviour. For instance, mobile bully-victims strongly agreed that when they see a post of someone being made fun of on Facebook, they also make fun of them. Also, mobile bully-victims agreed that they always feel like they should comment on a public Facebook page where people are made fun of. And lastly, mobile bully-victims agreed to share a post about someone they know. Additionally, those who indicate that they also make fun of someone on Facebook post showed a stronger relationship with always feeling that they should comment on public Facebook pages where people are made fun of. The results are consistent with the contagion theory which predicts that crowd behaviour will make members who share similar traits to abandon moral responsibilities. Additionally, SIDE theory states that individuals who classify themselves with a particular group are more than willing to adapt to majority opinions being raised in those groups (Kim & Park, 2011).

Table 12: Spearman Correlation: Mobile Bully-Victim and Collective Behaviour

Variables	Spearman Rank Order Correlations: Mobile bully-victim and Collective Behaviour			
	1	2	3	4
1.If I see someone being made fun of on Facebook post I also make fun of them	1,00			
2. When a post about some I know is being shared I also share it	0,63	1,00		
3.I always feel like I should comment on a public Facebook page where people are made fun of	0,72	0,65	1,00	
4.BullyVictimAve	0,60	0,48	0,50	1,00

*Marked correlations are significant at $p < .05000$

T-test analysis is also done to evaluate the effect of collective behaviour on mobile bully-victim behaviour. Two categories are also formulated to compare the means for this construct namely, Non-collective behaviour (participants who indicate that they are not victimised through collective behaviour on public Facebook pages and obtained an average score that is less than 2.5) and Collective behaviour (participants who indicate that they are victimised through collective behaviour on public Facebook pages and obtained an average score that is greater or equal to 3). The T-test results determined if the differences between the means of collective behaviour and non-collective behaviour are significant. The tables 13 below presents the results.

Proposition 2: Collective behaviour enhances victimisation on Facebook.

Table 13: T-test to compare differences between Collective behaviour with Victimisation

Variable	T-tests; Grouping: Collective Behaviour with Victimisation (Group 1: Non-Collective behaviour; Group 2: Collective behaviour)										
	Mean 1	Mean 2	t-value	df	p	Valid N 1	Valid N 2	Std.Dev. 1	Std.Dev. 2	F-ratio Variances	p Variances
BullyVictimAve	2,46	4,25	-5,85	278,00	0,00	9	271	0,69	0,38	3,21	0,00

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree | *Marked significant at $p < .05000$

Table 13 illustrated results for participants who are victimised through collective behaviour and those who are not victimised through collective behaviour on Facebook public pages. T-tests results indicate that there is a significant difference in means between Non-collective behaviour and collective behaviour. Participants who are not victimised through collective behaviour have a mean of (2.4) which is lower than a mean of the participants who are victimised through collective behaviour with a mean of (4.2) on Facebook. Mobile bully-victims engaged in collective behaviour are more victimised than who did not. Also, mobile bully-victims who are active in collective behaviour are victimised more than those mobile bully-victims are less active on collective behaviour on public pages on Facebook. Results indicate that significance between (2.4) and (4.2) meaning that there is indeed a difference between (2.4 and 4.2). Therefore, proposition 2 is supported in this study. The next section discusses the power construct analysis.

4.5.3. Mobile bully-victim and Power

Mobile bully-victim are asked to indicate the power they have on their Facebook accounts. Three variables measure power on a 5-point Likert scale (1 = strongly disagree) to 5 (strongly agree). These are: Bully-victims that scored above 3 (sometimes agree), 4 (agree) and 5 (Strongly agree) on this scale are considered to be mobile bully-victims that knew how to exercise their power on Facebook. Mobile bully-victims who obtained an average score that is less than 2.5 are considered to be mobile bully-victims that did not exercise their power on Facebook respectively. Table 14 presents Descriptive results which is followed by an explanation.

Table 14: Descriptive Statistics for Power

Variables	Descriptive Statistics for Power				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
I control who I want to be on my Facebook pages	319	4,13	1,00	5,00	0,75
I always report to the owner of Facebook when I see someone being bullied	316	3,62	1,00	5,00	0,97
I Know how to deal with someone who makes fun of me on Facebook	317	3,60	1,00	5,00	0,84

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree

The above Table 14 results indicate that mobile bully-victims agreed to control who they want to be on their Facebook (mean= 4.1). Rodkin et al. (2015) stated that bully-victims usually use aggression to obtain power over their peer or victim. Although it is simple to control emotions in a low state of arousal, Dewar (2008) said that in traditional bullying, bully-victims are found to have higher levels of arousal as compared to bullies and victims. These findings are parallel to the findings in this study due to the nature of the Facebook social network. Also, mobile bully-victims indicate that they sometimes report to the owner of the Facebook account when they see them

being bullied (mean= 3.6) more than they know how to deal with someone who makes fun of them (mean= 3.5) on Facebook. Rodkin et al. (2015) have found that bully-victims tend to struggle to adjust to a virtual platform as they reactively aggress and show troubling risk patterns. The results of this study also indicate that mobile bully-victims also struggle to deal with their perpetrators on Facebook. The following analysis is about Spearman rank correlation tests for this construct.

Table 15: Spearman Correlation for Mobile bully-victims and Power

Variables	Spearman Rank Order Correlations: Mobile bully-victim and Power			
	1	2	3	4
1. I control who I want to be on my Facebook pages	1,00			
2. I always report to the owner of Facebook when I see someone being bullied	0,63	1,00		
3. I Know how to deal with someone who makes fun of me on Facebook	0,46	0,55	1,00	
4. BullyVictimAve	0,49	0,56	0,65	1,00

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree *Marked correlations are significant at $p < .05000$

Correlation analysis for this Power construct is done to examine the relationship between the variables and mobile bully-victims. The above table 15 indicate that mobile bully-victims showed a significant relationship with all the variables for Power. For instance, mobile bully-victims strongly agreed that they know how to deal with someone who makes fun of them. Additionally, mobile bully-victims who always report to the owner of a Facebook account when they are being bullied also control who they want to be on their Facebook pages.

Additionally, a T-test in table 16 is conducted to test the effect of mobile bully-victims and Power. Again, this power construct is also grouped into two categories; Non-Power user ad Power user to evaluate the effect of Power on mobile bully-victims. The T-test results indicate that there is a significant difference in means, for mobile bully-victims using Power on Facebook with a mean of (4.1) which is higher than that of mobile bully-victims who do not use Power on Facebook which have a lower mean of (2.7). These results meant that those mobile bully-victims who have implicit power are mobile bully-victims more than those mobile bully-victims who did not have implicit power on Facebook. Therefore, there is a difference in means between (2.7) and (4.1). The

proposition 3 is also supported in this study. The next section is about mobile bully-victim and Facebook Usage.

