

Examining the evolution of mobile bully-victim behaviour in South African high-school students

9/15/2017

A DISSERTATION PRESENTED TO THE

DEPARTMENT OF INFORMATION SYSTEMS

UNIVERSITY OF CAPE TOWN

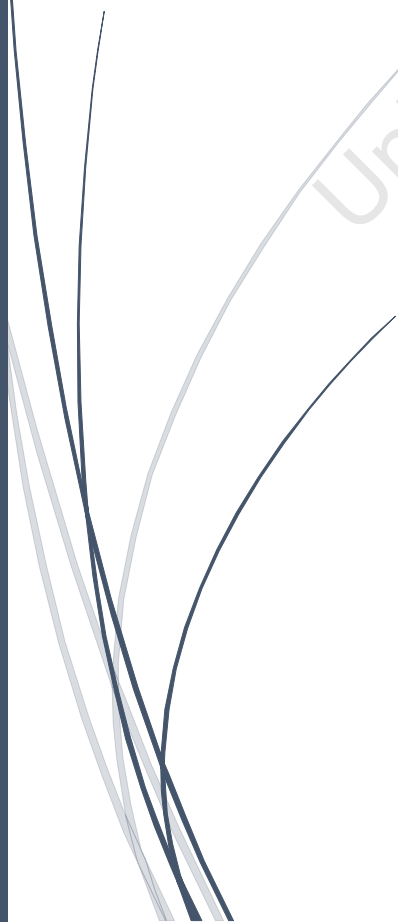
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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE MASTERS DEGREE IN COMMERCE
(INFORMATION SYSTEMS)

University of Cape Town



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ABSTRACT

Bully-victims have not been studied extensively in the South African context and studies regarding cyber bullying are not keeping up with this widespread of ICTs. There is a large scale of research that focuses on bullying and victimisation, but not much on bully-victims in general which makes it difficult to identify this group of individuals for better intervention measures. The term bully-victims refers to those individuals that are bullies but also experience bullying as well. An obstacle in the development of interventions suitable for this phenomenon is the inability of researchers, teachers as well as learners to differentiate between the different forms of bullying. Failure to understand the distinctions in the forms of bullying may result in a domino effect of not understanding individuals' behavioural differences as well as bullies' risk profiles. Therefore, it would be very important to try and get an understanding of this behaviour and the possible causes which will help in developing tools that can assist in preventing the cycle of mobile bullying, and mobile bully-victimisation as well as raise awareness on the issue. This study will therefore target the category of mobile bully-victims, this class has not been studied extensively but recent developments show that it has extreme consequences for young people.

This study identified different factors that impact on bully-victim behaviour and the evolution thereof. Following literature review, the researcher developed a conceptual framework illustrating the evolution of mobile bully-victim behaviour. The framework proposed that there are relationships between previous traditional bullying experience and (1) the school environment, (2) self-control/self-esteem, (3) age/grade, (4) retaliation and (5) technology which result in the evolution of mobile bully-victim behaviour.

The conceptual framework was tested using a questionnaire which was distributed to grade 8 and 9 learners in four schools in the Mpumalanga province where 817 responses were obtained. A Frequency distribution test was run on factors of mobile bullying that are significantly associated with factors of mobile victimisation and it was found that a total of 121 learners scored high on both these factors thus making them mobile bully-victims. It was also found through the execution of a Spearman rank order correlation that learners that currently use their mobile phones to bully others are those that were victims of previous traditional bullying. The results revealed, for example, that learners tend to threaten, spread rumours, share content online and create groups solely for the purpose of

excluding others because they have been bullied in the past. Studies explain that this reaction is as a result of impulsivity, a characteristic of low self-esteem or lack of self-control, after experiencing bullying.

Structural Equation modelling was run to analyse how bully-victim behaviour evolves and how the bully-victim pathways are formed. The results revealed that schools located in rural or less advantaged communities engage in bullying activities more than those in urban or suburban communities. It was also found that only 14% of learners were aware or knew of existing anti-bullying policies in their schools and 40% indicated that they know of other mobile bullying reporting mechanisms, with most of these learners being from urban and suburban schools. Studies found that this may be due to the high social capital provided by well off communities which provide a safer environment. The findings also proved that learners are more involved in mobile bullying activities at a younger age, this contradicting previous studies which found that mobile bullying is more prevalent as children mature. Also, younger learners lack self-control/self-esteem due to previous traditional bullying experience whereas for older learners it is due to mobile bullying experience. This is despite the fact that studies show that self-control improves with age.

KEYWORDS: Mobile bully-victims, Previous Traditional bullying, Evolution, victimisation

ACKNOWLEDGEMENTS

I would like to extend my gratitude to my supervisor, Prof. Michael Kyobe for his continuous support, guidance and effort throughout this research project. I would also like to thank the Mpumalanga Department of Education for granting me permission to conduct this study, as well as the schools that participated for welcoming me with open hands and lending a helping hand throughout the data collection phase. Lastly, I would like to thank my family for the support and prayers throughout the research process.

Table of Contents

PLAGIARISM DECLARATION	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vii
FIGURES.....	viii
CHAPTER 1 : INTRODUCTION	9
1.1 Background	9
1.2 Problem Statement.....	11
1.3 Research Questions and Objectives.....	11
1.3.1 Primary Research Question.....	11
1.3.2 Secondary Questions:	11
1.3.3 Objectives.....	11
1.3.4 Rationale and Motivation.	12
1.4 Dissertation overview	15
CHAPTER 2 : LITERATURE REVIEW	17
2.1 Traditional Bullying vs Cyberbullying	17
2.2 Bully-victims.....	18
2.2.1 General Characteristics	18
2.2.2 Psychological and Social factors.....	19
2.2.3 Theories of evolution	26
2.2.4 The role of technology	27
2.2.5 Other research findings.....	28
2.3 Gaps in Literature.....	29
2.4 Conceptual Framework.....	30
2.5 Chapter Summary	34
CHAPTER 3 : RESEARCH DESIGN AND METHODOLOGY	35
3.1 Introduction	35
3.2 Research Philosophy	35
3.2.1 Ontology.....	35
3.2.2 Epistemology.....	35
3.3 Research Philosophy: Methodology	36
3.3.1 Strategy	36
3.3.2 Research Purpose.....	37
3.3.3 Research Approach	37
3.3.4 Target Population and Sample.....	37

3.3.5	Data/Variable	38
3.3.6	Pilot Study	39
3.3.7	Research Instrument.....	39
3.3.8	Timeframe.....	40
3.3.9	Data Analysis.....	40
3.3.10	Validity	41
3.3.11	Instrument Reliability.....	42
3.4	Ethics and Confidentiality	42
3.5	Limitations.....	43
3.6	Summary of research design and methodology	43
CHAPTER 4 : FINDINGS AND DISCUSSION		45
4.1	Data Collection.....	45
4.1.1	Propositions	46
4.2	Reliability and Validity Testing.....	46
4.3	Descriptive Statistics	48
4.3.1	Schools	48
4.3.2	Demographics	49
4.3.3	Frequency distribution for mobile bully-victims.....	50
4.3.4	TECHNOLOGY	51
4.4	Inferential Statistics	52
4.4.1	Results for mobile bullying and victimisation	52
4.4.2	School environment and bullying activities	53
4.4.3	Bullying activity involvement	56
4.5	Testing the Mobile bully-victim behaviour model - Structural Equation Model.	58
4.6	SUMMARY OF FINDINGS.....	60
CHAPTER 5 : RESEARCH CONCLUSION AND RECOMMENDATIONS.....		63
REFERENCES		65
APPENDICES		74
Appendix A – Evolution of Mobile Bully-victim survey		74
Appendix B – Consent Letter: Department of Education		77
Appendix C – Consent Letter: Parent/Guardian		78
Appendix D – Consent Letter: Learner.....		80
Appendix E – Approval Letter: Department of Education		81

LIST OF TABLES

Table 1: Consolidation of construct references	39
Table 2: Reliability Tests Results - Cronbach's Alpha	47
Table 3: Reliability Test Results - Spearman Rank Order Correlation.....	48
Table 4: Frequency Distribution - Mobile Bully-Victims	50
Table 5: Descriptive Statistics - Mobile Applications Used	51
Table 6: Spearman's Rank Order Correlations - Variables of mobile bullying and mobile victimisation.	52
Table 7: Mobile Bullying Involvement per school.....	55
Table 8: Policy and Reporting Awareness.....	55
Table 9: Mobile bully-victim behaviour across different grades – Path Estimates	58

FIGURES

Figure 1: Dissertation Overview.....	15
Figure 2: Conceptual Framework of the Evolution of Mobile Bully-victim behaviour	32
Figure 3: Summary of Research Design and Methodology.....	44
Figure 4: Descriptive Statistics - Participants per school	49
Figure 5: Participants by gender Figure 6: Participants by Grade.....	49
Figure 7: Bar Graph - Bullying Activity Involvement per Grade	57

CHAPTER 1: INTRODUCTION

1.1 Background

There is a link between the evolution and advancement of technology and human advancement in societies (Donegan, 2012). Our world to date has evolved and is embracing the digital age with massive progression in Information and Communication Technologies (ICTs) as well. As a result of this information orientation, there has since been an integration between the real (physical) world and the cyberspace. Cyberspace is defined as a space made up of digital networks that is used for storing, modifying and communicating information (UK Cyber Security Strategy, 2011). These benefits of the digital age however also bring about the ease with which technologies can be used to engage in risky behaviour (Hobbs, 2009). The word “bully” goes back as far as the early 1530s (Harper, 2008), and although the phenomenon spans years back, there is still no general agreement on the definition of the term “bullying” (ConnectSafely.org, 2016). There are discrepancies in terms of a universal definition for the term ‘cyberbullying’, this is because of the lack of conceptual clarity (Vandebosch & Van Cleemput, 2008; Tokunaga, 2010). Specialists do, however, agree on the notion that bullying entails targeted and repeated aggression which is of a severe nature (Hinduja & Patchin, 2006).

Traditional bullying and cyberbullying have similarities in relation to their structures and techniques, however, there are also differences between the two. Cyberbullying can be defined as the use of ICTs, such as e-mail, cell phones, instant messaging, offensive personal websites and online personal voting websites for intentional, recurrent and aggressive behaviour intended to cause harm to others (Erb, 2008, Kowalski, Limber and Agatston, 2012). Unlike traditional bullying, cyberbullying allows the bully to mask their identity behind a computer and this mask makes it possible for the bully to victimise their target without having to gauge the victim’s physical response (Donegan, 2012).

Cyberbullying is not as evident as physical traditional bullying because of the emergence and nature of new technologies, it usually happens in private, can be spread very quickly and it is easy to make and keep records, for example screen grabbing and copy and paste (Li, 2006). Research on cyberbullying reveals that the level of cyberbullying decreases as learners advance to higher grades, and that it is in middle school where it is more severe (Ang, 2010; Hobbs, 2009; Nixon, 2014). Previously, all aggressive children who had characteristics of

harassment and intimidation were grouped into a single category namely: bullies (Dewar, 2008). However, recent studies have identified two categories of bullies, these are pure bullies and bully-victims. The group of pure bullies is classified as confident, whilst harassing and dissing others, according to Dewar (2008), this group does not get victimised.

Bully-victims refers to those individuals that are bullies but also experience bullying as well (Kabiawu and Kyobe, 2015). There is a correlation between internet usage and being a cyber-victim, studies also show that most people who are cyber-victims are/were also traditional face-to-face bully-victims (Smith, Mahdavi, Carvalho, Fisher, Russell and Tippett, 2008), but there are limited studies focusing on bully-victims (Kabiawu and Kyobe, 2015, Pollastri, Cardemil & O'Donnell, 2010). It has recently become apparent that classifying individuals involved in bullying only as bullies and victims does not cover all those involved, bully-victims provide a foundation for a different profile altogether (Kochel, Ladd, Bagwell & Yabko, 2015). Classifying all groups that are involved under a single category causes confusion with regards to the gaps in the levels risk for bully-victims, studies that account for the different cyber bullying behaviour may help in identifying ways to prevent youths that are rarely involved from engaging in more aggressive forms of bullying (Kochel *et al.*, 2015).

Other studies on cyber bullying report on the externalising characteristics (such as conduct disorder, aggression and substance abuse) of bullies and internalising characteristics (such as varying moods and being anxious) of victims but this approach over-simplifies the problem where bully-victims are concerned because bully-victims have a combination of these characteristics (Copeland, Wolke, Angold & Costello, 2013; Kelly, Newton, Stapinski, Slade, Barrett, Conrod & Teesson, 2015). Thus, the implications for not understanding the different categories and characteristics may be detrimental because of the related harm. Some studies posit that there is a link between being a bully-victim and peer relationships, however, they don't provide evidence for the long-term consequences of being a bully-victim (Kochel *et al.*, 2015). This is the reason why there is a need for studies focusing on bully-victim behaviour so as to observe the evolution of behaviour overtime and devise suitable preventative mechanisms. It is therefore essential to have a better understanding of the subject of cyberbullying, in particular, bully-victims. This research will investigate the evolution of high-school students' bully-victim behaviour as they transition from one grade to another.

1.2 Problem Statement

Bully-victims have not been studied extensively in the South African context and studies regarding cyber bullying are not keeping up with this widespread of ICTs (Popovac & Leoschut, 2012). There is a large scale of research that focuses on bullying and victimisation, but not much on bully-victims which makes it difficult to identify this group of individuals for better intervention measures. By examining the factors influencing mobile bully-victim behaviour among high school students as they transition from one grade to another, a conceptual model will be developed to create a better understanding of bully-victims and recommendations can be made regarding when exactly interventions to stop bully-victim behaviours can be applied.

1.3 Research Questions and Objectives

1.3.1 Primary Research Question

This research is an examination of the evolution of high-school students' bully-victim behaviour. The research question has been formulated as follows: *How does the behaviour of bully-victims evolve as they move from grade 8 to grade 9?*

These grades were chosen because the learners in those grades are in their early teenage years and are said to be finding themselves and trying to affirm themselves and assert their views in the world (Sangalang, Tran, Ayers & Marsiglia, 2016). This period in their lives is also a period of transitioning described as a stressful and usually results in impulsive behaviour and constant changes in emotions. It is in this time that being involved and accepted in their circle is more important, therefore rejection may have negative consequences (Seals and Young, 2003). Therefore, studying the participants at these grades will provide clarity on how bully-victim behaviour starts off as well as how it evolves.

1.3.2 Secondary Questions:

- i) What factors cause bully-victim behaviour?
- ii) How does the path of bully-victimisation in high-school students start? Do they start off as victims or bullies?
- iii) What behavioural factors arise as a result of bully-victimisation among high-school students in different grades?

1.3.3 Objectives

- Investigate the evolution of South African high-school students' bully-victim behaviours in grades 8 to 9.
- Understand behavioural factors that arise as a result of bully-victimisation
- Understand how bully-victims emerge. Do they start off as victims or bullies?

These objectives will assist in answering the question of how bully-victim behaviour evolves as high-school students move from grade to grade. Understanding this behaviour and the possible causes will help in developing tools that can assist in preventing the cycle of cyberbullying, and bully-victimisation as well as raise awareness on the issue.

1.3.4 Rationale and Motivation.

There is limited research focusing on bully-victims (Kabiawu and Kyobe, 2015, Pollastri, Cardemil & O'Donnell, 2010). An obstacle in the development of interventions suitable for this phenomenon is the inability of researchers, teachers as well as learners to distinguish different bullying methods (de Wet, 2007). The standard perception or norm of bullying is that it entails violence between students. However, it does not end there. There are also various forms and factors that lead to bullying; because of these variations, different forms of strategies for intervention may be required (Lass, 2012). Failure to understand the distinctions in the forms of bullying may result in a domino effect of not understanding individuals' behavioural differences as well as bullies' risk profiles. Which will in turn mean that even if interventions are put in place, they will still fail to address the different individualities of bullies or the factors that result in bully-victim behaviour. Therefore, it would be very important to try and get an understanding of this behaviour and the possible causes which will help in developing tools that can assist in preventing the cycle of cyberbullying, and bully-victimisation as well as raise awareness on the issue. This study will therefore target the category of bully-victims, this class has not been studied extensively but recent developments show that it has extreme consequences for young people.

