

Exploring adolescents' perceptions of risky behaviour using the mobile phone

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Dissertation submitted in partial fulfillment of the requirements
for the degree *Magister Artium* in Psychology at the
Potchefstroom Campus of the North-West University

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April 2013

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ACKNOWLEDGEMENTS

I would like to thank the following people without whom I would not have made it through this degree:

- My incredible boyfriend Jonathan, for your love, support and words of encouragement when I felt I could not go on. Ti amo infinite!
- My amazing parents, Ilda and Jose, sister, Claudia and brother-in-law, Michael for always believing in me and for your love and support throughout the years.
- My supervisor, Cecilia Bouwer, for pushing me and for making me believe in myself again, this work was truly brought to life with your help. Baie Dankie!
- My editor, Alessandra Prioreschi for all your hard work and dedication to helping me at the eleventh hour.
- To my family and friends, for your encouraging words and support.

To the Lord Our God for being my guide and my strength!

“Weeping may endure for a night, but JOY comes in the morning!”

Psalms 30:5

Summary

Exploring adolescents' perceptions of risky behaviour using the mobile phone

The aim of this study was to examine adolescent perceptions of risky behaviour using a mobile phone. This research may contribute to creating an awareness of risky and healthy adolescent uses of mobile phones. Anonymous sketches were collected from Grade 10 learners depicting their understanding of risky behaviour using the mobile phone. Thereafter, 12 learners agreed, through informed consent, to participate in semi-structured interviews.

All participants considered the mobile phone an integral part of their social lives. Participants noted the benefits of using their mobile phones for their school work, such as searching the internet, taking photos of, and recordings of class work. Participants indicated that engaging in activities that allow for self-expression using the mobile phone, as well as knowing how much information to post, and using the mobile phone for what it was intended for (i.e. communication), was healthy behaviour. Participants indicated that sharing one's address, phone number, and personal or intimate photographs and videos was risky behaviour. Participants did not extend their definitions of healthy behaviour to include moderate use of the mobile phone on a daily basis, and in fact reported spending an average of 4-5 hours daily on their mobile phones.

Participants indicated numerous incidents of cyberbullying (although that term was not explicitly used), such as online racism, creating and distributing demeaning lists, and nude or offensive photographs of one another. Participants' moral boundaries appeared to be negotiable, due to inconsistent opinions on what was considered acceptable or unacceptable behaviour on their mobile phones.

Participants revealed a desire to be trusted with their mobile phones, yet indicated that they hid information from their parents. Findings show that, although the participants knew

and understood the risks that exist in mobile interactions, they continued to engage in these risky behaviours.

(*Key Terms:* adolescents, risky behaviour, mobile phone, perceptions, socialising, self-expression, moral boundaries)

Opsomming

‘n Onderzoek na die persepsie van riskante gedrag in die gebruik van selfone

Die doel van hierdie studie was om die persepsie van riskante gedrag in die gebruik van selfone, onder adolessente vas te stel. Hierdie navorsing kan bydra tot die skepping van bewustheid van riskante en gesonde gebruik van selfone deur adolessente. Anonieme sketse is van Graad 10-leerders verkry waarin hulle begrip van riskante gedrag in die gebruik van selfone getoon word. Daarna het 12 leerders, met ingeligte toestemming, ingewillig om aan semi-gestruktureerde onderhoude deel te neem.

Al die deelnemers het die selfoon as 'n integrale deel van hulle sosiale lewe beskou. Deelnemers het gewys op die voordele van die gebruik van hulle selfone vir skoolwerk, soos om inligting op die internet te soek, foto's van klaswerk te neem en opnames van klaswerk te maak. Deelnemers het aangedui dat deelname aan aktiwiteite wat selfuitdrukking moontlik maak deur die selfoon te gebruik, asook om te weet hoeveel inligting om te plaas, en die gebruik van die selfoon vir waarvoor dit bedoel is (d.i. kommunikasie), gesonde gedrag is. Deelnemers het aangedui dat dit riskante gedrag is om jou adres, foonnommer en persoonlike of intieme foto's en video's te deel. Deelnemers het matige gebruik van die selfoon op 'n daaglikse basis nie by hulle definisies van gesonde gedrag ingesluit nie en het trouens gemeld dat hulle gemiddeld 4-5 uur per dag op hulle selfone deurbring.

Deelnemers het talle voorvalle van kuberafknouery gemeld (hoewel hierdie term nie uitdruklik gebruik is nie), soos aanlyn rassisme, die skep en verspreiding van vernederende lyste, en aanstootlike of naakfoto's van mekaar. Deelnemers se morele grense is blykbaar onderhandelbaar, soos blyk uit teenstrydige menings oor wat as aanvaarbare of onaanvaarbare gedrag op hulle selfone beskou word.