Proposition 3: Implicit power enhances bully-victim behaviour on Facebook.

Table 16: T-test to compare Mobile bully-victim and Power

Variable	T-tests; Grouping: Mobile bully-victims and Power (Group 1: Non-Power Users; Group 2: Power User)										
	Mean 1	Mean 2	t-value	df	p	Valid N 1	Valid N 2	Std.Dev. 1	Std.Dev. 2	F-ratio Variances	p Variances
BullyVictimAve	2,74	4,16	-2,80	317,00	0,01	10	309	0,54	0,46	1,40	0,37

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree | *Marked significant at $p < .05000$

4.5.4. Mobile Bully-victim and Facebook Usage

Two variables measure Facebook usage on a 5-point Likert scale (1 = strongly disagree) to 5 (strongly agree). These are: Bully-victims that scored above 3 (sometimes agree), 4 (agree) and 5 (Strongly agree) on this scale are considered to be mobile bully-victims that use Facebook more than others. Few constructs from other academic research that are based on mobile bully-victims on Facebook are obtained to support this study which led to only having 2 variables. A descriptive statistics analysis is conducted to find mobile bully-victims who use Facebook more than others. Table 17 presented Descriptive statistics results that mobile bully-victims sometimes agreed that they always use Facebook to attack people they do not like (Mean= 3.8) more than they always share status updates of people they do not like to make fun of them on Facebook (Mean= 3.5).

Table 17: Descriptive Statistics for Facebook Usage

Variable	Descriptive Statistics: Facebook Usage				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
I always use Facebook to attack people I do not like	319	3,87	1,00	5,00	0,89
I always share status updates of people I do not like to make fun of them on Facebook	318	3,53	1,00	5,00	0,89

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree

A Spearman correlation analysis is also conducted in table 18 to evaluate the strength of the relationship between Mobile bully-victim and Facebook usage respectively. Results on Table 18 indicate that mobile bully-victims have a significant relationship at ($p < 0.05$) with all the variables for the Facebook usage construct. For instance, mobile bully-victims indicate that they always share status updates of the people they do not like to make fun of them and always use Facebook to attack people they do not like respectively.

Table 18: Spearman correlation for mobile bully-victims and Facebook Usage

Variable	Spearman Rank Order Correlations: Mobile bully-victim and Facebook Usage		
	1.	2.	3.
1.BullyVictimAve	1,00		
2.I always use Facebook to attack people I do not like	0,65	1,00	
3.I always share status updates of people I do not like to make fun of them on Facebook	0,71	0,47	1,00

Factors that Influence Mobile Bully-victims Behaviour on Social Media: The Case of Facebook

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree *Marked correlations are significant at $p < .05000$

Furthermore, a T-test is conducted for this Facebook construct to compare the difference in means of mobile bully-victims who are frequent Facebook users and those mobile bully-victims who are non Frequent Facebook users. Table 19 presented T-test results that there is a significant difference in means between frequent Facebook users and Non-frequent Facebook users marked at ($p < 0.05$). Mobile bully-victims who are Frequent Facebook users have a higher mean of (4.2) more than mobile bully-victims who are nonfrequent Facebook users with a lower mean of (2.3). Therefore, the T-test results for this study showed that participants who are frequent users are mobile bully-victims more than those participants who are non-frequent users on Facebook. And that the proposition 4 is also supported for this study. The next section will discuss Emoji and Facebook features analysis which is the last construct for this study.

Proposition 4: Frequent Usage enhance bully-victim behaviour on Facebook.

Table 19: T-test for Mobile bully-victim and Facebook usage

Variable	T-tests; Grouping: Facebook Usage Group 1: Non-frequent Facebook users; Group 2: Frequent Facebook users.										
	Mean 1	Mean 2	t-value	df	p	Valid N 1	Valid N 2	Std.Dev. 1	Std.Dev. 2	F-ratio Variances	p Variances
BullyVictimAve	2,38	4,23	-12,41	317,00	0,00	34	285	0,34	0,39	1,31	0,35

*1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree | *Marked significant at $p < .05000$

4.5.5. Mobile bully-victim that use Emoji & Features

14 variables measure usage of the Emojis and certain features in Facebook on a 5-point Likert scale (1 = strongly disagree) to 5 (strongly agree). These are: Bully-victims that scored above 3 (sometimes agree), 4 (agree) and 5 (Strongly agree) on this scale are considered to be mobile bully-victims that use Emojis and features more than others in Facebook.







The first 6 items presented in **Table 20** are the Facebook emojis that participants indicate that they use to react on a post. The most used emoji are a Wow emoji (Mean= 4.6) which indicate a surprise or amaze to a post or comment. The Wow emoji is mostly use on a post or image that is shocking to others on Facebook. Participants also indicate that they use a Haha emoji (Mean= 4.5) which is a laughing reaction to a post or an image. In traditional bullying, usually, bullies say something funny or offensive about their victims to make their peers laugh at them. However, on Facebook, a Haha emoji is use instead to show that they are laughing at what is being posted. Participants also indicate that they use a Sad emoji (Mean= 4.2) on posts that are offensive or

derogatory about someone. Participants also indicate that they use a Like emoji (Mean= 3.9) on posts or images being shared on Facebook which is initially the common emoji Facebook use to have.

The more the likes a post has, the more it becomes popular or trend on timelines of other users. A like emoji is mostly use by the Bystanders on Facebook. Unlike on traditionally bullying where the bystanders just come to watch their peer being victimised, bystanders just react with a like although it can also indicate compassionate depending on the context of the post. The Anger emoji (mean=3.9) is use as the Like emoji by participants and Love (Mean= 3.4) emoji is the least use by the Bully-victims on Facebook. Love emoji also shows compassionate which is something that bully-victims do not really have against their victims or perpetrators, hence the lower mean.

Additionally, participants are asked to indicate how often they use Facebook features. The descriptive statistics for Facebook features **Table 20** indicate that bully-victims would tag their friends (Mean= 4.5) on posts to make them also see what is being posted and at the same time message each other (Mean= 4.5). Bully-victims also indicate that they preferred to follow their victims/ perpetrators, comment on their posts, embed their victims/perpetrators posts, and video call their victims/ perpetrators as all these features have the same (mean= 4.3). the sending location feature (Mean= 3.3) and the share button (Mean= 3.2) both have the least means. Female bully-victims would not need to share posts if they can easily message their victims or perpetrators and or tag their friends to comment on the post.