The topic of bully-victimization is also of concern for victims, parents, educators and mental health practitioners because victims express signs of misery and adjustment difficulties. However, there is no conclusive evidence that these signs are as a result of bullying (Arseneault, Bowes & Shakoor, 2010). Studying bully-victims and getting a better understanding of their character will provide a clear indication of whether bully-victimisation contributes to mental health issues so we can be able to craft appropriate

interventions that will mitigate risk. Measures are also needed to provide pure bullies and bully-victim with coping mechanisms for their distress, in this case, these behavioural factors can be identified in their early stages and dealt with accordingly to prevent long-lasting effects.

The social and emotional challenges faced by bully-victims are more complicated as they live in a two-dimensional world; that is, they carry characteristics of both bullies and victims (Haynie *et al.*, 2001), but there are limited studies focusing on bully-victims (Kabiawu & Kyobe, 2015, Pollastri, Cardemil & O'Donnell, 2010). They have been identified as being difficult to control, misbehaving and lashing out impulsively (Sekol & Farrington, 2010; Stein *et al.*, 2007; Townsend, Flisher, Chikobvu, Lombard & King, 2008). This calls for an understanding of these different characters and factors causing these behaviours and responses.

Presently, there is a shortage of literature that considers the nature, extend and consequences of different aspects of violence on the cyberspace at a national scale (Popovac & Leoschut, 2012; Stein *et al.*, 2007). Not much research has been conducted in South Africa regarding cyberbullying (Laas & Boezaart, 2014) and sexting which makes the ways in which children get involved in these practices very unclear. It is also not known what the number of children involved in these practices is (Bademhort, 2011). Findings from bully-victims' studies have also been found to be inconsistent, this has led to a need for more research regarding this phenomenon. Studies conducted will help in understanding behavioural differences between bullies and bully-victims thus helping to shed light on aspects of cyberbullying including the group of bully-victims which are neglected in research.

There is a lot of research focusing on bullying and victimisation, however, the development path that leads to bully-victim behaviour is still not clear in the South African context, this requires more studies to be done in order to craft applicable theory on bully-victim behaviour. Theories that are currently used to explain bullying need to be rigorously scrutinised to identify their applicability to the bully-victim context and find links that will help in developing specific theories for the bully-victim context. Past theorists said that a lack of social skills would result in people being aggressive, this would be the case if an individual was trying to imitate a role model who was aggressive (Bandura, 1978). But

results of some studies contradict this notion and show that bully-victims tend to be popular amid their peers and they are also very sociable (Rodkin *et al.*, 2015). The above contrasts show there is a need for the development of theories that can be used in differentiating and identifying bully-victims, understanding how they behave and what factors cause this type of behaviour because there is a gap concerning this aspect.

This study investigates the evolution of bully-victim behaviour for high school students as they transition from one grade to another, as well as what behavioural factors arise as a result of bully-victimisation, where bully-victim behaviour starts, that is, do these bully-victims start off as bullies or victims? The present study aims to offset and create a pathway for further research on the evolution of bully-victims' behaviour. This is to help contribute to the body of knowledge of bully-victim behaviour thus bridging the existing gap. This research will also draw on existing literature to identify some interventions that are currently being used to mitigate the problem of cyberbullying. Results emerging from this study are also expected to help policy makers in the fields of education and security create policies to mitigate the issue of cyber-bullying, and also help them analyse existing policies in order to formulate strategies to improve these policies.

1.4 Dissertation overview



Figure 1: Dissertation Overview

Figure 1 above presents an overview of the entire dissertation. Below is a summary of what each chapter of this dissertation encompasses.

Chapter 2: This chapter presents the literature review that was covered for the purposes of this dissertation. Subtopics covered under the literature review are: 1. General Characteristics of mobile bully-victims, 2. Traditional bullying vs Cyberbullying, 3. Psychological and Social factors, 4. Theories of evolution, 5. The role of technology and 6. Other research findings.

Chapter 3: Presents the research design and methodology, this includes the research philosophy and strategies adopted, techniques for data collection and analysis, pilot study, the resources required for the study, ethics and confidentiality considerations and the limitations of the study.

Chapter 4: This chapter presents the analysis and findings of the study, as well as the discussion of these findings.

Chapter 5: Chapter 5 is the conclusion of the research study, the recommendations for future research are also presented here.

CHAPTER 2: LITERATURE REVIEW

In the past, bullying was seen as a norm and a phase that children go through, however, the rise in violence and aggression which are as a result of cyberbullying have raised concerns and there is a lot of psychological and emotional issues linked to cyberbullying (Walker, 2015). This section looks at literature on the different aspects of cyberbullying and victimisation for this study.

2.1 Traditional Bullying vs Cyberbullying

The word “bully” originated from the early 1530s (Harper, 2008), but till to date there has not been a single general agreement on the definition of the term (ConnectSafely.org, 2016) due to conceptual clarity deficiencies (Vandebosch & Van Cleemput, 2008; Tokunaga, 2010). Scholars do, however, agree that bullying entails severe targeted and repeated aggression towards an individual or individuals (Hinduja & Patchin, 2006). In a typical bullying situation, there are two characters, these are the bully, who uses power and intimidation to harass the victim and the victim who is the target. This harassment can take many forms, some of which can be direct (including factors such as physical harassment and face-to-face attacks), or it can be indirect (this entails things such as spreading rumours and gossiping) (Donegan, 2012; Dooley, Pyzalski & Cross, 2009).

Traditional bullying and cyberbullying are parallel in terms of their structures and techniques, but there are also notable distinctions between the two. Contrary to physical interaction, the cyberspace makes it possible for people to have access to unlimited interaction opportunities outside their face-to-face or physical interactions (Mishna, Khoury-Kassabri, Gadalla & Daciuk, 2012). Cyberbullying is not as direct as traditional bullying because with cyberbullying, the harassment happens online via the use of e-mail, text messages, voice notes, and other forms of ICTs (Erb, 2008; Johnson, 2011; Williard, 2010). Cyberbullying allows the perpetrator to conceal their identity by hiding behind a computer (Donegan, 2012). Bullying behaviour does not happen in isolation, there are other parties involved other than the bully and the victim, and these include bystanders or witnesses (Marini, Dane, & Volk, 2008).

2.2 Bully-victims

The bully-victim is a party that is a bully and also a victim, traditional bullying studies have found that bully-victims make up the smallest group as compared to the groups of bullies and victims (Mishna *et al.*, 2012; Namane & Kyobe, 2017). It is difficult to identify bully-victims and their distinct circumstances and behaviour, this group moves between being the main bully and being bullied (Tokunaga, 2010). This category faces more complicated social and emotional challenges since they live in a two-dimensional world (Haynie, Nansel, Eitel, Crump, Saylor, Yu & Simon-Morton, 2001).

2.2.1 General Characteristics

Bully-victims are said to be the opposite of pure bullies as they are bullies but also get bullied themselves (Stein, Dukes & Warren, 2007). They show the most divisive profile because they carry the characteristics of bullies as well as that of victims, like bullies, they possess a very high level of self-esteem and confidence, but on the other hand, they also face rejection and weakness (Seixas, Coelho & Nicholas-Fischer, 2013). However, according to Seixas *et al.*, (2013), bully-victims have higher levels of self-esteem and confidence than victims but lower than bullies (Namane & Kyobe, 2017). But other research has also found that as compared to pure bullies and victims, bully-victims suffer the most, the effects encountered are so severe that victims tend to have low self-esteem, struggle academically, are depressed and may consider suicide and sometimes they have family problems (Goodno, 2011; Liang, Flisher & Lombard, 2007; Protogerou & Flisher, 2012; Odora & Matoti, 2015).

Because bully-victims have a blend of emotional and behavioural problems, those of bullies and those of victims, they are more prone to psychological and social factors such as depression, being rejected and thus they have no close friends, they are also likely to adopt a rule-breaking behaviour (Marini *et al.*, 2008). In their study conducted in South Africa about bullying in Cape Town and Durban based schools, Liang *et al.* (2007) found that bully-victims tend to engage in criminal behaviour and carry around weapons. Previous studies on bullying have produced ambiguous results. Recent studies are suggesting that the inconsistency in these findings is because bully-victims are not accounted for (Pollastri, *et al.*, 2010, Tokunaga, 2010) which has an impact on intervention measures (Stein *et al.*, 2007).

2.2.2 Psychological and Social factors

2.2.2.1 Social Cognitive Theory

According to Popovac & Leoschut (2012), there is a very thin line between bullies and victims, as most of the individuals that become cyber bullies had been victims of traditional bullying before. Like victims, bullies also face the risk of encountering emotional and social problems, and they tend to gravitate towards other children who behave in the same violent way they do (de Wet, 2007; Namane & Kyobe, 2017). It is therefore evident that there is likelihood for cyber aggression victims to perpetrate the aggression they experience against others, possibly in retribution (Popovac & Leoschut, 2012). This is better explained by the Social Cognitive theory which is an extension of the Social Learning Theory (Bandura, 1986, Bandura, 1989), this theory explains that the way humans function is as a result of the vigorous interactions between behavioural, environmental and personal factors (Bandura, 1977). According to the Social Learning Theory, people are able to adjust their behaviour because of their ability to have a personal sense of control; that is, if people believe that the outcome of an action will be beneficial to them then they are more likely to carry out that action and be committed to it (Luszczynska & Schwarzer, 2005). This is referred to as personal self-efficacy which is a representation of a person's control over their environment and their ability to take on challenges by adapting (Luszczynska & Schwarzer, 2005). Thus, a low personal self-efficacy can have negative social and psychological impacts such as anxiety, depression and difficulties integrating with society (Luszczynska & Schwarzer, 2005; Bandura, 1977). Therefore, what people believe about the consequences of an action will determine behaviour (Luszczynska & Schwarzer, 2005). Usually, children may act aggressively after having seen someone they consider a model figure behave in an aggressive manner (Dishion, Andrews & Crosby, 1995). These individuals that copy behaviour are usually children that lack a natural or personal status to identify with when in the company of their peers and their social acceptance is low, therefore they behave in this way to be more assertive (Bandura, 1977). Because they are socially excluded, these children have little or no friends; the friends that they have may be of the same characteristics which may fuel the behaviour (Dishion, Andrews & Crosby, 1995). Sometimes aggression can be learned indirectly from watching someone being rewarded for their aggressive behaviour; this will indirectly reinforce the observer's aggressive behaviour.

The school is a child's most prominent and influential environment (Ortega-Ruiz & Núñez, 2012) in terms of their psychological wellbeing, self-concept, achievements and their ability

to formulate social relationships; this is because they spend most of their time there. Therefore in order to grasp some of the factors that influence student's behaviour, it would be helpful to also consider studying the school environment (Ortega-Ruiz & Núñez, 2012). Schools that provide a positive environment have been found to have low levels of bullying behaviour, whereas high bullying behaviour tends to be reported by students that have negative views regarding their schools (Cranham & Carroll, 2003; Namane & Kyobe, 2017). The Social Cognitive theory can be key in explaining the interactions between bullies and victims (Barkoukis, 2014; Swearer, Wang, Berry & Mayers, 2014), and how bully-victims emerge from these interactions (Kowalski, 2000). The aggressions of both bullies and bully-victims are facilitated by the socio-cognitive process as forms of social behaviour which is learned (Calvete & Orue, 2010; Postigo *et al.*, 2013). According to Cranham & Carroll (2003) in their *Dynamics within the Bully/Victim Paradigm*, different schools have different stated or implied norms which learners in those individual schools conform to. These sets of norms and values are established by societies to be a directive of how individuals in the society should behave (Chandley, 2005). Learners are excluded from the crowd when they do not follow these norms, these learners can then be targeted as victims of bullying because they are not within the inner circle (Cranham & Carroll, 2003; Chandley, 2005), this can result in this group of outcasts retaliating by becoming bullies so that they fit in with the rest and are accepted by their peers.

2.2.2.2 The Ecodevelopmental Theory

Studies also indicate that bully-victims tend to engage in substance abuse, this includes the consumption of alcohol, smoking, the use of inhalants (Sangalang *et al.*, 2016) as well as many other substances (Bradshaw, Waasdorp, Goldweber, & Johnson, 2013). According to Juvonen & Graham (2014), this type of behaviour raises a lot of concern as it results in increasing emotional and psychological problems which may in turn have adverse health and behavioural implications. This may be because of their social groups or standing. The Ecodevelopmental theory by Szapocznik & Coatsworth (1999) explains that varying social and cultural contexts that young people are part of influence their behaviours. The theory views that factors such as the individuals' risk factors and their sociocultural factors are interrelated, meaning that risk and retaliation don't happen in isolation (Sangalang *et al.*, 2016).

Bully-victims also have problems coping or adjusting to social situations (Pollastri, *et al.*, 2010; Schwartz, 2001). Protogerou and Flisher (2012) have also said that bully-victims may acquire this role or status due to their inferiority or absence of social skills. They have also displayed a character of impatience, being impulsive and meddling in others' conversations thus violating social norms; they cause a commotion around them so that they can get a negative reaction from the crowd or their target (Townsend, Flisher, Chikobvu, Lombard, & King, 2008). But contrary to this distinction of bully-victims, some studies have found that bully-victims tend to be popular amid their peers and they are also very sociable, this results in the difficulty in identifying bully-victims (Namane & Kyobe, 2017; Rodkin, Espelage and Hanish, 2015). Bandura (1977) explains the concept of deindividuation which posits that when in a crowd, people will tend to lose their sense of individuality, behave as the crowd does and behave aggressively in a manner that they wouldn't if they were alone.

2.2.2.3 Theory of Reasoned Action

Bully-victims in general also tend to be more lonely and irritable which results in their impulsive behaviour (Seixas, 2013). They also seem to be more disturbed in their psychosocial stance (Pollastri *et al.*, 2010) and have difficulty controlling their emotions because of distress (Schwartz, Proctor & Chien, 2001). This emotional reaction of bully-victims may probe other bullies to harass them; thus, the bully-victim will become frustrated and retaliate with more aggression (Marini *et al.*, 2008; Mishna *et al.*, 2008; Pollastri *et al.*, 2010) because it is easier to revenge or payback in the cyberbullying context than in traditional bullying (Mishna *et al.*, 2008). Roeleveld (2011) explains that students that have difficulties become cyber bully-victims because they are aggressive, which in turn provokes bullying from their peers, this is what leads to them retaliating. Contrary to this, Bandura (1973) wrote about processes of social learning which gave rise to the concept of proactive aggression. In this case the perpetrator will become more aggressive because they feel less competent; therefore they model the cognitive processing and accentuate aggression as being more effective. This sort of behaviour is not provoked; it occurs due to pride, for the satisfaction of the aggressor and is intentional (Calvete & Orue, 2010; Postigo, González, Montoya & Ordoñez, 2013). There are multiple theories which have been used in previous studies to understand and explain bullying behaviour.

The Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) has been widely adopted by studies that seek to understand behaviour. The theory states that a

person's behaviour is predicted by the person's intention to perform that behaviour (Madden, Ellen & Ajzen, 1992), the intention to behave a certain way is influenced by attitudes, perceived norms and self-efficacy to perform the behaviour (Fishbein & Ajzen, 2010; DeSmet, Aelterman, Bastiaensens, Van Cleemput, Poels, Vandebosch, & De Bourdeaudhuij, 2015). This theory has been used in several studies focusing on cyberbullying and was found to be a theoretically stable framework to explain behaviour (Desmet, Bastiaensens, Van Cleemput, Poels, Vandebosch, and De Bourdeaudhuij, 2012; DeSmet *et al.*, 2014).

2.2.2.4 Low Self-Control Theory

This aggression, retaliation and irritation leading to impulsivity can also be explained by the low self-control theory proposed by Gottfredson & Hirschi (1990), this is a criminology theory which has been used in recent studies to explain the concept of bullying because the likelihood of individuals with low self-control to engage in bullying behaviour is very high (Moon, Morash, & McCluskey, 2012; Moon & Alarid, 2015). The low self-control theory explains the correlation between being a victim and bullying or rather, bully-victim behaviour. According to Gottfredson & Hirschi (1990), when individuals lack self-control, they are likely to become both a victim and also commit a crime. For example, substance abuse is associated with low self-control for bully-victims (Entorf, 2013; Namane & Kyobe, 2017). Studies have identified the tendency to be impulsive and the lack of empathy as characteristics of low self-control resulting in bullying behaviour (Moon & Alarid, 2015). These characteristics have been examined extensively and the results are consistent with the initial propositions made by Gottfredson & Hirschi (1990) that self-control influences bullying (Moon & Alarid, 2015; Chui & Chan, 2013; Moon *et al.*, 2012). However, sometimes social information can be misinterpreted; as a result, when the bully-victim retaliates, the aggression is based on this misinterpretation and their perception is that these vague signals are threats to them. This mentality results in strong emotions of anger that will give rise to more aggression if there is no self-control as children mature (Postigo *et al.*, 2013; Kyobe & Namane, 2017).

According to Lodge & Frydenberg (2005) and Smokowski & Kopasz (2005) findings show that children who are bullies when they are still in elementary school tend to be more violent as they progress to higher grades. Seixas *et al.* (2013) also found that bullying behaviour and victimization tends to be higher during the early grades and decreases in higher grades,

however, contrary to this, there is an increased tendency for bully-victimisation from lower to higher grades. But Mishna *et al.* (2012) revealed the opposite of this, they found that bully-victim behaviour was more reported by older children. The evolution of bullying only appears as though it is declining as students mature; however in real sense it only changes from being more aggressive and confrontational to being verbal and passive (Seals & Young, 2003). The aggressive behaviour is more evident in lower grades and seems to die down as children transition to higher grades. In contrast, Sangalang, Tran, Ayers & Marsiglia (2016) reported that bullying behaviour did not differ by age, grade or nationality. Other studies have found that there is no conclusive evidence linking children's characteristics and their environment prior to their bullying involvement. This suggests that the evolution of bully-victim behaviour to advanced ages may be linked to their emotional and behavioural problems that were encountered earlier on in life (Sourander, Helstela, Helenius & Piha, 2000; Ball, Arseneault, Taylor, Maughan, Caspi & Moffitt, 2008; Jansen, Veenstra, Ormel, Verhulst & Reijneveld, 2011).

2.2.2.5 Erikson's Theory of Development

Erikson's theory of development explains eight stages of development that children go through as they grow and develop (Salus, 2012) which can be helpful in explaining bully-victim behaviour (Sardoch, 2006). The outcome of each stage of development can either be positive or negative as children encounter new experiences of emotions and cognition (Rigby, 2013; Sardoch, 2006), bully-victim behaviour is described by the negative outcomes. The first three stages of trust and mistrust, autonomy vs shame and doubt, and initiative and guilt apply for infants, toddlers and preschool children respectively (Sardoch, 2006). Stages affected by bullying are from stage 4 (industry vs inferiority) and 5 (identity vs role confusion).

Children in middle school go through the industry vs inferiority stage, in this stage, individual self-concepts as well as formation of social groups are developed and initiated, industrialism is achieved when children have managed to learn these social skills and have approval from their peers (Sardoch, 2006; Salus, 2012). Bullying will begin when these are not achieved and children feel inferior (Sardoch, 2006), mobile bully-victims will therefore attempt to achieve social dominance by asserting themselves and they tend to try and intimidate others who are less powerful than they are (Rigby, 2003).

2.2.2.6 *The impact of gender*

Adolescents go through the identity and role confusion stage where they try to figure out their identities, the internet makes it possible for them to experiment with different identities because of its anonymity nature (Salus, 2012), self-esteem is a very big issue at this stage as well (Sardoch, 2006). They learn how to interact with others appropriately in this stage (Salus, 2012; Sardoch, 2006) but are also insecure with ever-changing emotions. Peer bullying tends to prevail in this stage as adolescents strive for popularity and fitting in with peers (Sardoch, 2006). They become bullies, victims or a combination of both – bully-victims- when they are not accepted by their peers due to their social status (Sardoch, 2006), this may differ by gender.

Males are said to be more prone to becoming traditional bully-victims as compared to girls (Seixas *et al.*, 2013). However, according to Mishna *et al.* (2012), females are more likely to become mobile bully-victims than their male counterparts which is contrary to the traditional bullying context. The Gender Role Theory states that both males and females live through constant societal pressure to act or behave in ways that are representative of their gender; as a result, both genders are sometimes forced to internalize these gender-appropriate social behaviours (Wang, 2012). For example, the ‘appropriate’ social behaviour or characteristics for males include being masculine, dominant, and aggressive, whereas females are expected to be more gentle and sensitive (Farrar, 2006; Neupane, 2014; Wimmer, 2009). However, not all males or females behave in this way (Farrar, 2006), because girls are encouraged to behave in a more feminine manner and not be physically aggressive, they will internalise this behaviour and engage in mobile bullying, which does not involve physical violence (Mishna *et al.*, 2012; Neupane, 2014; Wimmer, 2009). The reason for this difference (males prone to becoming traditional bully-victims and females becoming mobile bully-victims) could be because the notion of anonymity of the cyberspace may allow females to take part in aggressive behaviour (whether as bullies or bully-victims) without having to resort to physical confrontation (Mishna *et al.*, 2008). It is also reported that female mobile bully-victims have increased self-esteem as time goes by but boys show little or no change at all (Pollastri *et al.*, 2010).

2.2.2.7 *Socio-Cultural Discourse Approach*

Maher (2008) adopted a socio-cultural discourse approach which looks at learning as a social process transferred through interactions that are facilitated (Vygotsky, 1978). This can be

used to understand the behavioural learning processes underlying cyberbullying as it describes these behaviours as resulting from nominal social cues or anonymity. Anonymity is a characteristic of cyberspace where cyberbullying takes place (Tokunaga, 2010). Studies show that children can learn hostility and aggressive behaviour from the violence they witness on television which creates a pathway for the formation of bullying dynamics (Postigo *et al.*, 2013). However, the influence of this violent exposure differs depending on the level of exposure and individuals' socio-cultural context. The mobile bully-victim will observe/learn violence on their television and respond to violence with violence (Postigo *et al.*, 2013). In their study of bullying and victims in primary school, Morcom & Cumming-Potvin (2010) look at bullying and victimisation from a socio-cultural point of view, the learners are said to be subjects of history and culture in multiple online communities within a social network environment. These social environments are rooted in a nurturing, sharing and collaboration culture. They found that it is therefore vital that educators play a role in supporting and encouraging student's participation in school in order for learning outcomes to be improved and as a result of this, bullying behaviour will be reduced (Morcom & Cumming-Potvin, 2010).

There is a lot of debate about the causes of aggressive behaviour, but the factors surrounding the setup of the cyberspace show that individuals involved in cyberbullying activities make rational choices to participate in the acts (Veenstra, 2011). This can be better explained by the Rational Choice Theory which states that after an assessment of costs/risks and benefits of an act, if the benefits outweigh the costs then people are likely to show deviant behaviour (Veenstra, 2011). The mobile bully-victim behaviour of retaliating is usually due to what people consider unfair treatment. This behaviour is usually done out of honour and respect for norms or the fear of not following or respecting these norms (Entorf, 2013). The individuals retaliating are doing it as a way of punishing the unfair behaviour they have experienced, however, sometimes the mobile bully-victims don't direct the punishment to their bullies but rather to any other inferior target. When the gains from punishing unfair behaviour out of fairness are high then the victim will retaliate, however, if the benefits are outweighed by the costs, then they will not go through with the punishment (Entorf, 2013). When it comes to bullying behaviour and activities, anonymity is a factor of the cyberspace, therefore the risks are considered low (Donegan, 2012; Notar, Padgett & Roden, 2013; Veenstra, 2011) because users can simply create profiles and mask their identity, this can serve as a motivation for children to engage in mobile bullying activities

without them having feelings of remorse because they have the perception that no one can ever discover who they are (Donegan, 2012).

2.2.3 Theories of evolution

This study looks at how all the psychological and social factors interchange and evolve overtime for mobile bully-victims. Darwin's theory of the evolution of human behaviour posits that changes in behaviour are as a result of the basic instinct of survival of the fittest and reproductive success, humans modify their behaviour so they are able to adapt and function in different situations (Buss & Duntley, 2008; Cziko, 2000; Ellis, Del Giudice, Dishion, Figueredo, Gray, Griskevicius, Hawley, Jacobs, James, Volk & Wilson, 2012). Human behaviour is variable and is often accompanied and characterised by emotions, planning and forecasting, awareness and moral sense. For example, children will offer to help someone else when they are convinced that the person will return the favour and also lend a helping hand in the future. This is referred to as reciprocal altruism. Also, according to Cziko (2000), Darwin suggested that sometimes children will change their behaviour if that increases their chances of being accepted by a group, even if this change in behaviour does not benefit the individual personally. Behaviour will also evolve with the times because children learn and acquire characteristics over time which are influenced by changing times, sometimes this learning behaviour is unconscious (Buss & Duntley, 2008). Darwin makes reference of the role society, culture and the environment play in a child's behaviour, they adjust their behaviour accordingly with regards to praise and blame depending on the reactions of society. An understanding of the change in children's behaviour, including criminal and aggressive behaviour can be gained from evolutionary psychology which suggests that all human behaviour is underpinned by psychological contrivances activated by different environmental factors (Buss, 2012).

The Life History (LH) theory explains that the brains and bodies of children develop quickly and they inherit a mind-set of wanting to live and take advantage of the present moment in response to unpredictable or rather dangerous environments (Ellis *et al.*, 2012). Adolescents develop the view that future outcomes are unknown and life is short and therefore their behaviour evolves to risky behaviour. As a result, they tend to become unruly and also externalise their behaviour (Buss, 2012), this includes exhibiting characteristics such as aggression, conduct disorder, substance abuse and in some cases exhibit signs of criminal behaviour such as carrying weapons. Studies conducted on 13 year olds who are bullies, victims or bully-victims showed that there is a high likelihood for those children to retain

that status over time (Boulton & Smith, 1994). This period can be longer than three years, is not dependent on the environment and seems to stabilise in late adolescence (Boulton & Smith, 1994). The forms of bullying carried out become subtler through to adulthood, these include behaviour such as withholding information that can affect a colleagues' work, criticising colleagues, setting of unreasonable deadlines, etc. (Smith, Singer, Hoel & Cooper, 2003). The psychological, social and emotional effects of school bullying may lead to more victimisation in the adult years; children who were bullied in school are likely to become bullies in their adult years if they have power in the workplace (Smith *et al.*, 2003). Smith *et al.* (2003) found that adults (females) who were bully-victims at school are likely to be bullied at work. However, even though being a bully-victim at school carries a high risk of being a victim in the workplace, the effects are less intensive and usually uncertain (Smith *et al.*, 2003).

Criminology studies have documented the development of criminal behaviour as starting from onset (development, participation and escalation), desistance (termination) and duration. The onset explains the beginning of crime or criminal behaviour and how it continues over time until the desistance stage (Farrington, 1992). Desistance is then the termination of crime, or rather the period when criminal behaviour ceases and the duration is the length that the criminal behaviour has persisted for (Farrington, 1992). A robust age pattern exists in criminal behaviour that shows that criminal or aggressive behaviour is on the rise when individuals enter adolescent age through to young adulthood then starts declining thereafter (Daly & Wilson, 1997; Farrington, 1992). It is said that children just outgrow this delinquent stage (Farrington, 1992). According to Hirschi & Gottfredson (1983), the behaviour does not differ in different cultural and social settings and it is not justified by any factors.

2.2.4 The role of technology

With the constant change and improvement in technology, mobile bullying is becoming more prevalent (Tokunaga, 2012; Smith, 2013) and more young people are using the internet for their interactions, increasing the risk of mobile bullying interactions (Smith, 2013). What began off as email and text bullying has since transformed due to the development of smartphones and increased access to social media platforms allowing mobile bullying behaviour to occur (Odora & Matoti, 2015; Smith, 2013). Mobile bullying behaviour depends on a number of factors, the level of technological proficiency being one of them as well as the fact that the prospective audience pool is larger than that of

traditional bullying. Pupils who are more technologically efficient are more likely to have skills on internet and mobile usage that are deviant (Smith, 2013).

The most common form of mobile bullying among adolescents is said to be electronic dating, this is violence which entails psychological and/or emotional harm to a party in a relationship using the internet. Mobile bully-victims exposed to this kind of violence are also said to suffer from low self-esteem (Smith, 2013). This behaviour is carried out via social media and occurs due to retaliation, form of entertainment, anger or peer pressure. And because of the immensity of the cyberspace, it is possible for an individual to be a bully in one situation and a victim in another (Smith, 2013). The Social Presence Theory describes the sense of anonymity that is brought about by online interaction using ICTs. As a result, the empathy that would have normally been felt in a traditional bullying situation is removed when the perpetrator is hiding behind a screen name (Mark & Ratliffe, 2011). Perpetrators therefore have more courage to confront their victims and carry out aggressive behaviour when they are online. The availability and use of technologies removes the social presence making it impossible for the perpetrators to gauge the victim's immediate reaction (Mark & Ratliffe, 2011).

2.2.5 Other research findings

Studies conducted recently show that children are becoming more and more connected. Phyfer, Burton & Leoschut (2016) conducted their study focusing on South African children's online activities and internet usage. Smahel & Wright (2014) conducted their study on what children considered as online problematic situations, their focus was on nine European countries. And although these studies were conducted in settings that differ in terms of development, economic status, culture, etc. the results were strikingly similar. For example, Phyfer et al., (2016) found that most children said they had experienced online bullying in the form of being treated in nasty ways, witnessed or experienced hate speech and unpleasant images, the findings by Smahel & Wright (2014) attested to this, they also added that these were the most common problematic online occurrences.

The level of smartphone and internet access continues to grow rapidly, one in every two children has access to the internet at any time they want, reasons why the remaining few are unable to access the internet include the high costs of data, parents or caregivers not allowing them to or the high cost of mobile devices (Phyfer et al., 2016). It is also evident that older children access the internet more often than younger children, this group use the

internet for fun and socializing, especially on social media via instant messaging. However, there are risks that have been raised by their online interactions (Smahel & Wright, 2014). Online interactions are often extended to the offline world. Research shows that more children agree to meet in person with individuals they met online, most of whom are not in their age groups (Phyfer et al., 2016; Smahel & Wright, 2014). What is unusual is that although children are aware of the dangers of these interactions, they continue to share their information and post content that may be sexual in nature or attractive as a means of getting attention from their peers. However, sometimes the feedback received is distressing as some fall victim of mobile bullying and exclusion by the peers they are trying to attract (Smahel & Wright, 2014). It was found that children do engage in revenge porn by sharing intimate or sexual content of previous relationships as a means of revenge; this area of cyberbullying has not been given much attention (Smahel & Wight, 2014).

2.3 Gaps in Literature

The theories described above are psychological theories that have been used in different studies to explain and understand bullying behaviour. They all have different constructs that describe different aspects of the power dynamics that come into play at different levels of a bullying situation. These theories all have an element of predicting and providing some clarity on the practices of mobile bullying, however, they don't explain mobile bully-victims and how their behaviour evolves in this process. Following literature review, the researcher has also not come across any literature on the evolution of mobile bully-victim behaviour across grades. Most literature explains this behaviour but does not delve on how it starts or how it changes over time. There is also limited literature that applies theories explaining this category of individuals, rather, they explain bullies and victims as the main categories and the influences, impact and remedial actions that apply to the categories.