Table 20: Descriptive Statistics for Emojis & Facebook Features

Variable	Descriptive Statistics: Emojis & Features				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
please indicate how often you use reaction Emojis on a post on Facebook					
 Like	319	3,97	1,00	5,00	0,62
 Love	318	3,45	1,00	5,00	0,87
 Haha	318	4,52	1,00	5,00	0,81
 Wow	319	4,62	1,00	5,00	0,82
 Sad	319	4,24	1,00	5,00	1,16
 Angry	319	3,92	1,00	5,00	1,04
Please indicate how often you use the following Facebook features					
Follow button	316	4,30	1,00	5,00	1,10
Share button	317	3,30	1,00	5,00	0,98
Comment button	319	4,34	1,00	5,00	1,02
Tag friend button	317	4,53	1,00	5,00	0,91
Embed Post	315	4,31	1,00	5,00	1,15
Video Call	319	4,33	1,00	5,00	1,27
Sending Location	319	3,38	1,00	5,00	1,18
Message	318	4,50	1,00	5,00	0,83

*scale: 1 = Never; 2 =Rarely; 3= Sometimes; 4= often; 5= Always

A Spearman's correlation analysis is done to evaluate the association between the emoji & Feature and mobile bully-victim behaviour as it is a non-parametric rank statistic identify and test the strength of a relationship between two data sets (Hauke &Kossowski, 2011). **Table 21** below presented the relationship between mobile bully-victim behaviour and Emoji & Features. **Table 21** results indicate that there is a negative significant relationship between mobile bully-victim behaviour and Emojis and Facebook Features usage. When two variables have a negative correlation (Hauke &Kossowski, 2011), it means that they have an inverse relationship (Watts et al., 2017). When one variable increases, the other variable decreases and this is shown by a minus sign in (-) front of a correlation value. When a mobile bully-victim use more of the Emojis on Facebook, the mobile bully-victim behaviour becomes less prevalent. Whereas, when the mobile bully-victim use a comment feature on a post that is where their mobile bullying behaviour shows more as they tend to write hurtful words towards others than an Emoji reaction would show. This is why there is an inverse relationship between mobile bully-victim behaviour and Emoji & Features.

For instance, bully-victims showed a negative significant relationship with Haha, Wow and Sad emojis. While it also showed a significant positive relationship with the Love and Anger Emojis respectively. Mobile bully-victims also indicate that there is a negative relationship between mobile bully-victim behaviour and these Features (follow button, comment button, tag friend button, embed post, video call and message). Bully-victim only showed one positive significant relationship with sending location feature. Lastly, Bully-victims showed a stronger negative relationship with Comment Button because it has a higher number than the rest of the features. These results indicate that there is less mobile bully-victim behaviour when more Emojis and Features are use on Facebook. And that when bully-victims reacted with a Love and Anger emoji on a post, they would share their location to be visible to their victims or perpetrators and they use less of other features and emojis.

Table 21: Spearman Correlation analysis for Emoji & Features and Mobile Bully-victim

Spearman Rank Order Correlation: Measure of Emoji & Features and Mobile Bully-Victim															
Facebook Features	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. 🙄	1,00														
2. 🙄	0,23	1,00													
3. 🙄	0,13	-0,38	1,00												
4. 🙄	0,12	-0,14	0,37	1,00											
5. 🙄	0,07	-0,54	0,60	0,57	1,00										
6. 🙄	0,13	0,31	0,00	0,45	0,21	1,00									
7. Follow button	0,13	-0,36	0,50	0,53	0,68	-0,05	1,00								
8. Share button	0,19	0,13	0,07	-0,02	0,16	0,35	0,04	1,00							
9. Comment button	0,10	-0,58	0,59	0,48	0,87	0,03	0,65	0,15	1,00						
10. Tag friend button	0,13	-0,42	0,46	0,57	0,80	0,27	0,55	0,06	0,75	1,00					
11. Embed Post	0,02	-0,51	0,58	0,55	0,86	0,18	0,62	0,03	0,85	0,73	1,00				
12. Video Call	0,10	-0,36	0,49	0,58	0,76	0,36	0,49	0,19	0,72	0,65	0,79	1,00			
13. Sending Location	0,10	0,08	0,14	0,16	0,23	0,45	0,11	0,48	0,20	0,18	0,17	0,36	1,00		
14. Message	-0,01	-0,45	0,35	0,30	0,62	-0,07	0,39	-0,14	0,63	0,51	0,64	0,51	-0,01	1,00	
15. BullyVictim	0,05	0,47	-0,21	-0,29	-0,46	0,19	-0,36	0,06	-0,53	-0,43	-0,51	-0,37	0,12	-0,38	1,00

*Marked correlations are significant at p < .05000

A T-test is conducted to test the effectiveness of Emojis and Facebook features and mobile bully-victim respectively. The test is done between two categories of participants who are Non-Emoji/Feature users (participants that indicate that they rarely use Emojis and Facebook features and have an average score that is less than 2.5) and Emoji/Features users (participants that indicate that they often use Emojis and Facebook features and have an average score that is greater or equal to 3). Additionally, variables that measure bullying and victimisation are grouped to obtain a single average value for mobile bully-victim behaviour. The tables below 22 presents the results that are obtained.

Proposition 5: Usage of Facebook Emoji & Features enhance bullying on Facebook.

Table 22: T-test for comparing Emoji & Feature with Bullying

Variable	T-tests; Grouping: Emoji&Features and Mobile bully-victims (Group 1: Non-Emoji&Features Users; Group 2: Emoji&Features Users)										
	Mean 1	Mean 2	t-value	df	p	Valid N 1	Valid N 2	Std.Dev. 1	Std.Dev. 2	F-ratio	p
BullyVictimAve	4,49	4,22	3,29	282,00	0,00	23	261	0,42	0,37	1,29	0,36

*scale: 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = often; 5 = Always | * Marked Significant at p < .0500

Table 22 presented T-Test results that there is a significant difference between the means of Non-Emoji/Feature users and Emoji/Feature users. Also, mobile bully-victims who are non-Emoji/Feature users showed bullying behaviour more than mobile bully-victims who are

Emoji/Feature users on Facebook. Additionally, The Spearman correlation analysis presented a negative significant relationship between mobile bully-victim behaviour and Features on Facebook. So mobile bully-victims have an inverse relationship with the usage of emoji and Features on Facebook. Therefore, the proposition 5 is not supported. The following section analysis of the whole model for this study.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is to provide limitations and summarise answers that are discovered in this research. The importance of study recommendations for future research conducted on mobile bully-victims is also discussed.

5.1. INTRODUCTION

The purpose of this research study is to investigate the nature of mobile bully-victims on social media from public school learners in South Africa and to find the factors that influenced mobile bully-victim behaviour specifically on a Facebook social network on learners. By doing so, this study went to learn about bullying and other forms of bullying in public high schools from an extensive literature review. From this literature, it is found that South African academic research has limited understanding of the existence of bully-victims in public high schools. The current school legislative frameworks that protect the learners from school violence and cyberbullying activities are found to have challenges in not including safety measures for learners who did not come forward to report bullying or cyberbullying on school premises. And that this framework did not have correct procedures to deal with mobile bully-victim behaviour nor do the parents and school principals have proper procedures to discipline learners who are misbehaving. Also, in this study, it is found that academic research on mobile bully-victims is fairly new and therefore, factors that are contributing to mobile bully-victim behaviour on social media are discovered. These factors led to the development of the Mobile Bully-victim Behaviour Model.

5.2. LIMITATION OF THE STUDY

One of the major limitations that are encountered for this study, is the principals from the private schools refusing to partake on the surveys as the data are collected during the test week in Gauteng Province. While the survey questions are mainly focusing on Facebook, some teachers highlighted that the questionnaire could have included WhatsApp questions as they have more cases dealing with WhatsApp group chats more than Facebook amongst learners in public schools around Gauteng schools. Comparison of data collected from Private schools and public schools would provide more interesting results as the school frameworks and regulations slightly differ.

5.3. SUMMARY OF RESULTS

The results for this study have confirmed that there are adolescents who are mobile bully-victims on Facebook in South African high schools both in Gauteng and Western Cape Provinces. These two provinces fall under four provinces including Limpopo and Free State that are leading in high crime rate in South Africa. Due to unavailability to participate from other provinces, only Western Cape and Gauteng public schools were available and participated in the study. There are more Female mobile bully-victims than there are male mobile bully-victims which spent above 3 hours on Facebook daily. Also, the bully-victim behaviour increased with the grades. While it cannot be concluded in this study that the school location played a role in mobile bully-victim behaviour due to the absence of data from private schools. It can be said that public schools do not have sufficient antibullying policies in place or if there are any, they are not well executed as the learners indicate that they do not know if their schools have them. Based on the literature review in this study, parents and teachers do not have proper procedures in dealing with mobile bullying both inside school premises and outside school premises. Additionally, the results have confirmed that Anonymity, Collective behaviour, Power, Facebook usage and less usage of Emojis and other Facebook features do influence mobile bully-victim behaviour on Facebook in the South African context.

5.4. RECOMMENDATIONS AND FUTURE RESEARCH

Since the usage of mobile devices and time spent on social networks is increasing especially in school premises, it would be beneficial to introduce anti-mobile bullying policies along with mobile bullying and victimisation awareness programmes targeting parents, teachers and learners (especially females as the results in this study indicate that they are more of mobile bully-victims than their male counterparts) as a starting point. Additionally, the community should also be involved in these programmes. While smartphones have become part of our daily lives, adolescents should have regulated access to their devices while on school premises, this is to reduce and eliminate time they use these devices for misconducts on their social networks. Results in this study revealed that adolescents spent more than 3 hours daily on Facebook. Since adolescents have indicate using other people's Facebook profiles, it would be necessary for parents to monitor their children's Facebook activities whenever possible. Also, these learners have indicate that they do not report bullying or victimisation to parents or their school teachers, so it would be advised for parents to engage more on their children's online activities by building healthy relationships with their children so they can talk freely without fear of being punished or their phones being confiscated. Furthermore, Social network applications operating in South Africa should be forced to abide by the South African laws, this includes legal age for young adults to be using these applications. Similar to the regulation for

smoking and alcohol consumption in South Africa legal age is 18 years and above. This will reduce social networks addiction in adolescents and exposure to adult content found in these social networks.

Future research could be conducted on the relationship between parents and their mobile bully-victim children especially in township areas so as to devise suitable intervention programmes. Future studies could also develop a website based on South African content about bullying interventions and awareness about policy suggestions. This study is significant as it confirmed the factors that influence mobile bully-victim behaviour on Facebook. Also, the researcher's knowledge is that this study is the first of its kind to look at Facebook and mobile bully-victim behaviour in South African context.

6. REFERENCE LIST

- Basic Education. (2015). School Safety / Violence & Bullying in Schools; Quality Learning and Teaching Campaign (QLTC) Implementation: *Progress Report*. Retrieved May 17, 2017 from <https://pmg.org.za/committee-meeting/21219/>
- Bem, D. J. (1972). Self-perception: An Alternative Interpretation of Cognitive Dissonance Phenomena. *Psychological Review*, 74(3), 183-200.
- Bevan, N. 2009. Extending quality in use to provide a framework for usability measurement. *Proceedings of HCI International*, 1(125), 9-4 July, San Diego, California, USA.
- Bingula, M., Matic, A., Varga, V. & Preradović, N. M. 2013. Facebook: The Good, the Bad or the Ugly. *Information Governance*, 105-115.
- Borgatti, S.P & Halgin, D. S. (2011). On network theory. *Organisation Science*, 22(5), 1168-1181. DOI:10.1007/978-1-4419-5513-5_2.
- Brunetto, Y. & Farr- Wharton, R. (2007). The Moderating Role of Trust in SME Owner/Managers Decision-Making about Collaboration. *Journal of Small Business Management*, 45(3), 362–387.
- Campbell, M. A. (2005). Cyber bullying: An old problem in a new guise. *Australian Journal of Guidance and Counselling*, 15(1), 68-76.
- Claywell, C. R. (2011). What is a social network theory? Retrieved May 17, 2017 from <http://www.socialnetworking.lovetoknow.com/what-is-social-network-theory>
- Conquest Research and consultancy. 2012. Facebook- making teenagers unhappy. Young people's experience of social networking in 2012. Retrieved June 27, 2017 from <https://www.conquestuk.com>
- Department of Education. (2015). National school safety framework. Retrieved April, 24, 2017 from <http://www.education.gov.za/Portals/0/Documents/Publications/School%20Safety%20Framework%202016.pdf>
- Dewar, G. (2008). When bullies get bullied by others: understanding bully-victims. <http://www.parentingscience.com/bully-victims.html>
- Fitzgerald, B. (2012). Bullying on Twitter: Researchers Find 15,000 Bully-Related Tweets Sent Daily Study. Retrieved 03 February 2018 from http://www.huffingtonpost.co.za/entry/bullying-on-twitter_n_1732952
- Dogruer, N., Menev, I., & Eyyam, R. (2011). What is the motivation for using Facebook. *Procedia Social and Behavioral Sciences*, 15, 2642–2646.
- Government Gazette. (2001). Creating safe and caring schools. Retrieved April, 24, 2017 from <http://www.education.gov.za/Programmes/SafetyinSchools.aspx>