It is important that theory be developed and applied when studying mobile bullying and in particular, mobile bully-victims, so that there is a contribution to the body of knowledge. The constructs of these theories will help in understanding causal and other related factors of mobile bully-victim behaviour. The review of literature and theories that attempt to explain the different aspects of mobile bully-victim behaviour have raise a couple of issues regarding the factors that influence the behaviour, these being the individual's lack of self-control, low self-esteem, the school environment as this is where they spend most of their day, their age/grade and the desire or urge to retaliate. These factors have been identified

and noted for the development a conceptual framework to guide this study in an attempt to understand this phenomenon.

2.4 Conceptual Framework

There is a need to use established theory as well as develop new theory when studying cyberbullying (Tokunaga, 2010). Cohesiveness in a body of knowledge through research is fostered by developing theory; this is achieved by ordering tested variables. Following literature review, the proposition for this conceptual framework is that factors such as the environment, self-control, self-esteem, age/grade and retaliation have an impact on mobile bully-victim behaviour and the evolution thereof. For the purpose of this study, the constructs are defined as follows:

- Cyberbullying can be defined as the use of ICTs, such as e-mail, cell phones, instant messaging, offensive personal websites and online personal voting websites for intentional, recurrent and aggressive behaviour intended to cause harm others (Erb, 2008, Kowalski, Limber and Agatston, 2012), it can take place on different mediums including mobile phones (Serra & Venter, 2011). Mobile phones constitute the highest medium through which children access the internet, these devices have completely changed the way in which children communicate interpersonally, hence the rise in mobile bullying incidents (Serra & Venter, 2011). Technology will refer to Information and Communication Technologies children use on mobile phones for bullying purposes.
- The school is a child's most prominent and influential environments (Ortega-Ruiz & Núñez, 2012) in terms of their psychological wellbeing, self-concept, achievements and their ability to formulate social relationships; this is because they spend most of their time there. According to Cranham & Carroll (2003), different schools have different stated or implied norms which learners in those individual schools conform to. These set norms and values are established by societies to be a directive of how individuals in the society should behave (Chandley, 2005). Learners are excluded from the crowd when they do not follow these norms; these learners can then be targeted as victims of bullying because they are not within the inner circle (Cranham & Carroll, 2003; Chandley, 2005). The environment will entail the school environment; this will include the location of the school (urban or rural), the norms, rules and regulation and current policies.

- The effects of bullying are said to have emotional effects which may continue long after the bullying has stopped, victims may suffer from depression, social problems and low self-esteem (Yen, 2010). Self-esteem/Self-control will look at the confidence and self-regard of participants when faced with provoking impulses and how participants handle their emotions and remain calm even when faced with provoking impulses.
- Age/grade is the ages and grade the individual participants will be during the period of this study.
- Mobile bully-victims in general also tend to be more lonely and irritable which results in their impulsive behaviour (Seixas, 2013) and have difficulty controlling their emotions because of distress (Schwartz, Proctor & Chien, 2001). This emotional reaction of mobile bully-victims may probe other bullies to harass them; as a result, the mobile bully-victim will become frustrated and retaliate with more aggression (Marini et al., 2008; Mishna et al., 2008; Pollastri et al., 2010). Retaliation refers to the participants' tendency to reciprocate when they are provoked or when wrong has been done to them.
- The evolution of mobile bully-victim behaviour refers to the change in the behaviour of mobile bully-victims as they mature. This will be measured by observing the influence of the independent factors (Environment, self-control, self-esteem, age/gender and retaliation) across different grades to see if there has been any change in the dependent factor (mobile bully-victim behaviour). A structural equation model will be developed using Statistica and used to measure and examine the evolution of high school students' mobile bully-victim behaviour across different grades.

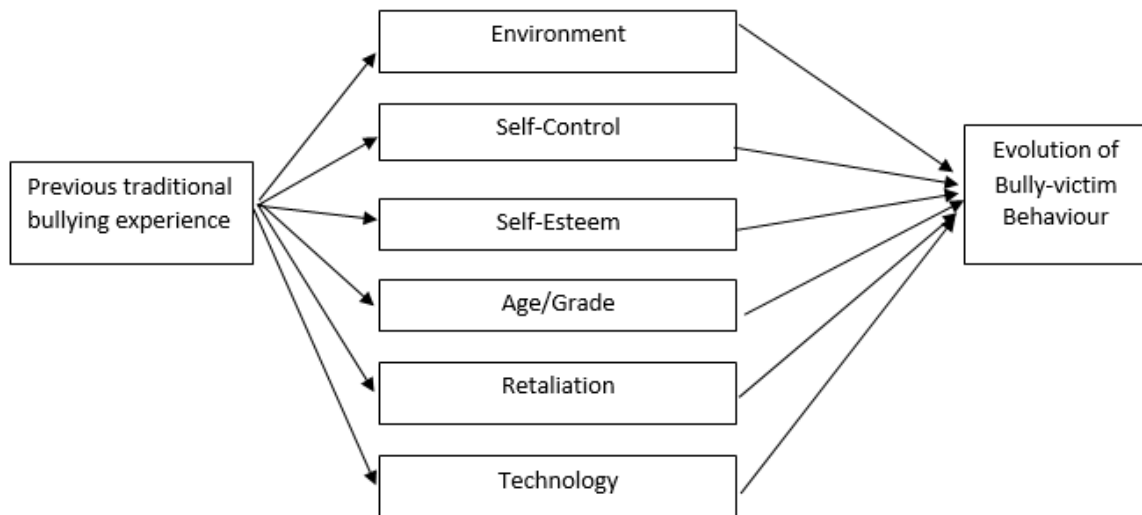


Figure 2: Conceptual Framework of the Evolution of Mobile Bully-victim behaviour

The school is a child’s most prominent and influential environment (Ortega-Ruiz & Núñez, 2012) in terms of their psychological wellbeing, self-concept, achievements and their ability to formulate social relationships; this is because they spend most of their time there. Schools that provide a positive environment have been found to have low levels of bullying behaviour, whereas high bullying behaviour tends to be reported by students that have negative views regarding their schools (Ortega-Ruiz & Núñez, 2012). A positive school environment is one which provides a rich safety climate with low to no crime both in the school and surroundings; the opposite is true for schools which provide a negative environment. Different schools have different stated or implied norms which learners in those individual schools conform to (Chandley, 2005; Cranham & Carroll, 2003). Therefore a prediction is made that:

Proposition 1: Learners in schools that provide a negative environment will engage in mobile bullying activities more than those in schools that provide a positive environment.

There is a correlation between internet usage and being a cyber-victim, and studies also show that most people who are mobile bully-victims were also traditional face-to-face bully-victims (Smith, Mahdavi, Carvalho, Fisher, Russell and Tippett, 2008). According to Popovac & Leoschut (2012), there is a very thin line between bullies and victims, as most of the individuals that become mobile bullies had been victims of traditional bullying before. This emotional reaction of mobile bully-victims may probe other bullies to harass them, as a result, the mobile bully-victim will become frustrated and retaliate with more aggression (Marini *et al.*, 2008; Mishna *et al.*, 2008; Pollastri *et al.*, 2010) because it is easier to revenge

or payback in the cyberbullying context than in traditional bullying (Mishna *et al.*, 2008). The prediction is:

Proposition 2: Previous traditional bullying experience will provoke mobile bully-victims to retaliate through mobile technology as children mature.

Adolescents go through a stage where they try to figure out their identities, the internet makes it possible for them to experiment with different identities because of its anonymity nature (Salus, 2008), self-esteem is a very big issue at this stage as they are learning to interact with others appropriately but are also insecure with ever-changing emotions (Salus, 2012; Sardoch, 2006). The most common form of mobile bullying among adolescents is electronic dating violence which entails psychological and/or emotional harm to a party in a relationship through the use of the internet. Mobile bully-victims exposed to this kind of violence are said to suffer from low self-esteem (Smith, 2013). This then results in strong emotions of anger that will give rise to more aggression if there is no self-control as children mature (Postigo *et al.*, 2013). Therefore the prediction made is:

Proposition 3a: The influence of self-control/self-esteem on mobile bully-victim behaviour will differ by age/grade.

Proposition 3b: The influence of self-control/self-esteem on mobile bully-victim behaviour will differ by the level of ICTs usage.

Children who are bullies when they are still in lower grades tend to be more violent as they progress to higher grades (Lodge & Frydenberg, 2005; Seixas *et al.*, 2013; Smokowski & Kopasz, 2005). However, some research indicates that the evolution of mobile bullying only appears as though it is declining as children mature, however, it only changes from being more aggressive and confrontational to being verbal and passive (Seals & Young, 2003). In contrast, Sangalang *et al.* (2016) reported that bullying behaviour did not differ by age, grade or nationality. This suggests that the evolution of mobile bully-victim behaviour to advanced ages may be linked to their emotional and behavioural problems that were encountered earlier on in life (Sourander *et al.*, 2000; Arseneault *et al.*, 2008; Jansen *et al.*, 2011). The proposition is:

Proposition 4: Individuals become more involved in mobile bullying activities as they mature.

Sangalang *et al.* (2016) reported that bullying behaviour did not differ by age, grade or nationality. Contrary to this, other studies have found that there is no conclusive evidence linking children's characteristics and their environment prior to their mobile bullying involvement. This suggests that the evolution of mobile bully-victim behaviour to advanced ages may be linked to their emotional and behavioural problems that were encountered earlier on in life (Sourander, Helstela, Helenius & Piha, 2000; Ball, Arseneault, Taylor, Maughan, Caspi & Moffitt, 2008; Jansen, Veenstra, Ormel, Verhulst & Reijneveld, 2011). Mobile bully-victims tend to have an impulsive emotional reaction which may probe other bullies to harass them, as a result, the mobile bully-victim will become frustrated and retaliate with more aggression (Marini *et al.*, 2008; Mishna *et al.*, 2012; Pollastri *et al.*, 2010; Roeleveld, 2011) because it is easier to revenge or payback in the cyberbullying context than in traditional bullying (Mishna *et al.*, 2012). The prediction is therefore that:

Proposition 5: As they mature, learners who are previously traditionally bullied will engage in mobile bullying activities and retaliate with more aggression through mobile phones.

2.5 Chapter Summary

The current chapter looked to the differences between traditional bullying and cyberbullying, then delved into mobile bully-victims, this section detained the general characteristics of mobile bully-victims, the psychological and social factors associated with and faced by mobile bully-victims, theories of evolution explaining this phenomenon, the role of technology in mobile bullying as well as other current research findings.

The chapter further discussed the gaps in literature that were identified after literature review and concluded with developing a conceptual framework to explain the different aspects of mobile bullying. The next chapter will present the research methodology and design to help understand the evolution of mobile bully-victim behaviour in South African high-school students.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The current chapter reviews the research design and methodology applied in conducting this study. The chapter starts by discussing the research philosophy adopted, this includes the ontological stance and epistemology. The research philosophy will then be followed by the research methodology explaining the methods and techniques followed in conducting the study. The chapter will then be concluded with a short summary.

3.2 Research Philosophy

3.2.1 Ontology

An ontological stance relates to the belief grounded on the premise describing the empirical nature of the world that is being studied. Literature identifies two ontological stances, these are subjectivism and objectivism (Saunders, Lewis & Thornhill, 2009). Both these stances explain the world in different ways relative to its dependency to human beings and how creation and existence can be understood (Orlikowski & Baroudi, 1991). This study adopts an objectivism ontology which posits that reality exists somewhere out there and it is independent of the observer, consequently, this reality can be captured, categorized and measured (Saunders *et al.*, 2009).

This study aims to explore how behaviour evolves as high-school students transition from one grade to another and the factors influencing these behaviours by developing theory from literature. The aspiration to want to understand people's experiences through facts and proven theory is embedded in the objectivism paradigm (Locke, 2001). The aim is to gather factual data on the evolution of mobile bully-victim behaviour based on universal principles rather than data gathered from personal interpretations, meaning and how the participants perceive social actors. This was done by utilising structured and controlled techniques with the aim of uncovering an objective reality pertaining to the effects and evolution of mobile bully-victim behaviour.

3.2.2 Epistemology

Epistemological assumptions explain what valid knowledge entails and how this can be obtained by looking at observations and interpretations about nature, the origin, processes and how knowledge is interpreted (Orlikowski & Baroudi, 1991). This stance assumes that knowledge exists out there and is just waiting to be captured by the researcher for objective

measuring. The knowledge to be captured comprises of measures of value that are quantifiable and the population sample size is the foundation from which deductions about the phenomenon of interest are made (Orlikowski & Baroudi, 1991). The positivism stance also suggests that the phenomenon that the researcher is interested in observing and studying can be broken down to its simplest fundamental elements.

The epistemological stance adopted for this study is positivism. The researcher will embark on quest to find the path of mobile bully-victim behaviour, that is, do they start of as victims then become bullies or is the process the other way around. The aim of the study is to make propositions regarding how mobile bully-victim behaviour evolves, test these propositions and come up with findings that can be generalised to the larger population so that future studies can attempt to reproduce similar results. Also to be studied are the factors that influence mobile bully-victim behaviour and being objective in observing the influence of the factors by not interfering with them. The researcher tested the above conceptual model which was derived from literature review based on the knowledge of the existence of universal principles. This is therefore in line with the positivist epistemology that states that there are underlying empirical measures that explain relationships and causality (Orlikowski & Baroudi, 1991).

3.3 Research Philosophy: Methodology

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

3.3.1 Strategy

A structured questionnaire will yield data that is quantitative, which can be analysed easier (Marshall, 2005). However, for the data to be easily analysed, the questionnaire constructed needs to be focused (Marshall, 2005). For this study, a structured questionnaire with closed ended questions is proposed. A questionnaire was chosen because it is less costly, and is not time-consuming. This construction has also been chosen to assist in collecting as much data as possible in a controlled scale to help the researcher in evaluating the objectives of this study and answering the research questions without getting involved with the participants or interfering with the constructs. The questionnaire will also help in gathering data for this population which is otherwise too large to be observed directly at individual levels. A five

point Likert scale is proposed for the questionnaire so that the respondents have a choice of different responses based on controlled scale. The proposed questionnaire includes general and specific questions. The general questions include learner profiles and factors such as demographics and the more specific questions will cover the core variable being tested in this study.

3.3.2 Research Purpose

The purpose of research can either be exploratory, explanatory or descriptive. An exploratory study embarks on a journey to discover new knowledge by exploring a new topic all together. An explanatory study looks at explaining the reasons why something happens and finally, a descriptive research describes social occurrences (Marshall, 2005).

The purpose of this study is explanatory, this is because the concept of mobile bully-victims is an emerging issue, and therefore the researcher aims to embark on a journey to test theory in line with the derived conceptual model. The study will try to identify and understand some of the key issues around the persistence of mobile bullying and victimisation and the variables around it. This approach is in line with the assumptions helped by the explanatory purpose which tests theories (Yin, 2009).

3.3.3 Research Approach

Inductive approach and deductive approach are the two approaches involved when building and testing theory. The inductive approach applies when theory is developed from scratch whereas the deductive approach is based on existing theory and reviews literature to develop a testable conceptual framework based on existing knowledge (Neuman, 1994). A deductive approach was adopted for this present study. This is because the researcher aims to review existing literature on mobile bully-victim behavior and theories of evolution and aggression in order to develop hypotheses to test pertaining to the factors that influence mobile bully-victim behavior. Literature review was done and constructs relating to mobile bully-victim behavior were identified and used to develop a mobile bully-victim behavior conceptual framework and testable propositions.