- Graber, D. (2014). 3 reasons why social media age restrictions matter. Retrieved July 30, 2017 from <https://www.m.huffpost.com/us>
- Granovetter, M. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory*, 1, 201-233. Retrieved April 02, 2017 from <http://www.jstor.org/stable/202051>
- Hajimia, H. (2014). Research methods sampling. Retrieved April 02, 2017 from <https://www.slideshare.net/hafizahhajimia/research-method-sampling>
- Keaveney, S. M. & Parthasarathy, M. (2012). Customer Switching Behaviour in Online Services: An Exploratory Study of the Role of Selected Attitudinal, Behavioural, and Demographic Factors. *Journal of the Academy of Marketing Science*, 29(4), 374-390.
- Kim, J. & Park, H. S. (2011). The effect of uniform virtual appearance on conformity intention: Social identity model of deindividuation effects and optimal distinctiveness theory. *Computers in Human Behaviours*, 27(3), 1223-1230.
- Kyobe, M. E., Oosterwyk, G. W. & Kabiawu, O. (2016). The nature of mobile bullying and victimisation in the western cape high schools of South Africa. *The African Journal of Information Systems*, 8(2), 1-26.
- Kyobe, M. E. (2016). Investigating the evolution of female mobile bully-victims in Cape Town high schools, South Africa. *Paper Proceedings of Advances in Women's Studies*, July 30-31, Buffalo, New York, USA.
- Kwan, G. C. E & Skoric, M.M. (2013). Facebook bullying: an extension of bullying in schools. *Computers in Human Behaviour*, 29(1), 16-25.
- Laas, A. (2012). *Combating bullying in schools: A South African legal perspective*. Unpublished master's Thesis, University of Pretoria, Pretoria, South Africa.
- Laas, A. & Boezart, T. (2014). The legislative framework regarding bullying in South African schools. *PELJ* 6(17), 2667- 2702.
- Liang, H., Flisher, A. J. & Lombard, C. J. (2007). Bullying, violence, and risk behaviour in South African school students. *Child Abuse & Neglect*, 31, 161–171.
- Liu, W., Sidhu, A., Beacom, A. M. & Valente, T.W. (2017). Social Network Theory. *The International Encyclopedia of Media Effects*.
- Marin, A. & Wellman, B. (2011). Social network analysis: an introduction. In: Peter, J. & Carrington, J. ed., *The Sage handbook of Social network analysis*, 1st ed. California: SAGE Publications Ltd., 12-13.
- Marini, Z. & Dane, A. (2010). What's a bully-victim. Retrieved January 26, 2017 from <https://www.education.com/reference/article/what-is-a-bully-victim/>
- Mayer, C., Davis, J. H. & Schoorman, F. D. (1995). An integrative model of organisational trust. *The Academy of Management Review*, 20(3), 709-734.

- McLeod, S. A. (2008). Social Identity Theory. Retrieved April 02, 2017 from www.simplypsychology.org/social-identity-theory.html.
- Nadkarni, A. & Hofmann, S.G. (2012). Why do people use Facebook? *Personality and Individual Differences*, 52(2), 243-249.
- Newman, B. M. & Newman, P. R. (1976). Early adolescence and its conflict: Group identity versus alienation. *Adolescence*, 11(42), 261-274.
- Ngongo, R. G. P. (1995). *Conflict management and resolution*. Retrieved from Pinetown: KZN.
- Ohsako, T. (1999). The developing world. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee. (Eds.), *The Nature of School Bullying: A Cross National Perspective*. 359–376. London, UK: Routledge.
- Oyewusi, L. M. & Orolade, K. S. (2014). Cyberbullying: A Disruptive Behaviour in Modern Day Secondary School Classrooms. *Journal of Educational and Social Research MCSER Publishing*, 4(6). 421- 428. DOI:10.5901/jesr. 2014.v4n6p421
- Pollastri, A. R., Cardemil, E. V. & O'Dennell, E. H. (2010). Self-Esteem in pure bullies and bully-victims: a longitudinal analysis. *Journal of Interpersonal violence*, 25(8). 1489–1502.
- Qwabe, B. R. (2013). Realising South Africa's Vision 2030 A Capacity-Building Perspective. In N. Holtzhausen (Eds.), *Journal of Association of South African Schools and Departments of Public Administration and Management*, 21(2). 24-34.
- Radhakrishna, R. (2007). Tips for developing and testing questionnaires/instruments. *Journal of Extension*, 45(1), 1-4. Retrieved May 17, 2017 from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10803980
- Rashotte, L. (2007). Social Influence. *The Blackwell Encyclopedia of Social Psychology*, 9(1), 562-563.
- Reicher, S. D., Spears, R. & Postmes, T. (1995). A social identity model of deindividuation phenomena: Chapter 6. In: Stroebe, W. & Hewstone, M. (Eds.), *European Review of Social Psychology*, 6(22), 171-202.
- Rodkin, P. C. (2012). Bullying and children's peer relationships. *Colleagues*, 8(2), 5-31.
- Rodkin, P. C., Espelage, D.L. & Hanish, L. D. (2015). A relational framework for understanding bullying. *Developmental Antecedents and Outcomes*, 70(4), 311-321.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research Methods for Business Students*. Pearson Education Limited.
- Scotland, James. (2012). Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching*. 5(9). DOI:10.5539/elt.v5n9p9.
- Seedat, S., Nvamai, C., Njenga, F., Vythilingum, B., & Stein, D. J. (2004). Trauma exposure and post-traumatic stress symptoms in urban African schools: Survey in Cape Town and Nairobi. *British Journal of Psychiatry*, 184, 169–175.

- Serrat O. (2017). Social Network Analysis. In: Knowledge Solutions (pp. 39-43). Singapore: Springer.
- Sih, A., Hanser, S. F. & McHugh, K. A. (2009). Social network theory: New insights and issues for behavioural ecologists. *Behaviour Ecological Socio-biology*, 63(1), 975-988.
- Stein, J. A., Dukes, R. L. & Warren, J. I. (2007). Adolescent male bullies, victims and bully-victims: A comparison of psychological and behavioural characteristics. *Journal of Paediatric Psychology*, 32(3). 273–282.
- Swann, W. B., Jr. (1983). Self-verification: Bringing social reality into harmony with the self. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self*, 2,33–66, Hillsdale, NJ: Erlbaum.
- Sonhera, N., Kritzinger, E. & Loock, M. (2015). Cyber threat incident handling procedure for South African schools. *Proceedings of the Ninth International Symposium on Human Aspects of Information Security & Assurance*. 215-232.
- Tajfel, H. & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In: Worchel, S. & Austin, W. G. *Psychology of Intergroup Relations*. Chicago, IL: Nelson-Hall. 7-24.
- Tsai, A. C., Lucas, M. & Kawachi, I. (2014). Social Integration and suicide mortality among men; 24-year Cohort Study of US Health professionals. *Annals of Internal Medicine*, 161(2), 85-95.
- Vandebosch, H. & Van Cleemput, K. (2009). Cyberbullying among youngsters: profiles of bullies and victims. *New Media & Society*, 11(8), 1349–1371. DOI: 10.1177/1461444809341263.
- Van Dijk, A., Poorthuis, A. M. G & Malti, T. (2017). Psychological processes in young bullies versus bully-victims. *Aggressive Behaviour*, 43(1), 430-439.
- Viallancourt, T., Mcdougall, P., Hymel, S. & Sunderani, S. (2010). Respect or fear: The Relationship Between Power and Bulling Behaviour. In S. R. Jimmerson, S. N. Swearer & D. L. Espelage (Eds.), *Handbook of bullying in schools. An International Perspective*. 221-222. New York: Routledge.
- Vilanova, F., Beria, F. M., Costa, A. B. & Koller, S. H. (2017). Deindividuation: from le bon to social identity model of deindividuation effects. *Cogent Psychology*, 4(1), 1-21.
- Wegge, D., Vandebosch, H. & Eggermont, S. (2014). Who bullies who: *A social network analysis of cyberbullying in a school context*. DOI: 1515/commun-2014-0019.
- Wilson, R. E., Gosling, S. D. & Graham, L. T. (2012). A review of Facebook research in social sciences. *Perspectives on Psychology Science*, 7(3), 203-220.
- Youjae, Y. (1990). A Critical Review of Consumer Satisfaction. In V. A. Zeithaml (Ed.), *Review of Marketing*. Chicago: American Marketing Association. 68-123.
- Zeithaml, V. A. (2000). Service quality, profitability, and the economic worth of customers: What we know and what we need to learn. *Journal of the Academy of Marketing Science*, 28(1), 67-85.
- Zhou, T. & Li, H. (2014). Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern. *Computers in Human Behaviour*, 37(1), 283-289.







Zulu, B. M., Urbani, G. & Van De Merwe, A. (2004). Violence as an impediment to a culture of teaching and learning in some South African schools. *South African Journal of Education*, 24(2), 170–175.

Zuze, T. L., Reddy, V., Juan, A., Hannan, S., Visser, M. & Winnar, L. (2016). Safe and sound? Violence and South African education. *Policy brief*. Retrieved April, 15, 2017 from <http://www.hsrc.ac.za>

APPENDIX 1: QUESTIONNAIRE

Mobile Bully-Victim Behaviour Survey				
Mobile bully-victim is defined as an adolescent that swing between being a bully and a victim of bullying (Kyobe et al., 2016)				
This questionnaire is confidential therefore, no one in your school will know what you have ansared. It is anonymous, so please do not put your name on it anywhere.				
Please note that this questionnaire is completely <u>voluntary</u> and you can decide to exit at any time.				
Please mark with an X in the relevant box provided. If you use more than One Facebook, please Mark X for each of them				
A. General Information - Demographics				
1. Gender	Female	Male		Prefer not to Answer
2. Grade	9	10	11	12
3. Age	14 years or younger	15 years	16 years	17 years or Older
4. Do you own an active account on Facebook?	Yes		No	
5. Please indicate which Facebook you are using by ticking the relevant box	Facebook <input type="checkbox"/>	Twitter <input type="checkbox"/>	Instagram <input type="checkbox"/>	

B. For each relevant Facebook, answer the following questions about Accessibility and Usage: [1 = (0-2hrs); 2 =(3-5hrs); 3 = (6-8hrs); 4 = (8-10hrs) 5= (above 10hrs)]					
	Facebook				
6. How much time do you spend on a Facebook daily?	1	2	3	4	5

7. For each relevant Facebook, please indicate how often you use reaction Emojis on a post. 1 = Never; 2 =Rarely; 3= Sometimes; 4= often; 5= Always					
	Facebook				
 Like	1	2	3	4	5
 Love	1	2	3	4	5
 Haha	1	2	3	4	5
 Wow	1	2	3	4	5
 Sad	1	2	3	4	5
 Angry	1	2	3	4	5

8. For each relevant Facebook, Please indicate how often you use the following Facebook features (1 = Never; 2 =Rarely; 3= Sometimes; 4= often; 5= Always)					
	Facebook				
Follow button	1	2	3	4	5
Share button	1	2	3	4	5
Comment button	1	2	3	4	5
Tag friend button	1	2	3	4	5
Embed Post	1	2	3	4	5
Video Call	1	2	3	4	5
Sending Location	1	2	3	4	5
Message	1	2	3	4	5
Retweet	1	2	3	4	5

C. Anonymity					
For each relevant Facebook, please indicate your agreement/disagree with the statements below (1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree)					
	Facebook				
9. I have use a different name on the Facebook so I can reach people I Know	1	2	3	4	5
10. I have created a different account so I can reach others on the Facebook	1	2	3	4	5
11. I have use someone else’s Facebook account	1	2	3	4	5

D. Collective Behaviour					
For each relevant Facebook, please indicate your agreement/disagree with the statements below (1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree)					
	Facebook				
12. If I see someone being made fun of on Facebook post I also make fun of them	1	2	3	4	5
13. When a post about some I know is being shared I also share it	1	2	3	4	5
14. I always feel like I should comment on a public Facebook page where people are made fun of	1	2	3	4	5

E. Power					
For each relevant Facebook, please indicate your agreement/disagree with the statements below (1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree)					
	Facebook				
15. I control who I want to be on my Facebook pages	1	2	3	4	5
16. I always report to the owner of Facebook when I see someone being bullied	1	2	3	4	5
17. I Know how to deal with someone who makes fun of me on Facebook	1	2	3	4	5

F. Popularity					
For each relevant Facebook, please indicate your agreement/disagree with the statements below (1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree)					
	Facebook				
18. I have many friends on Facebook	1	2	3	4	5
19. I have people that follow me because I share content about other people on Facebook	1	2	3	4	5

Factors that Influence Mobile Bully-victims Behaviour on Social Media: The Case of Facebook