3.3.4 Target Population and Sample

Two types of sampling techniques exist in research, these are probability and non-probability sampling (Saunders *et al.*, 2009). Probability sampling is representative, this means that the probability that a component will be selected from the whole population is known, this is referred to as representative sampling. On the other hand, in non-probability

sampling, judgement is used, the probability that a component will be selected from the population is not known (Saunders *et al.*, 2009). The present research used purposive non-probability sampling, that is, the broader sample (schools) was chosen based on the knowledge the researcher has on those particular schools or the areas they are located in. Sampling considered different gender, culture, age and the environment as some of the variables of the study. The learners were required to own at least one technology device or should have used one in the past. The primary focus of most studies conducted on cyberbullying has been on adolescents, emphasising mainly on how they react to cyberbullying, the technologies they use and the degree of their experience (Walker *et al.*, 2011).

This study aims to observe the transition from one grade to another. As a result, the target population for this study was high-school students in Mpumalanga, four schools were selected. The total number of participants was solely based on judgement of what would produce results that would be deemed reliable thus useful. A large enough sample is representative and allows for generalisation of results to the rest of the population (Welman, Kruger & Mitchell, 2005). Therefore, from the four schools, one thousand (1000) learners were selected to participate in this study. This was considered a large enough sample within the timeframe of this study. The Mpumalanga province was selected as the focus of this study because the rate of violence in schools is said to be on the rise (Chabangu, 2014). Another concern is that suicide attempts by adolescents seemed to be higher in Mpumalanga as compared to the other provinces (Shilubane, Ruiters, van den Borne, Sewpaul, James & Reddy, 2013), this is because of the violence (in the form of threats, gossip/rumours, etc) they face in schools (Chabangu, 2014). Mtsweni (2009) also explains that high school learners in the province are ill-disciplined which results in disruptive behaviour, bullying as well as substance abuse in schools.

3.3.5 Data/Variable

There is a trade-off between depth and breadth, and between targeting to specific and generalizability for populations that is provided by both quantitative and qualitative methods (Kidder & Fine, 1987). Quantitative data is often associated with positivist studies; this study uses quantitative data sources; this is in the form of a structured questionnaire discussed above. A benefit of quantitative studies is that it targets large populations, gathering a large pool of data and is said to yield information that is representative and can be generalized (Kidder & Fine, 1987). A large population is targeted for this study to try and

evaluate how mobile bully-victim behaviour evolves as high school learners move from one grade to another and how the mobile bully-victim pathways are formed in the process. Therefore, quantitative data is ideal for this situation, this is because the researcher aims to collect data that will yield information that is accurate and objective, which can in turn be replicated in future studies.

3.3.6 Pilot Study

The research instrument was pilot tested among a small group of senior students and the supervisor responsible for this research project. This was done to ensure that the contents of the questionnaire are thoroughly scrutinised to eliminate error and ensure validity of the instrument (Welman *et al.*, 2005). The input offered and feedback provided was then incorporated into the final draft of the research instrument used for the actual data collection process.

3.3.7 Research Instrument

The questionnaire used in this study is referred to as the Evolution of Mobile bully-victim behaviour; this is found in the appendices (Appendix A). The questions in the questionnaire were adapted from previous bullying studies. The constructs measured in the questionnaire were identified in the literature review above as previous traditional bullying experience, self-control/self-esteem, age/grade, school environment, technology, retaliation and the evolution of mobile bully-victim behaviour. The questionnaire measured these constructs in different sections; these questions were adapted from the following sources/studies:

Table 1: Consolidation of construct references

Construct	Reference
Demographic Information	Cheung & Huang (2005); Olsen (2010)
Previous Traditional Bullying	Feldman (2008), Hamburger, Basile & Vivolo (2011)
Mobile phone Usage	Cheung & Huang (2005)
Mobile Victimization	Hamburger, Basile & Vivolo (2011); Solberg & Olweus (2003)
Mobile Bullying	Solberg & Olweus (2003)
Self-Control/Self-Esteem	Hamburger, Basile & Vivolo (2011)
Retaliation	Hamburger, Basile & Vivolo (2011)

Although the questions used were gathered from different sources, they have in some instances been rephrased and adapted to suit the purpose of this study.

3.3.8 Timeframe

Data collection took place at the beginning of May 2017. The purpose of this study is to study and compare high school learners in a lower grade to those in the next, higher grade and see how mobile bully-victim behaviour evolves across different ages/grades. The study captured cross sectional data during this time from four different schools. Research recommends that evolutionary studies adopt a longitudinal timeframe to make it possible for the researcher to gauge how certain conditions may change over time for the same participants (Yin, 2009). However, in their study *“Mathematics Self-Efficacy and Mathematics Performances: The Need for Specificity of Assessment”*, Pajares & Miller (1995) showed that it is possible to adopt a cross sectional approach to study changes resulting from causal effects over time. Cross-sectional studies adopt a method of capturing data over a short period. Because the focus of this study was the evolution of mobile bully-victim behaviour, the researcher included questions in the questionnaire that were aimed at gathering data from previous experiences. This was done to compare these past experiences to current conditions to observe the evolution. The comparison of the lower and higher grades is also aimed to achieve this.

3.3.9 Data Analysis

Data analysis was done using the latest version of Statistica 13 so that the level of human error is minimised, this also helped in comparing data sets, taking into account different arrays' data sets. A structural equation model was developed using Statistica and used to measure and examine the evolution of high school students' mobile bully-victim behaviour across different grades. A Structural Equation Model is a statistical model that allows the user to assess relationship networks between different variables (Arhonditsis, Stow, Steinberg, Kenney, Lathrop, McBride & Reckhow, 2006). This technique therefore assists in detangling relationships that may seem complex thus making it easy to test theory and generalise the results (Arhonditsis *et al.* 2006). The purpose of this study is to study different interdependent factors/variables that lead to the evolution of mobile bully-victim behaviour, the structural equation model is therefore useful for this study because it will assist in providing a vigorous technique for studying how the different variables interact and the relationships between them. Descriptive statistics were also used to measure the similarities and differences of data observed in order to gauge the frequency of occurrences and extent of mobile bully-victimisation (Norusis, 2008). A standard code was formulated for inconsistencies and unanswered questions were checked to ensure data accuracy before

analysis and interpretation. A data reduction/cleaning strategy was employed to summarise the information collected, through frequency analysis. This was done to filter out invalid or spoilt questionnaires and measure central tendencies in order to draw conclusive conclusions from the data. Comparisons and presentation of the data were made using graphs and descriptive statistics which entails the description and summarising of data attained from a collection of single units of analysis (Welman *et al.* 2005).

3.3.10 Validity

The survey instrument was given to senior students and the supervisor for analysis as discussed in the pilot study section above. This was done to ensure content validity of the questionnaire. Construct validity tests were also done to test whether variables for the same construct are drawn from the same pool and that the construct and concepts being studied have been correctly identified (Yin, 2009). For this study, different measures were identified for the different constructs that are being studied; tangible and measurable variables were identified for each of the abstract constructs. The constructs identified for this study which influence the evolution of mobile bully-victim behaviour are previous traditional bullying, school environment, self-control/ self-esteem, age/grade, retaliation and technology. These constructs were identified from previous bullying studies through literature review. Further tests were run to validate that the different variables under each construct correctly measure that specific construct.

Because the data collected for this study is quantitative, the results can be generalised to the larger population based on the fact that statistical methods will be employed (Yin, 2009). Per 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 was developed and constructs were defined, these constructs will be quantitatively tested. The target population was then identified in order to gather data that will assist in testing these constructs; this target population was high school learners that are currently in grade 8 and 9. 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.

3.3.11 Instrument Reliability

For a research instrument to be used for data collection, it needs to be reliable, this is because reliability of a research instrument shows that the items being measured are consistent and the data collected can be relied on (Yin, 2009). Many quantitative Information Systems studies have employed internal consistency measures to ensure reliability, one way to ensure this is to ensure that the survey instrument does not provide respondents with leading questions (Straub, Gefen & Boudreau, 2005). However, other measures must be employed to test for reliability, the Cronbach's alpha will be used to test for reliability, according to Straub *et al.* (2005), this method has been used in many Information Systems studies. An acceptable Cronbach's alpha ranges between 0.70 and 0.95 (Tavakol & Dennick (2011), therefore the researcher tested the constructs for this study to ensure that they are within the recommended limit. The spearman rank order correlation test was also run to see the correlation between the factors measuring different variable; this was to verify the reliability of the research instrument

3.4 Ethics and Confidentiality

The researcher is responsible for ensuring that research is conducted in a manner that is ethical and acceptable, and should also take into consideration the welfare and personal dignity of all respondents (Orb, Eisenhauer & Wynaden, 2001). I requested permission in writing from the Ethics committee at the University of Cape Town and signed the ethical clearance forms. The request for clearance was submitted together with the proposed data collection instrument as well as the required details of this study. The researcher also requested permission from the Department of Education and schools in the target provinces. Parental consent via letters was also obtained; this is because the population/ learners selected for this study are in grade 8 and 9 and are therefore underage to give consent for participation. Parents were notified that they could contact the school if they did not want their children to take part in the study. The learners too were asked for consent to participate in the study in their individual capacities after the parents had approved. In addition, the researcher drafted consent forms to give to participants before they could take part in the study, this consent form informed participants about the details of the study, and that they should participate out of their own free will.

All identifying information of the schools and that of the participants was not revealed to maintain confidentiality. Bullying can be a sensitive topic and those involved may be

affected emotionally or in other ways, therefore the harm and risks (emotional) that could have been encountered during the study were also communicated. Participants were informed of the confidentiality of their information; participating learners were not required to write their names on the survey instrument to maintain this confidentiality. Parents and learners were also informed that they had the right to pull out of the study whenever they felt uncomfortable or were unable to continue with the study. If any of the participants or other stakeholders (Department of Education, Schools, parents, etc.) requires feedback from the results of the study, then this will be made available.

After data collection, the raw data was interpreted with the utmost honesty and ethical issues were considered when interpreting the data, that is, the research strived to ensure that data is not manipulated or misinterpreted. The researcher also at the very most tried to ensure that the questions included in the questionnaire did not cause respondents any mental or physical harm.

3.5 Limitations

Certain limitations for the proposed research should be noted. The sample size for this study was selected in line with the researcher's judgement of the population and convenience in terms of location and accessibility, and the participants may have been the only individuals that may have experienced cyberbullying and victimization. As a result, the results may only be applicable to those particular areas and not generalisable for the larger society. The school that participated in this study were purposefully selected and only 3 regions in Bushbuckridge were covered, therefore the results may not be distorted to some extent and generalizability may be questioned. Lastly, the study was cross-sectional and the evolution was studied by observing learners in two different grades. It would have been beneficial to study the same learners over a longer period of time in order to monitor behaviour.

3.6 Summary of research design and methodology

Figure 3 below summarises the research design and methodology followed to meet the objectives of this study, answer the research questions and test the propositions.

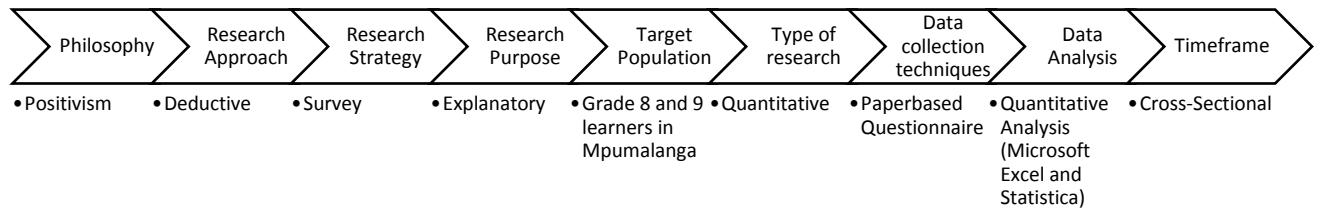


Figure 3: Summary of Research Design and Methodology

CHAPTER 4: FINDINGS AND DISCUSSION

The research analysis and findings are discussed in this chapter. Firstly, the actual data collection procedure will be discussed briefly, followed by a presentation of the validity and reliability of the findings. The actual findings of the study will then follow which are aimed at supporting or disputing the propositions of this study as well as answering the research questions and supporting the objectives of the study.

4.1 Data Collection

The data for this study was collected at four (4) public schools in the Mpumalanga Province, Bohlabela district in May 2017. One school is located in a more developed area, one other in a semi developed area and the other two schools are located in rural areas. The developed area in this case is a small suburb located close to the town of Bushbuckridge, the semi developed area is in a suburban area and the rural area is in the homesteads. Mpumalanga province, especially Bushbuckridge, was selected as the focus of this study because of the said prevalence of violence in the province (Chabangu, 2014). Another concern is that suicide attempts by adolescents seemed to be higher in Mpumalanga as compared to the other provinces (Shilubane *et al.*, 2013); this is because of the violence (in the form of threats, gossip/rumours, etc) they face in schools (Chabangu, 2014). Mtsweni (2009) also explains that high school learners in the province are ill-disciplined which results in disruptive behaviour, bullying as well as substance abuse in schools.

Data was collected from a total of one thousand (1000) learners currently in grade 8 and 9 using a quantitative questionnaire. As discussed in Section 3.2.4 – Target population and sample, the schools selected for this study were selected using purposive non-probability sampling. That is, judgement based on the researcher's knowledge of the schools and the locations they are located in was used. (Saunders *et al.*, 2009). The probability that a learner would be selected from the population was not known. Sampling took into account different gender, age/grade and the environment as some of the variables of the study.

The data was then captured onto a Microsoft Excel spreadsheet to be cleaned before being exported to Statistica 13 for analysis. Empty fields, out of range values, as well as duplicates in the data were removed during the cleaning process. To keep track of all entries in the spreadsheet, all records were first assigned an ID using the "Fill series" functionality in excel. According to Weiss & Townsend (2005), data should be cleaned so as to get rid of

inconsistencies in the elements of the data which may result in poor data quality thus hindering effective analysis. As a result, only 817 of the responses were analysed due to some incomplete or spoilt questionnaires which were discarded during the data cleaning process. Upon completion of the data preparation, the researcher ran statistical tests including descriptive analyses, regression analyses, correlation analyses and structural equation model to test the evolution of mobile bully-victim behaviour conceptual framework and the propositions listed in the sub-section to follow.

4.1.1 Propositions

Proposition 1: Learners in schools that provide a negative environment will engage in mobile bullying activities more than those in schools that provide a positive environment.

Proposition 2: Previous traditional bullying experience will provoke mobile bully-victims to retaliate through mobile technology as children mature.

Proposition 3a: The influence of self-control/self-esteem on mobile bully-victim behaviour will differ by age/age.

Proposition 3b: The influence of self-control/self-esteem on mobile bully-victim behaviour will differ by the level of ICTs usage.

Proposition 4: Learners become more involved in mobile bullying activities as they mature.

Proposition 5: As they mature, learners who are previously traditionally bullied will engage in mobile bullying activities and retaliate with more aggression through mobile phones.

4.2 Reliability and Validity Testing

Reliability means assessing the degree to which an instrument of measure, in the case of this study, the questionnaire measures constructs consistently over time, is without bias and free from error, (Sekaran & Bougie, 2009). The questionnaire was tested for stability and consistency in measuring the variables to assist in assessing the goodness of measure and ensuring that the findings from analysis are credible.

Cronbach's Alpha was used to test the reliability of the data, Tavakol & Dennick (2011) state that the Cronbach's Alpha should range between 0.7 and 0.9 for it to be considered reliable. The researcher conducted reliability tests for previous traditional bullying experience, technology, self-esteem/self-control, retaliation and the evolution of mobile bully-victim behaviour (mobile bullying and mobile victimisation). Table 2 below summarises the results.

Table 2: Reliability Tests Results - Cronbach's Alpha

Variable	Number of questions	Cronbach's Alpha
Previous bullying experience	9	0.735
Technology	8	0.630
Mobile Bullying	6	0.738
Mobile Victimization	4	0.624
Self-Esteem/ Self-control	3	0.342
Retaliation	2	0.430

A reliability test was run on each of the variables to get a Cronbach's alpha to test for the internal consistency of the survey instrument and its variables. The Cronbach's alphas generated for the variables were as follows: previous traditional bullying experience was 0.735, technology was 0.630, mobile bullying was 0.738, mobile victimisation was 0.624, self-esteem/self-control was 0.342 and retaliation was 0.430.