20. I have people that follow me because I share good information on Facebook	1	2	3	4	5
--	---	---	---	---	---

G. Facebook Usage					
For each relevant Facebook, please indicate your agreement/disagree with the statements below (1=strongly disagree; 2 = disagree; 3= sometimes Agree; 4= Agree; 5=Strongly Agree)					
	Facebook				
21. I always use Facebook to attack people I do not like	1	2	3	4	5
22. I always share status updates of people I do not like to make fun of them on Facebook	1	2	3	4	5

H. Facebook Bullying					
For each relevant Facebook, use this scale to respond to the statements below (1=Never; 2= Rarely; 3= Sometimes; 4= Often; 5=Always)					
	Facebook				
23. I have sent bad messages/ comments repeatedly to someone else on Facebook	1	2	3	4	5
24. I have use Facebook to start or spread rumours to damage someone else's reputation	1	2	3	4	5
25. I have deliberately removed someone from a Facebook group	1	2	3	4	5

I. Facebook Victimization					
For each relevant Facebook, use this scale to respond to the statements below (1=Never; 2= Rarely; 3= Sometimes; 4= Often; 5=Always)					
	Facebook				
26. I have received bad messages/ comments repeatedly	1	2	3	4	5
27. People have use Facebook to start or spread rumours to damage my reputation	1	2	3	4	5
28. I have been deliberately removed from a Facebook Group	1	2	3	4	5

J. Gratification					
For each relevant Facebook, please answer the following questions by choosing ONE appropriate Answer					
29. I like threatening others on Facebook	Never	Rarely	Sometimes	Often	Always
30. Who do you talk to when you are bullied on Facebook?	None	Friends	Parent	My teacher	Not Applicable
31. The person(s) who bullied you on Facebook is: (Check only one that apply)	Female	Male	Both Male & Female	Unknown	Not Applicable
32. Where are you bullied on Facebook?	On the school premises	Outside of school premises	Both in and out of school	Unsure	Not Applicable
33. Have you seen or heard of anyone else being bullied in the last 3 months? Choose One answer					
I haven't seen or heard of anyone else	It has only happened once or twice	I'm not sure	About once a week	Two or three times a month	

34. Does your school have an anti-Facebook bullying policy? Choose one Answer			
Yes	No	Not sure	
Complete			
<p>You have now completed all the questions. All of the sections are confidential, so please do not discuss the answers you have written with your friends.</p> <p>If you have been bullied or mobile bullied and would like to discuss it with someone then please contact a teacher or parent/caregiver. If you are not comfortable with this then call Childline (08000 55 555), they are experience at giving advice and support. Childline is free 24-hour support.</p> <p style="text-align: center;">THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.</p>			

APPENDIX 2: PRINCIPAL LETTER



University of Cape Town
Department of Information Systems
Leslie Commerce Building
Upper Campus
Private Bag X3 - Rondebosch - 7701
Tel: +27 (0) 21 650 2261 Fax: +27 (0) 21650 2280
Internet: <http://www.commerce.uct.ac.za/informationssystem>

17th April 2018

Dear Sir/Madam,

I am a full time Master student under the supervision of Professor Michael Kyobe at the University of Cape Town (Department of Information Systems). I would like to invite you to participate in an academic research on understanding mobile bully-victim behaviour in South Africa High Schools. This research has been approved by the University of Cape Town (UCT)'s Commerce Faculty Ethics in Research Committee.

The aim of this study is to gain understanding and insight on mobile victimisation and means by which to monitor and report mobile victimisation. This will be done by assessing the responses of high school students who have active Facebook accounts for the purpose of monitoring and reporting mobile bullying.

Within this form, we request your permission/consent to conduct this research in your school. The participation of your students in this research is voluntary. Students may withdraw from the research at any time for whatever reason, in accordance with ethical research requirements. All information gathered from the students will be treated confidentially and use only for the purpose of this study. Student names or any identifiable information will not be recorded or published, ensuring anonymity of their responses. The results from this study will then be made known to the school so that students may benefit from them.

The students will be required to answer a number of questions in a questionnaire. If taken, the questionnaire will take approximately 15 minutes to complete.

Your time and participation in this study is greatly appreciated. If you are willing to participate in this study, kindly sign the consent form below.

Should you have any questions regarding this research, please feel free to contact us on the details specified below.

Sincerely,

Zizipho Ndyave

Professor Michael Kyobe

Master's Candidate & Research Assistant
Department of Information Systems
University of Cape Town
Email: zizophondyave@gmail.com/Phone: 0785262206

Research Supervisor
Department of Information Systems
University of Cape Town
Email: michael.kyobe@uct.ac.za/Phone: 0216502597

Consent Form for high School principles



University of Cape Town
Department of Information Systems
Leslie Commerce Building
Upper Campus
Private Bag X3 - Rondebosch - 7701
Tel: +27 (0) 21 650 2261 Fax: +27 (0) 21650 2280
Internet: <http://www.commerce.uct.ac.za/informationssysteme>

I hereby consent Zizopho Ndyave to conduct a survey on mobile bully-victim behaviour in _____ (name of school).

I am aware that participation is voluntary and that I may choose to withdraw from this study at any time, should I choose to do so.

I also give Zizopho Ndyave permission for the results of this study to be use in the write up of the study.

Name: _____

Signature: _____

Date: _____

APPENDIX 3: PARENT/GUARDIAN LETTER



University of Cape Town
Department of Information Systems
Leslie Commerce Building

Upper Campus

Private Bag X3 - Rondebosch - 7701

07th March 2018

Dear Parent/Guardian,

I am a full time Master student under the supervision of Professor Michael Kyobe at the University of Cape Town (Department of Information Systems). I would like to invite you to participate in an academic research on understanding mobile bullying in South Africa High Schools. This research has been approved by the University of Cape Town (UCT)'s Commerce Faculty Ethics in Research Committee.

The aim of this study is to gain understanding and insight on mobile bully-victims and means by which to bring awareness and report on mobile bully-victims and mobile bullying in schools. This will be done by assessing the responses of high school students to complete survey questionnaire tool.

Within this form, we request your permission/consent **for your child to participate in this study**. The participation of your child in this research is voluntary. Students may withdraw from the research at any time for whatever reason, in accordance with ethical research requirements. All information gathered from the students will be treated confidentially and use only for the purpose of this study. Student names or any identifiable information will not be recorded or published, ensuring anonymity of their responses. The results from this study will then be made known to the school so that students may benefit from them.

What is the Problem?