As mentioned above, Tavakol & Dennick (2011) state that an acceptable Cronbach's Alpha should range between 0.7 and 0.9 for it to be considered reliable. However, the results from this study returned some Cronbach's alphas that were below this range. The alphas for technology and mobile victimisation were less than 0.7 but greater than 0.6 which as per Tavakol & Dennick (2011) is considered unacceptable. However, in their paper "Reliability and validity of the PAS-aDD Checklist for detecting psychiatric disorders in adults with intellectual disability", Moss, Prosser, Costello, Simpson, Patel, Rowe, Turner & Hatton (1998) mention that alphas which are greater than 0.6 are acceptable, thus reliable. Self-esteem/self-control, retaliation and the school Environment scored alphas which were below 0.6. According to Moss *et al.* (1998), the number of items measuring a variable affect the Cronbach's alpha, the variables self-control/self-esteem and retaliation had fewer items measuring them, this could explain the relatively low Cronbach's alphas in this study.

However, the purpose of this study is to examine the evolution of mobile bully-victim behaviour and these variables (self-control/self-esteem and retaliation) were identified as some of the key factors that could explain mobile bully-victim behaviour. Therefore, more

tests were done on these variables to determine their reliability. Table 3 below shows the results of the Spearman Rank Order Correlations test.

Table 3: Reliability Test Results - Spearman Rank Order Correlation

Variable	1	2	3	4	5
1. Self-Blame	1				
2. Putting others down	0.020	1			
3. Content	0.251	0.139	1		
4. Retaliation	0.194	0.211	0.160	1	
5. Revenge	0.192	0.173	0.215	0.254	1

The spearman rank order correlation test was run to see the correlation between the factors that measured retaliation and self-control/self-esteem. The results as shown in Table 3 above reveal that the correlation coefficients are not too high ($p < 0.05$) to suggest any possibility of multi-collinearity, this means that the relationships are significant, therefore these variables were retained for further analysis. For example, learners that indicated that they revenge by engaging in mobile bullying are also those that indicated that they retaliate when bullied. And those that indicated that they are content with themselves (high self-esteem) do not retaliate bullying by putting others down or blaming themselves.

4.3 Descriptive Statistics

4.3.1 Schools

All four schools that participated in this study are public schools in the Mpumalanga province, they are also non-fee paying schools. Non-fee paying schools have been classified by the Department of Basic Education as those schools that are barred from charging school fees, they are funded by the government but are also allowed to source extra funding through voluntary contributions whether external or internal and donations (Dass & Rinquest, n.d). The schools that participated in this study, although all being non-fee paying schools, are all located in different geographical areas as mentioned above. The researcher understands that the schools located in the rural areas may comprise mostly of learners from lower income families, thus these learners may not have access to mobile phones or specifically smartphones and readily available internet access. To ensure that this limitation, if available, does not affect the results of this study, one of the schools selected for this study was located in a more developed area and one other in a semi-developed area. These

assumptions may be flawed but they assist in getting a wider pool of data from different locations for comparison. Figure 4 below shows the percentages of participants per school.

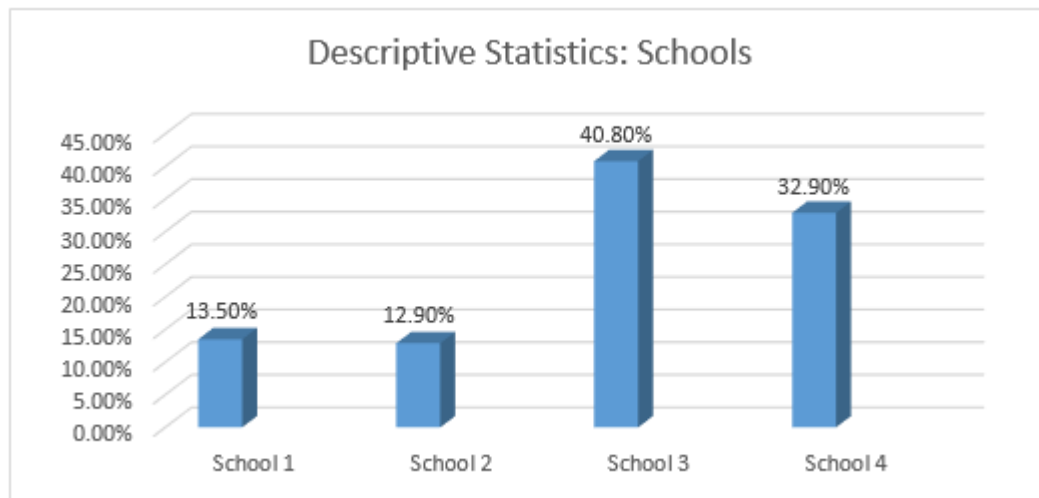


Figure 4: Descriptive Statistics - Participants per school

As shown in Figure 4 above, school three (3) had the highest percentage of participants (n=40.8%), this is the one school that was located in a more developed area. It is a large school with a high enrolment rate. School four (4) had the second highest percentage of participants (n =32.9%) and is located in a semi-developed area. The last two schools that had lessor percentage of participants (n=13.5% and 12.9% respectively) are located in a rural area. A rural area is defined as an open band of land containing few buildings or other houses and a very low population density National Geographic (2017), this could explain the lower participation rate as compared to the schools located in the other areas.

4.3.2 Demographics

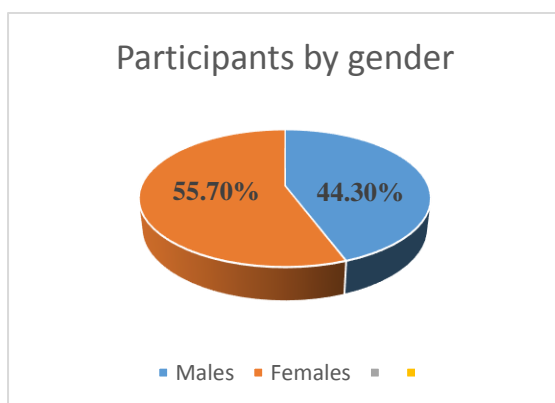


Figure 5: Participants by gender

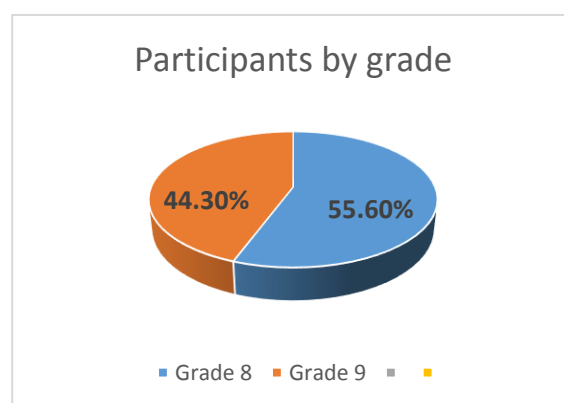


Figure 6: Participants by Grade

The sample consisted of 817 (N=817) valid respondents in grade 8 and 9, with the distribution being n=55.6% in grade 8 and n=44.3 % in grade 9. There were also slightly more females (n=55.70%) than males (44.3%). This is shown in figures 5 and 6 above.

4.3.3 Frequency distribution for mobile bully-victims

A frequency distribution (Table 5) was run on the significantly associated mobile bullying and victimisation variables in order to identify cases (respondents) that scored high on both mobile bullying and victimisation. It was found that a total of 121 learners (combined grade 8 and 9) scored high on both mobile bullying and victimisation thus making them mobile bully-victims.

Table 4: Frequency Distribution - Mobile Bully-Victims

	Mobile bully-victims				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Spreading rumours	121	3.264	1	5	0.643
Threatening	121	1.678	1	5	1.051
Teasing	121	1.934	1	5	1.359
Private	121	1.504	1	5	1.081

As per Table 4 above, variables of mobile bullying are represented by those that use their mobile phones to start or spread rumours, for threatening purposes as well as teasing purposes, those that create private groups for the purposes of excluding others and sharing others' private content solely to cause harm or humiliation. Variables that measured mobile victimisation have been excluded from online groups or platforms, those that have received threatening messages or phone calls on their mobile phones and those that have had their information/content posted on internet mediums.

Based on the findings above, it can be seen that the most commonly used form of mobile bullying is the use of mobile phones to spread rumours (mean = 3.264) and the most commonly prevalent form on mobile victimisation is receiving threats via mobile phones (mean = 2.174). The high incidences of mobile bullying through spreading of rumours and mobile victimisation by being threatened through mobile phones may be as a result of the vast availability of mobile phone platforms (such as WhatsApp, Facebook, Text messages, etc) which learners spend most of their time using. These mediums of communication are widely available and accessible to learners making it easy for them to interact in real time. It can

therefore be assumed that because of this availability and accessibility, once a rumour has been started, spreading it can happen instantly amongst a large audience.

It is also easy for learners to be threatened via mobile phones because most of the social media platforms (WhatsApp, Facebook, Twitter) they use as well as text messages and phone calls can also give them the luxury of being anonymous, as a result, the consequences of their actions seem less severe. Salus (2012) explains that teenagers are more likely to engage in mobile bullying activities because of the anonymity nature of the internet, which allows them to experiment with different identities and the creation of parody accounts. And compared to traditional physical bullying, engaging in mobile bullying means that there is no physical contact thus the bully is not able to instantly gauge the reaction of the victim (Campbell *et al.*, 2004).

4.3.4 TECHNOLOGY

Table 5: Descriptive Statistics - Mobile Applications Used

Variable	Mobile Applications Accessed				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
MOBILEPHONE ACCESS	817	1.167687	1.000000	2.000000	0.373817
FACEBOOK	817	2.581395	1.000000	5.000000	1.552527
WHATSAPP	817	3.258262	1.000000	5.000000	1.645890
TWITTER	817	1.417381	1.000000	5.000000	0.960413
SMS	817	3.152999	1.000000	5.000000	1.469408
EMAIL	817	1.376989	1.000000	5.000000	0.906058
PHONE CALLS	817	3.964504	1.000000	5.000000	1.459406

Table 5 above shows mobile phone accessibility and the types of mediums used on these mobile phones. The mean average of learners with access to mobile phones (smartphones, basic phones and feature phones) is 1.68, this is close to 84% of the learners that participated in this study. Learners tend to spend most of their time using Facebook, WhatsApp, SMSs and phone calls more than Twitter and Email. These findings are interesting because previous research found that usually adolescents use the internet to engage in mobile bullying activities because of its anonymity nature which makes it possible for them to experiment with different identities (Salus, 2012), however, this does not seem to be the case based on the above findings. The mediums used above, mostly Facebook and WhatsApp usually reveal the identity of the perpetrator, unless if the perpetrator may be using a parody account. This could be explained by the fact that learners may feel that their actions online are not monitored by adults and therefore they are free to do as they please.

This can also be because mobile bullies are not able to gauge physical reaction from their targets as compared to physical bullying, thus increasing the intensity of the attack (Campbell *et al.*, 2004).

4.4 Inferential Statistics

The section below is a presentation and discussion of the relationships noted from the propositions, the results obtained for mobile bully-victims will be presented here. Learners that score 2.5 and above on both factors of mobile bullying and victimisation were identified as mobile bully-victims. This value was set as the benchmark because of the scale that was used as a measurement. The Likert scale ranged from 1 to 5 where learners had the option of selecting 1 – never, 2 –Rarely, 3 – Sometimes, 4 – Often and 5 – Always on a range of questions aimed at measuring mobile bullying and victimisation.

4.4.1 Results for mobile bullying and victimisation

Table 6: Spearman’s Rank Order Correlations - Variables of mobile bullying and mobile victimisation.

Variables	1	2	3	4	5	6	7	8	9	10
1.Spreading rumours	1									
2. Threatening others	0.223	1								
3. Teasing others	0.160	0.282	1							
4. Part of private groups	0.172	0.271	0.244	1						
5. Sharing others’ content	0.218	0.266	0.281	0.278	1					
6. Excluding others	0.162	0.175	0.209	0.252	0.212	1				
7. Received hurtful texts	0.190	0.079	0.143	0.118	0.202	0.107	1			
8. Made fun of	0.081	0.055	0.181	0.113	0.168	0.125	0.306	1		
9. Received threats	0.161	0.166	0.167	0.180	0.215	0.185	0.384	0.275	1	
10. Had embarrassing content posted online	0.102	0.090	0.127	0.099	0.228	0.122	0.241	0.239	0.262	1

A Spearman rank order correlation was run to see the correlation between factors of mobile bullying and those of mobile victimisation. Table 6 above shows these correlations and the results show that most of the variables of mobile victimisation have significant relationships with those of mobile bullying and the correlation coefficients are not high to suggest any possibility of multi-collinearity. For instance, learners who indicated that they have had embarrassing content posted about them and those who have received threats online are also those that use their mobile phones to threaten others online, spread rumours, tease others, share others’ content online without their permission and they are also part of

private groups that are created solely to exclude others. As compared to the other variables of mobile victimisation, the variable that measured learners that indicated that they have been made fun of and those that have received hurtful texts/messages do not have significant relationships with some of the variable of mobile bullying (spreading rumours and threatening others).

This therefore indicates learners that use their mobile phones to bully others because they have been victims of bullying themselves. Impulsivity, a characteristic of low self-esteem or lack of self-control, is said to be one of the reasons why mobile bullying activities take place, the bully usually takes a decision in haste to retaliate against someone for an event that may have occurred to them or one they think has occurred (imaginary) (Bhat, 2008). This could explain why learners tend to instantly threaten, spread rumours, share content online and create groups solely for the purpose of excluding others because they have experienced some form of bullying, in this case, the mobile bullies have also received threatening messages and had their content shared online without their permission. Bhat (2008) explains that usually the perpetrators only think about retaliation at that moment and do not take into consideration the consequences of the action, and usually they only see this action as just a simple prank. Smith (2013) also explain that this behaviour is carried out via social media and occurs for different purposes such as entertainment, peer pressure, to retaliate or out of anger. And because the internet is vast, it is possible for individuals to find themselves being bullies in one situation and victims in another or a combination of both (Sardoch, 2006).

4.4.2 School environment and bullying activities

The table below (Table 7) presents results of bullying involvement from the different schools in differing locations/environments. These results show that learners in school 2 are more involved in bullying activities than all the other schools, this can be seen by the means of approximately 2.038 for mobile victimisation (receiving threats) and 1.725 for mobile bullying (Teasing). School 1 follows with means of 1.745 for mobile victimisation and 1.445 for mobile bullying involvement, then followed by school 4 and 3 respectively. Schools 1 and 2 are located in rural areas where technology access may be limited, they also had the lowest numbers of participants as discussed in the previous sections.

The higher mobile bullying involvement in these two schools (in rural areas) as compared to the lower mobile bullying involvement in the other two schools (located in a suburb and

semi-developed area) can be explained by the notion that the community a learner comes from influences their behaviour, for example, learners from crime or violence stricken environments tend to bring those characteristics into the school (Kitsantas, Ware, & Martinez-Arias, 2004;

Olsen, 2010), crime and violence can be as a result of poverty for example which is a major characteristic of rural areas as they are less developed. In general, the town of Bushbuckridge is also listed as one of the top ten areas affected by different categories of crime such as domestic violence in the Mpumalanga province (Crime Stats SA, 2015) which may explain the aggressive nature of learners.

The lower mobile bullying involvement (based on the means) in schools 3 and 4 can be due to the fact that research shows that the school plays a major role in a child's life as they spend most of their time there, as a result, it is one of the most influencing factors when it comes to how they view themselves, the world around them and how they interact (Ortega-Ruiz & Núñez, 2012). Some research have found that schools that provide a positive environment tend to have lower bullying incidents than schools that provide a negative environment (Cranham & Carroll, 2013). Research done on the differences between schools in urban, suburban and rural communities about dating violence, which is a form of mobile bullying, found differing results. A study conducted by Spencer & Bryant (2000) found that schools in urban areas tend to have higher rates of mobile bullying than the other two locations (suburban and rural), whereas Bergman (1992) found that suburban and rural schools report more physical traditional bullying. Therefore based on these findings, it can be deduced that the location of the school and the school environment are also some of the major contributors in learners' mobile bully-victim behaviour.

Table 7: Mobile Bullying Involvement per school

Variable	School 1			School 2			School 3			School 4		
	N	Mean	Std.Dev	N	Mean	Std.Dev	N	Mean	Std.Dev	N	Mean	Std.Dev
Spreading Rumours	110	1.382	0.790	105	1.457	0.951	333	1.414	0.910	269	1.327	0.751
Threatening	110	1.255	0.627	105	1.352	0.796	333	1.375	0.885	269	1.316	0.778
Teasing	110	1.445	0.934	105	1.724	1.260	333	1.378	0.882	269	1.472	0.940
Sharing Content	110	1.455	0.925	105	1.524	1.048	333	1.324	0.859	269	1.353	0.836
Threats	110	1.745	1.121	105	2.038	1.351	333	1.492	0.962	269	1.639	1.086
Embarrassing Content Posted	110	1.427	0.933	105	1.429	1.036	333	1.249	0.729	269	1.242	0.721

4.4.2.1 Anti-bullying policy

Out of the 817 participants, only 118 indicated that they were aware of the availability of an anti-bullying policy at their school and 323 indicated that they knew of other channels that can be utilised to report bullying in their schools. Most the learners indicated that they were unaware of the availability of anti-bullying policies or other bullying reporting channels in their schools.

Table 8: Policy and Reporting Awareness

School	Knowledge of anti-bullying policy		Other reporting mechanisms	
	Valid N	Percentage	Valid N	Percentage
School 1	13 (110)	11.8%	31	28.2%
School 2	15 (105)	14.3%	35	33.3%
School 3	41 (333)	12.3%	154	46.2%
School 4	49 (269)	18.2%	103	38.3%
TOTAL	118 (817)	14%	323	40%

**Total number of participants per school represented in brackets ()*

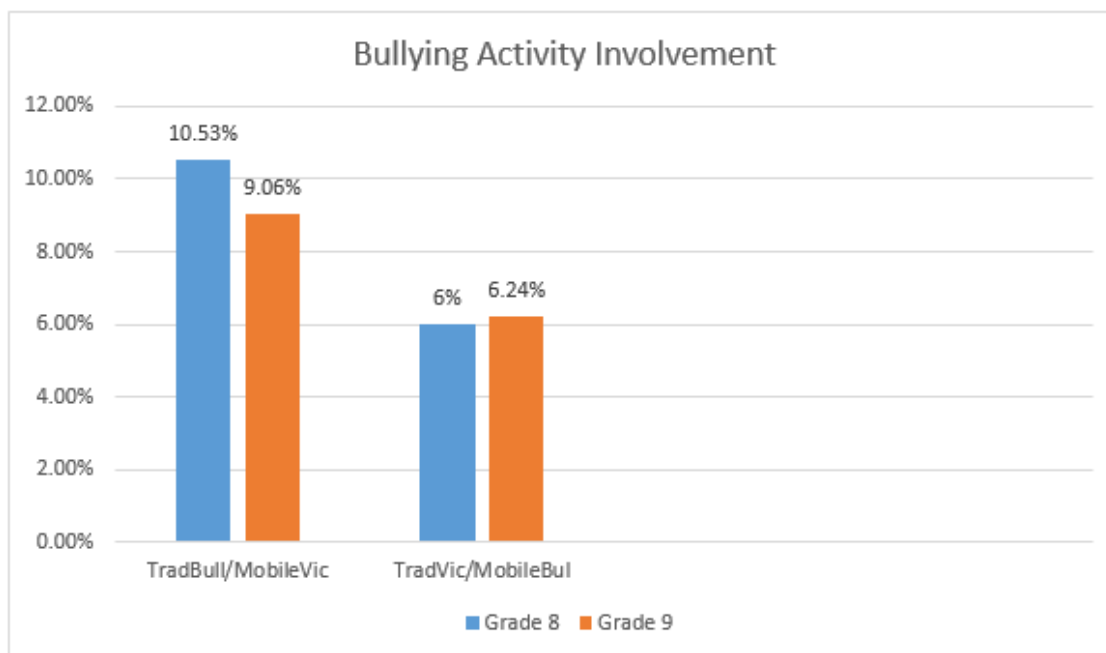
As discussed in the previous schools' section, schools 3 and 4 had the largest participation rate and are located in developed and semi-developed areas respectively, whereas schools 1 and 2 had the lowest participation rates and are located in rural areas. And based on Table 8 above, we observe that school 4 had the highest percentage (18.2%) of learners (out of the total number of participants for this particular school) that indicated that they are aware of anti-bullying policies in their school. School 3 had the highest number of participants; however, the percentage of children that are aware of the availability of anti-bullying policies in the school is low (12.3%). But a higher percentage (46.2%) of learners in this school indicated that they know of other bullying reporting channels. School 1 had the lowest percentages for both bullying policy (11.8%) and other reporting channels (28.2%).

These low awareness rates can be explained by multiple factors such as that there are no anti-bullying policies in the schools, learners are not made aware of these policies and channels, the policies and channels are available but are not being utilised, etc. And in order for anti-bullying policies to be effective, learners should know about them, what constitutes mobile bullying as well as available reporting channels (Stone & Isaacs, 2002). The higher awareness rates in school 4 which is located in a well-developed area, which may provide a safer environment since urban areas are said to provide a high social capital which in turn influences safety and resources in the schools (Olsen, 2010).

4.4.3 Bullying activity involvement

This section looks at the participants that were found to be bully-victims, that is, learners that were involved in previous traditional bullying activities and are currently involved in mobile bullying activities. A comparison for the different kinds of bullying behaviour was done between grades 8 and 9 in order to assess the differences in intensity and the evolution thereof. These differences are depicted in Figure 6 below.

From the 817 respondents, 19.59% (10.53% grade 8 and 9.06% grade 9) of the learners were found to have been victims of previous traditional bullying and are currently mobile bullies. 12.24% (6% grade 8 and 6.24% grade 9) of the learners stated that they were previous traditional bullies and are currently mobile bullying victims. These are learners that scored values greater than or equal to 2.5 on both factors of bullying and victimisation. This margin (2.5) was based on the fact that the likert scale that was used in the questionnaire ranges from 1 to 5 so 2.5 was the average value. Learners that scored below 2.5 are those that were rarely or never involved in bullying (both traditional and mobile) activities.



**TradBull/MobileVic = Traditional Bullying and Mobile Victimization. | TradVic/MobileBul = Traditional victimisation and mobile bullying.*

Figure 7: Bar Graph - Bullying Activity Involvement per Grade

The main focus of this study is on the 12.24% of participants that are victims of mobile bullying. Although more grade 9 learners (6.24%) than grade 8 learners (6%) are involved in mobile bullying activities, the descriptive statistics show that grade 8 learners had a slightly higher mean (3.388) in mobile bully-victim behaviour than grade 9 learners (3.333). Based on these results, it seems that learners are more involved in bullying activities at a younger age or the intensity of bullying is stronger at a younger age/grade.

There is a lot of debate around the influence on age/grade on mobile bullying and victimisation, for example, some research found that the differences related to influence of age/grade are of little significance (University of California – Riverside, 2014). Pepler, Craig, Connolly, Yuile, McMaster and Jiang (2006) found that there was an increase in bullying activities as children transition from pre-school to primary school and then a decrease as they transition to high school. This can thus explain why the rate of mobile bully-victim behaviour observed above was higher for grade 8 learners as they are directly from primary school and were in their fifth month of high school when the data was collected. However, compared to those learners that are previous traditional bullying victims and current mobile bullies, the findings depicted in Figure 6 above show that mobile bullying activity was higher in grade 9 (mean = 3.383) than in grade 8 (mean = 3.244). According to Cook, Williams,

Guerra, Kim and Sadek (2010) and Ryoo, Wang and Swearer (2015), this can be explained by the notion that as children mature, they become more aware of the consequences of traditional physical bullying. It can then be inferred that older children are more likely to be mobile bullies than victims, they display more attributes of verbal, relational and mobile bullying than physical bullying because attributes of mobile bullying are not easy to detect.

4.5 Testing the Mobile bully-victim behaviour model - Structural Equation Model.

A structural Equation Model was run to determine the pathways from previous traditional bullying through to mobile bully-victim behaviour and how age/grade plays a role in this transition.

Table 9: Mobile bully-victim behaviour across different grades – Path Estimates

Grade	Path	Est	Std	t	p
Grade 8	TradBull-SelfCont	0.437*	0.053	8.297	0.000
	TradBull-Retaliatio	0.583*	0.061	9.568	0.000
	TradBull-School Environment	0.017	0.040	0.429	0.668
	TradBull-Technology	0.221*	0.093	2.541	0.011
	SelfCont-BullyVic	3.069	3.301	0.929	0.353
	Retition-BullyVic	1.679	3.010	0.558	0.577
	School Environmet-BullyVic	-108.568	259.566	-0.418	0.676
	Technology-BullyVic	-0.192*	0.092	-2.096	0.036
Grade 9	TradBull-SelfCont	0.192*	0.053	3.615	0.000
	TradBull-Retaliatio	0.508*	0.073	6.962	0.000
	TradBull-School Environment	-0.133*	0.052	-2.571	0.010
	TradBull-Technology	-0.100*	0.023	-4.335	0.000
	SelfCont-BullyVic	1.777*	0.854	2.081	0.037
	Retition-BullyVic	0.435	0.246	1.773	0.076
	Technology-BullyVic	0.443*	0.114	4.151	0.000

Notes. Significant at * $p < 0.05$; Est = Parameter estimate; Std = standard Error; t = t statistics; p = probability level; TradBull = Previous Traditional bullying experience; BullyVic = Mobile bully-victim behaviour; SelfCont Self-Control/Self-Esteem

Table 9 above shows the path estimates for the evolution of mobile bully-victim behaviour across two different grades (8 and 9). The pathways identified when the model was run are as follows: (1) Previous traditional bullying experience, self-control/self-esteem and mobile bully-victim behaviour; (2) Previous traditional bullying experience, retaliation and bully-victim behaviour; (3) Previous traditional bullying experience, the school environment and mobile bully-victim behaviour and (4) Previous traditional bullying experience, technology and mobile bully-victim behaviour.

The results reveal that previous traditional bullying has an influence on both self-control/self-esteem and retaliation in both the grade 8 and 9 learners. However, the level or intensity of this influence is higher or greater among grade 8 learners (Parameter estimates: Self-Control = 0.437 and Retaliation = 0.583). This suggests that learners in lower grades are more likely to have low or no self-control/self-esteem, they are also more likely to retaliate with more aggression. Many authors are in agreement that self-control as a behavioural factor improves with age or maturity (Tarullo, Obradovic & Gunnar, 2009; Wang, Fan, Tao & Gao, 2017). They explain that the lack of self-control in younger children is caused by the immaturity of the brain regions that are responsible for self-control (Tarullo *et al.*, 2009). Lack of self-control/self-esteem results in impulsivity which may explain why individuals are likely to become bully-victims (Seixas, 2013).

These influences then result in mobile bully-victim behaviour, however, as can be seen again in Table 9, self-control only seems to influence mobile bully-victim behaviour in grade 9 learners (Est = 1.777) and not the grade 8 learners. This, as opposed to the above suggests that older learners are likely to become mobile bully-victims as a result of their lack of self-control/self-esteem. Although the consensus is that self-control improves with age, the latter findings show otherwise. Strayhorn (2002) explains that when lack of self-control persists into older ages, then this is linked to some other interpersonal problems, psychological factors and psychiatric disorders, and as a result the affected individual is likely to become aggressive when frustrated (bully-victim behaviour) (Tarullo *et al.*, 2009).

The results also reveal for grade 8 learners, previous traditional bullying experience has a positive influence on technology (est = 0.221) and a negative influence in grade 9 learners (est = -0.100) which then learners to mobile bully-victim behaviour. That is, for grade 8 learners, as traditional bullying experience increases, technology attachment and access will also increase and vice versa, and for grade 9 learners, as traditional bullying experience increases, technology attachment and access will decrease. However, the influence of technology to bully-victim behaviour is more prevalent in grade 9 learners (est = 0.443) than in grade 8 learners (est = -0.192). This suggests that when children in lower grades experience previous traditional bullying, they will engage more with technology but their mobile bully-victim behaviour declines. However, when older children experience previous traditional bullying, they decrease their technology access and attachment but their mobile bully-victim behaviour increases.

Seals & Young found that the evolution of bullying only appears as though it is declining as students mature, however in essence it only changes from being more aggressive and confrontational to being verbal and passive (Seals & Young, 2003). This could explain why older learners engage more in mobile bullying activities than the younger ones. It can then be deduced that even though the learners in lower grades have more technology access and are more attached to their mobile phones, they do not use these to engage in mobile bullying activities. As Tarullo *et al.* (2009) explains, physical aggression is more predominant in lower grades and seems to decrease as children move to higher grades. This then suggests that children in lower grades retaliate with more physical aggression when they experience bullying.

In terms of the school environment, it is seen that for grade 8 learners, the school environment has no influence on mobile bully-victim behaviour. However, for grade 9 learners, a decreasing influence is observed (est = -0.133). These findings indicate that, as learners transition from lower grades to higher grades, the influence their school environment has on their mobile bully-victim behaviour continues to decrease. This suggests that at some point, mobile-bully victim behaviour will continue regardless of the location or environment of a school. However, Patchin & Hinduja (2012) disagree with this, they found that learners who indicated that they had been victims of cyberbullying were those who indicated that their school environment provided a poor safety climate. They also found that learners who indicated that they had taken part in mobile bullying (either as victims or bullies) also indicated that they didn't feel safe at school, felt that their teachers did not try to assist them and also felt that their educators did not care about them.

4.6 SUMMARY OF FINDINGS

The findings presented above partially support the propositions that were made. It was found that schools that are located in rural and less developed areas generally had higher mobile bullying engagements than those in more developed areas. Proposition 1 was therefore supported by these findings as previous findings indicated that more developed areas provide a safer environment in schools and that the opposite was true for the less developed schools. According to the results, even though technology advancement is said to be lower in less developed communities, learners in these communities still engaged more in mobile bullying activities. These findings thus prove that the community a child comes from as well as the school's play a major role in how children behave and how this

behaviour translates to mobile bullying engagement as children are said to bring these characteristics into the school. However, the results of the structural equation test show that the school environment influences mobile bully-victim behaviour at a decreasing rate, that is, as learners transition from lower grades to higher grades, the influence their school environment has on their mobile bully-victim behaviour continues to decrease. It can be concluded from this observation that even though the school environment plays a role in the level and intensity of mobile bull-victim behaviour, its impact becomes less (not non-existent) throughout the transitioning phase. It was also found that learners from the schools that are located in more developed areas had more knowledge about the presence of anti-bullying policies and other reporting mechanisms at their schools as compared to learners in the less developed areas. This again can be attributed to the social capital status of their communities as indicated above.

Proposition 2 was that previous traditional bullying experience will provoke mobile bully-victims to retaliate through mobile technology as children mature. The results supported this proposition as it was observed that learners in lower grades retaliated to physical traditional bullying with more physical aggression whereas those in higher grades tended to retaliate physical aggression with mobile bullying. This trend seemed to be consistent across all schools regardless of the location of the school.

As discussed in the literature, previous research found that self-control improves with age, however, the results of this present study showed that self-control/self-esteem improved in terms of physical aggression as children matured. However, the striking observation was decreasing levels of self-control as mobile bully-victims moved from lower grades to higher grades. That is, learners in higher grades are more likely to become mobile bully-victims due to low self-control/self-esteem. This indicates that when both groups of learners experience previous traditional bullying, learners in younger grades will most likely retaliate with more physical aggression whereas learners in higher grades will retaliate using their mobile phones. Therefore proposition 3 which states that the influence of self-control/self-esteem on mobile bully-victim behaviour will differ by age/age is not entirely supported by these findings.