Mobile bullying on social networks is a growing problem in South African high schools. The emergence of technology has introduced new ways young people use to communicate. This technology is widely use than conventional methods to commit anti-social behaviours today. While studies on bullying in general have been conducted, there has been limited focus on one type called bully-victims. Bully-victims are adolescents that swing between being a bully and a victim which are difficult to identify. Bully-victims are not well known in South Africa, because our understanding of mobile bullying is still limited. Existing research shows that rapid growth in suicidal cases is one of the leading causes of death among adolescents in South. Although suicide has not been associated with bully-victims in South Africa, international studies have linked adolescent suicidal tendencies with bully-victims' behaviour.

What is the solution?

The development of the conceptual model will guide researchers on how to assess and identify bully-victims on Facebook and other social networks in general. These studies will further assist in the development of anti-bullying policies in schools and government policies in cybercrimes. Additionally, this study aims to contribute to the body of knowledge on mobile bullying research by extracting theories and providing expanded understandings of bully-victims in schools.

The students will be required to answer a number of questions in a questionnaire. If taken, the questionnaire will take approximately 15 minutes to complete.

We therefore kindly request permission from you for your child to participate in this study. If you are willing to allow your child to participate in this study, kindly sign the consent form below.

Should you have any questions regarding this research, please feel free to contact us on the details specified below.

Sincerely,

Zizipho Ndyave

Master Student
Department of Information Systems
University of Cape Town
Email: NDYZIZ001@uct.ac.za/Phone: 0785262206

Professor Michael Kyobe

Research Supervisor
Department of Information Systems
University of Cape Town
Email: michael.kyobe@uct.ac.za/Phone: 021650259

As the guardian/parent of _____, I hereby consent Zizipho Ndyave to conduct a survey on mobile bullying and victimisation in which he/she may participate.

I am aware that participation is voluntary and that I may choose to withdraw my child from this study at any time, should I choose to do so.

I also give Zizipho Ndyave permission for the results of this study to be use in the write up of the study.

Name: _____ Signature: _____ Date: __

APPENDIX 4: STUDENT LETTER



University of Cape Town
Department of Information Systems
Leslie Commerce Building
Upper Campus
Private Bag X3 - Rondebosch - 7701

07th March 2018

Dear Student,

Mobile bullying is described as form of cyber bullying which is conducted using a mobile phone through communication channels such as text messages, emails, Instant messaging and other chat rooms Kyobe (2016). While mobile phone usage is a common practice especially among adolescents, it shields mobile bullying from being noticed. A bully-victim is described as the person that have been a victim of bullying and bullying perpetrator (Kyobe, 2016). Bully-victims are believed to possess attributes of both a pure bully and victim which becomes difficult to solely distinguish them from a pure bully or a victim (Kyobe et al., 2016).

The aim of this study is to gain understanding and insight on mobile bully-victims and means by which to bring awareness and report on mobile bully-victims and mobile bullying in schools. This will be done by assessing the responses of high school students to complete survey questionnaire tool.

Students that willingly agree to take part in this study will be required to answer a number of questions in the questionnaire. If taken, the questionnaire will take approximately 15 minutes to complete.

We therefore kindly request your acceptance to partake in this study. If you are willing to participate in this study, kindly sign below.

Should you have any questions regarding this research, please feel free to contact us on the details specified below.

Sincerely,

Zizopho Ndyave
Master Student
Department of Information Systems
University of Cape Town
Email: NDYZIZ001@uct.ac.za/Phone: 0785262206

Professor Michael Kyobe
Research Supervisor
Department of Information Systems
University of Cape Town
Email: michael.kyobe@uct.ac.za/Phone: 0216502

APPENDIX 5: ETHICS CLEARANCE LETTER FROM UCT



Faculty of Commerce

Private Bag X3, Rondebosch, 7701

2.26 Leslie Commerce Building, Upper Campus

Tel: +27 (0) 21 650 4375/ 5748 Fax: +27 (0) 21 650 4369



@Commerce_UCT



UCT Commerce Faculty Office

17.02.2018

Ms Zizipho Ndyave
Department of Information
Systems University of Cape Town

REF: REC 2018/002/013

Dear Zizipho Ndyave

Project: Factors that influence mobile bully-victim behaviour on social Media: The case of Facebook

We are pleased to inform you that your ethics application has been approved. Unless otherwise specified this ethical clearance is valid for 1 year and may be renewed upon application.

Please be aware that you need to notify the Ethics Committee immediately should any aspect of your study regarding the engagement with participants as approved in this application, change. This may include aspects such as changes to the research design, questionnaires, or choice of participants.

The ongoing ethical conduct throughout the duration of the study remains the responsibility of the principal investigator.

We wish you well for your research.

Litha Tyulu
Administrative
Assistant
University of Cape
Town Commerce
Faculty Office
Room 2.26 | Leslie Commerce Building

Office Telephone: +27 (0)21 650 2695

Office Fax: +27 (0)21 650 4369

E-mail: litha.tyulu@uct.ac.za

Website: www.commerce.uct.ac.za

“Our Mission is to be an outstanding teaching and research university, educating for life and addressing the challenges facing our society.”

APPENDIX 6: DEPARTMENT OF EDUCATION IN WESTERN CAPE LETTER

Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20180425–1588

ENQUIRIES: Dr A T Wyngaard

Ms Zizipho Ndyave
63 Zone 16
Langa
7455

Dear Ms Zizipho Ndyave

**RESEARCH PROPOSAL: FACTORS THAT INFLUENCE MOBILE BULLY-VICTIM BEHAVIOUR ON SOCIAL MEDIA:
THE CASE OF FACEBOOK**

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **25 April 2018 till 22 June 2018**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:
**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

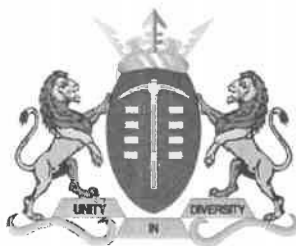
We wish you success in your research.

Kind regards.

Signed: Dr Audrey T Wyngaard

Directorate: Research

DATE: 25 April 2018



GAUTENG PROVINCE

Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	07 February 2018
Validity of Research Approval:	05 February 2018 – 28 September 2018 2018/13
Name of Researcher:	Ndyave C.Z
Address of Researcher:	No. 63 Zone 16 Langa Cape Town 7455
Telephone Number:	078 526 2206
Email address:	ziziphondyave@gmail.com
Research Topic:	Factors that Influence Mobile Bully-Victim Behaviour on Social Media: The case of Facebook
Type of Degree:	Masters of Commerce
Number and type of schools:	Four Secondary Schools
District/s/HO	Ekurhuleni South

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

Handwritten signature 08/02/2018

1

Making education a societal priority

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za