Another observation that was made was that as learners transition from grade 8 to grade 9, their mobile bullying involvement differs. Grade 8 learners were found to be more likely to become mobile bullying victims and grade 9 learners were likely to be mobile bullies. These

findings thus supported both proposition 4 (learners become more involved in mobile bullying activities as they mature) and proposition 5 (as they mature, learners who are previously traditionally bullied will engage in mobile bullying activities and retaliate with more aggression through mobile phones). Another general conclusion that can be drawn from the findings of this study is that the age/grade does influence mobile bully-victim behaviour. And this becomes more prevalent as children mature or transition from lower grades to higher grades. Through this transition, it is observed that learners mostly start off as victims (traditional) and evolve to mobile bullies, however, the due to the different mechanisms such as the school environment, policies in place and mostly technological access and advancement that come into play, learners may at any given point find themselves as mobile bullies or mobile victims.

CHAPTER 5: RESEARCH CONCLUSION AND RECOMMENDATIONS

The rapid growth of technology and widespread continues to have many positive benefits and a substantial contribution to societies. However, with these positive benefits also comes some negative consequences, mobile bullying being one of these. Mobile bully-victim behaviour has not been studied extensively as characteristics of mobile bully-victims are hard to identify, this is because they carry both characteristics of mobile bullies and victims, this making current policies ineffective in mitigating the risks. Therefore, mobile bullying and victimisation amongst children continues to be a concern for schools, educators, policy makers and other parties involved. Studies that have been conducted in the field of cyberbullying have provided a benchmark or starting point for further research into mobile bullying and victimisation, in particular, the category of mobile bully-victims. However, their findings do not entirely provide a solution to deal with mobile bully-victims due to the mismatch in characteristics and overlap of characteristics.

The purpose of this research was to investigate the evolution of mobile bully-victim behaviour in South African high school students, that is, to try and understand how mobile bully-victim behaviour evolves as learners transition from grade 8 to grade 9, understand behavioural factors that arise as a result of mobile bully-victimisation as well as understand how mobile bully-victims emerge. Literature review showed that previous traditional bullying experience, the school environment, age/grade, self-control/Self-esteem, retaliation and technology have some level of influence on the evolution of mobile bully-victim behaviour. A conceptual framework (Evolution of Mobile Bully-Victim Behaviour) was developed in order to test these influences, associations as well as pathways created.

The results confirmed observations from this and previous research stating that schools that the school environment or location of the school plays a role in mobile bully-victim behaviour. Previous findings proved that schools that are considered safe by learners had less cases of bullying involvement. The location or environment of the school was also found to have an effect on learners' knowledge of anti-bullying policies and other reporting channels available. The pathways created also showed that there was a link between previous traditional bullying, technology and mobile bully-victim behaviour as children matured. It is observed that as younger children who have had experience with previous traditional bullying retaliate with more physical aggression, older learners retaliate through mobile technology. Some other striking findings were that although self-control/self-

esteemed improved in terms of physical aggression as children matured, there were decreasing levels of self-control in terms of mobile bully-victims as they moved from lower grades to higher grades.

While the findings provide more insight on mobile bully-victim behaviour and how it evolves as children mature, more research needs to be conducted in order to further understand this problem and devise means to mitigate it. Anti-mobile bullying policies as well as mobile bullying and victimisation awareness programmes targeting school children are needed as a starting point to assist in dealing with the problems faced by mobile bully-victims. Current harassment policies in South Africa are too broad not properly integrated to address mobile bullying so as to provide support for children affected by mobile victimisation. Therefore it would be beneficial to constitutionalise online child harm policies that will identify different role players (such as teachers, the legal system, parents, and other caregivers) in this phenomenon as well as what constitutes online victimisation. This will help children report and receive the necessary support should they experience victimization.

Further research should also be conducted focusing specifically on mobile bullying in different geographical location so as to devise suitable intervention programmes for these differing locations. This research provides a platform for further research. Lastly, although there are many existing theories dealing with bullying in other fields such as psychology, sociology and criminology, specific ones dealing mobile bullying and victimisation are lacking, more especially in the field of Information Technology. Therefore more research needs to be done in this regard to come up with more suitable theories or frameworks.

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APPENDICES

Appendix A – Evolution of Mobile Bully-victim survey

****PLEASE READ THE DEFINITION BELOW BEFORE ANSWERING THE QUESTIONS****

Mobile Bullying is when one **repeatedly** uses technologies such as e-mail, instant text messaging, offensive personal websites and online personal voting websites on a mobile phone for intentional, recurrent and aggressive behaviour to constantly make fun of someone else, call them mean names, spread rumours about them, try and make others dislike a person, or say hurtful things about someone.

Directions: Please mark with (X) for each question that best describes your agreement with each statement.

A. DEMOGRAPHICS

School		
Grade		
Gender	Male	Female

B. PREVIOUS TRADITIONAL BULLYING

****Rate how often the following occurred LAST YEAR in your previous grade:**

		Never	Rarely	Sometimes	Often	Always
1	How often were you bullied at school in the last year?					
2	I was teased, made fun of or gossiped about at school.					
3	Other children purposefully left me out of or did not include me in their groups.					
4	I had money or other things taken away from me or damaged.					
5	I was threatened or forced to do things I did not want to do by the children at my school.					
6	I teased, made fun of or gossiped about someone at school.					
7	The other kids at school hit, pushed me around or kick me.					
8	I picked on other kids at school					
9	I got into fights with someone I could easily beat					

C. MOBILE PHONES

10	Do you have access to a mobile phone?	Yes		No	
11	If yes, What kind of a phone is it?	Smartphone	Feature Phone	Basic Phone (No internet access)	

D. MOBILE PHONE USAGE

12	Indicate how often you use the following applications on your mobile phone:					
		Never	Rarely	Sometimes	Often	Always
	Facebook					
	WhatsApp					

	Twitter					
	SMS					
	Email					
	Making and receiving Phone Calls					
E. MOBILE BULLYING						
**Rate how often the following have occurred in the CURRENT year:						
		Never	Rarely	Sometimes	Often	Always
13	I often use my mobile phone to start or spread rumours					
14	I often use my mobile phone to threaten others					
15	I belong to an online social networking group created to tease or make fun of others					
16	I use my mobile phone to get others to dislike someone.					
17	I use my mobile phone to take or send pictures of someone without their permission to other learners					
18	I use my mobile phone to intentionally exclude someone from my group or leave him/her out of things.					
F. MOBILE VICTIMISATION						
**Rate how often the following have occurred in the CURRENT year:						
		Never	Rarely	Sometimes	Often	Always
19	Someone or a group of learners have sent hurtful text messages about me to my mobile phone.					
20	The other kids at my schools call me on my phone and make fun of me.					
21	I receive threatening or mean Facebook, chat room, WhatsApp messages on my mobile phone.					
22	Someone has posted embarrassing pictures, videos or information about me on social media (Facebook, WhatsApp, Twitter, etc.)					
G. SELF-ESTEEM/SELF CONTROL						
		Never	Rarely	Sometimes	Often	Always
23	How often have you felt that it is your fault that people spread rumours about you?					
24	How often do you use the internet on your mobile phone to make other people feel like they are not good enough?					
25	How often do you ignore mean and hurtful remarks directed towards you on your mobile phone?					
H. RETALIATION						
		Never	Rarely	Sometimes	Often	Always
26	I've used my mobile phone to say mean things to another learner because someone else made					

	me angry					
27	If someone bullied you, what is the likelihood that you would get back at someone using your mobile phone					
I. SCHOOL ENVIRONMENT						
		Yes	I'm not sure	No		
28	Does your school have an anti-bullying policy					
29	Have you heard of any other channels where you can report bullying at your school?					
<p>You have reached the end of the survey. THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.</p>						

Appendix B – Consent Letter: Department of Education



Department of Information Systems

Leslie Commerce Building
Engineering Mall, 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/>

09 January 2017

Request to conduct research and interview participation consent form

Dear Sir/Madam,

I am a Masters 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 entitled “Examining the evolution of mobile bully-victim behaviour in South African high-school students”. This research has been approved by the University of Cape Town (UCT)’s Commerce Faculty Ethics in Research Committee. The researcher would like to request permission to conduct this research in high schools in the Mpumalanga area.

The objectives of the research are to: Investigate the evolution of South African high-school students’ bully-victim behaviours in grades 8 to 9, Understand behavioural factors that arise as a result of bully-victimisation and understand how bully-victims emerge. Do they start off as victims or bullies?. This research has been approved by the University of Cape Town (UCT)’s Commerce Faculty Ethics in Research Committee.

Participation in this research is voluntary. All information will be treated in a confidential manner and used exclusively for the purpose of this study. No individual names will be recorded or published. Learners will not be requested to supply any identifiable information, ensuring anonymity of their responses. They can choose to withdraw from the research at any time for whatever reason, in accordance with ethical research requirements. The data collection method will be a questionnaire with the researcher responsible for administering the questionnaire and facilitating the process. The questionnaire will be conducted at the school and will last approximately 30 minutes.

Should you have any questions regarding this research, please feel free to use the contact details at the bottom of the page.

Sincerely,

Kedibone Namane

 Signed

Researcher \ M.Com Student, (UCT)
Department of Information Systems
University of Cape Town
Email: kncharlotte31@gmail.com

Professor Michael Kyobe

 Signed

Research Supervisor
Department of Information Systems
University of Cape Town
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Appendix C – Consent Letter: Parent/Guardian

Consent to Participate in a Research Study

Researcher: Kedibone Charlotte Namane (NMNKED001)

Institution: University of Cape Town, Department of Information Systems

Topic: Examining the evolution of mobile bully-victim behaviour in South African high-school students

09 January 2017

Dear Parent/Guardian

This consent form gives details about the study at hand; it is important that you carefully read it and then decide if you want to allow your child to take part in the study.

PURPOSE

This is a study about mobile bullying; this is harassment through technology mediums such as the internet, cellphones, emails, text messages, chat rooms and social media. We want to know if mobile bullying occurs in your child's school, if children were physically bullied in the past, what causes bullying and how the changes (if any) transform from physical bullying to mobile bullying. Physical traditional bullying in this case refers to bullying incidents such as hitting, shoving or pushing and causing damage to one's personal possessions. Data collection for this study will be in the form of an anonymous survey, children will be given a questionnaire to complete, however, this will be confidential and they will not be required to write down their names or any other identifying information. The learners will also remain unknown to the researcher during data collection, as a result the researcher will not be able to link responses to individual students or assess their relationships.

The study has been approved by the Commerce Ethics Committee.

DURATION

The questionnaire will only take up to 30 minutes to complete.

PROCEDURE

The study will take place over one phase in 2017 to find out if children have been bullied in previous grades and whether they are involved in mobile bullying activities now. The researcher will also explain this information to your child and they will be asked to sign an agreement to participate in the study. The agreement is attached for your perusal. Your child will be asked questions about previous traditional bullying experience, self-esteem/self-control, as well as their age and grade. This information will not be linked back to your child because they will answer the questionnaire anonymously. Please remember that you may choose for your child not to participate in the study, and you can still choose to pull out of the study in the future. The results of the study can be made available upon request.

POSSIBLE RISKS AND BENEFITS

Bullying sometimes has negative effects on the victim; it may therefore cause emotional distress for your child to recall these experiences. Your child will be asked if they have been bullied and if they have bullied others, this may cause some anxiety for your child; however, this whole process is anonymous, so your child will not be subjected to any victimisation as a result of the responses they give. If your child feels uncomfortable at any time during the duration of the study, they may choose to withdraw from the study or not answer questions that make them feel uncomfortable. Should your child choose to not participate or withdraw from the study, no further actions will be taken. Participating in this study is free and there is no compensation for participation, however, should the results of this study reveal that mobile bullying is a problem at your child's school, then this may

raise awareness at the school and the school can come up with measures to prevent mobile bullying in the school.

CONFIDENTIALITY

The researcher will take every possible effort to ensure that the individual responses of every child are kept confidential. The results will be presented without naming the participants or their schools.

Sincerely,

Kedibone Namane



Researcher \ M.Com Student, (UCT)

Department of Information Systems

University of Cape Town

kncharlotte31@gmail.com/0761102097

Professor Michael Kyobe



Research Supervisor

Department of Information Systems

University of Cape Town

Email: Michael.Kyobe@uct.ac.za

CONSENT

I hereby consent that I have read (or had someone read to me) and I understand the contents of this document. I therefore agree that my child can participate in the study and I am doing so at my own freewill.

Signature of Parent/Guardian

DATE

Appendix D – Consent Letter: Learner



Agreement to Participate in a Research Study

Researcher: Kedibone Charlotte Namane (NMNKED001)

Institution: University of Cape Town, Department of Information Systems

Topic: Examining the evolution of mobile bully-victim behaviour in South African high-school students

09 January 2017

Dear Learner,

Thank you for agreeing to take part in the study. Please read the statements below and sign the form if you agree that the statements are true.

- My parents/legal guardians have signed the permission form for me to take part in this study.
- The study is about cyberbullying and I will be asked questions about my experiences with physical bullying and cyberbullying.
- Cyberbullying has been explained to me as harassment through technology mediums such as the internet, cellphones, emails, text messages, chat rooms and social media. Physical bullying refers to bullying incidents such as hitting, shoving or pushing and causing damage to one's personal possessions.
- The researcher has explained to me and I understand what physical bullying is and what cyberbullying is.
- I was informed that I can choose not to answer questions that make me feel uncomfortable and I can pull out from the study at any time.
- I have been told that I will not be asked to write my name on the questionnaire and my answers will be kept private.
- I agree to take part in this study and I was not forced to do so.
- Choosing not to take part in the study or quitting will not affect my school work.

The study has been approved by the Commerce Ethics Committee.

Signature of Learner

Date

Sincerely,

Kedibone Namane

Professor Michael Kyobe

Signed

Researcher \ M.Com Student, (UCT)
Department of Information Systems
University of Cape Town
kncharlotte31@gmail.com/0761102097

Research Supervisor
Department of Information Systems
University of Cape Town
Email: Michael.Kyobe@uct.ac.za

Appendix E – Approval Letter: Department of Education



education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

Building No. 5, Government Boulevard, Riverside Park, Mpumalanga Province
Private Bag X11341, Mbombela, 1200.
Tel: 013 766 5552/5115, Toll Free Line: 0800 203 118

Litiko le Tselaniso, Umnyango we Fundo

Departament van Onderwys

Ndzawulo ya Dyondzo

Ms Kedibone Charlotte Namane
LESLIE Commerce building
Private Bag x3
Rondebosh
7701

RE: APPLICATION TO CONDUCT RESEARCH: MS KEDIBONE CHARLOTTE – UCT

Your application to conduct research study was received and is therefore acknowledged. The title of your research project reads: "Examining the evolution of mobile bully- victim behavior in South African high school students". I trust that the aims and the objectives of the study will benefit the whole department especially the children who are the beneficiaries. Your request is approved subject to you observing the provisions of the departmental research policy which is available in the department website. You are requested to adhere to your university's research ethics as spelt out in your research ethics.

In terms of the research policy, data or any research activity can be conducted after school hours as per appointment with affected participants. You are also requested to share your findings with the relevant sections of the department so that we may consider implementing your findings if that will be in the best interest of the department. To this effect, your final approved research report (both soft and hard copy) should be submitted to the department so that your recommendations could be implemented. You may be required to prepare a presentation and present at the departments' annual research dialogue.

For more information kindly liaise with the department's research unit @ 013 766 5476/5148 Or a.baloyi@education.mpu.gov.za

The department wishes you well in this important project and pledges to give you the necessary support you may need.

Signed

MRS MOC MHLABANE
HEAD EDUCATION

Feb 3, 17

DATE