Deelnemers het 'n begeerte getoon om vertrou te word met hulle selfone, maar het tog aangedui dat hulle inligting van hulle ouers weerhou. Bevindings toon dat, hoewel die deelnemers die risiko's verbonde aan selfooninteraksie ken en verstaan, hulle voortgaan met hierdie riskante gedrag.

(*Sleutelwoorde:* adolessente, riskante gedrag, selfoon, persepsies, sosiale lewe, self-uitdrukking, morele grense)

Preface

PERMISSION TO SUBMIT ARTICLE FOR EXAMINATION PURPOSES

I, supervisor of this study, declare that the article written by Natalie de Gouveia reflects the research conducted by her on the subject. I hereby grant permission that she may submit this article for examination purposes and thereby confirm that it fulfills the requirements for the degree MA in Psychology.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end, positioned above the printed name.

Prof Cecilia Bower

Section A:

Literature Study and Methodology

1 Orientation

The aim of this study was to explore and describe adolescent perceptions of risky online behaviour using the mobile phone. One of the objectives of this research was to source literature to establish a coherent understanding of the role that the mobile phone plays in the life of an adolescent, following which adolescent perceptions of risky behaviour using the mobile phone was analysed and interpreted. This literature study will commence with an overview of adolescent brain development and the tasks of this developmental phase. Aspects such as establishing an identity through social experimentation, interaction with social groups, and how such tasks can be explored using the mobile phone will also be considered. In order to understand the influence of the mobile phone on risky behaviours, different categories of risky behaviours will be identified, namely: cyberbullying, access to age-restricted content, online harassment, and mobile or internet addiction. Examining various studies conducted on these topics will help develop a clear understanding of what remains to be explored regarding adolescent use of the mobile phone. The literature study will then conclude by contemplation of the significance of researching adolescent perceptions regarding risky behaviours using the mobile phone, and the relevance of this subject within the South African context.

Following this, the methodology section will provide a brief explanation of the aim, the central theoretical argument and the paradigmatic perspective of the study. The research design, methods of data collection, and study participants will then be explained. Finally in Section A, the ethical considerations of this research will be presented, followed by explanations of the measures undertaken by the researcher to ensure rigour and

trustworthiness. In the sections that follow, Section B will consist of the manuscript formulated as an article, which is followed by the final Section C which consists of additional findings, conclusions and recommendations not featuring in the article.

2.1 Adolescent Development

2.1.1 Cognitive and biological development

According to the classical work of Piaget (1955, as cited in Berk, 2006, p. 248), adolescents have begun to form, not only their capacity for deductive reasoning but also their capacity for abstract thought at the stage he referred to as “the formal operational stage”. In recent years, neurocognitive research has begun to describe the cognitive development of the adolescent in more specific terms. Significant intellectual processes are emerging during adolescence, specifically the thinking processes which include moving from concrete thinking to abstract thinking and the start of metacognition (Casey, Getz, & Galvan, 2007, p. 70).

The prefrontal cortex is one of the last regions of the brain to reach developmental maturation. This area performs the executive functions of the brain such as distinguishing between what is appropriate or inappropriate behaviour (Casey, Jones, & Hare, 2008, p. 112). According to Steinberg (2008, p. 90), during adolescence, risk preference and sensation-seeking behaviours are increasing rapidly, while impulse control behaviours are increasing slowly (Sustein, 2008, p. 146). An increase in sensation-seeking behaviours is common during adolescence due to the increased levels of dopamine (the “feel good” chemical) released into the brain during these activities (Steinberg, 2008, p. 83).

2.1.2 Identity development and the mobile phone

Much time has passed since Erikson (1974, as cited in Berk, 2006; Thom & Coetzee, 2004) formed his theories of development and identity formation, however these theories

remain relevant. According to Erikson (Thom & Coetzee, 2004, p. 184), adolescence is a transitional stage where the adolescent begins to establish autonomy from their family and to explore different roles and ideologies through interaction with and support of various social groups. Since the time when Erikson first formed his theory of development, however, the way in which adolescents interact and engage within social groups has changed somewhat, particularly since the introduction of communications technology (Roesler, 2008, p. 421).

The ownership of a mobile phone among adolescents contributes to a sense of “belonging” within peer groups, and to the maintenance of their social lives, and ability to communicate with peers (Davie, Panting, & Charlton, 2004, p. 361; Syed & Nurullah, 2011, p. 8; Walsh, White, & Young, 2009, p. 227; Walsh, White, Cox, & Young, 2011, p. 334). Owning a mobile phone is also a sign of “maturity” and represents a sense of emancipation from parents (Syed & Nurullah, 2011, p. 7). Studies that have been conducted on mobile phone usage show that in all countries adolescents are the most avid users of the mobile phone (Syed & Nurullah, 2011, p. 2). A study conducted on South African youth states that a total of 77.2% of study participants made use of a mobile phone, and that mobile phones were more common than landlines in South Africa due to their affordability and flexibility of use (Porter et al., 2012, p.148).

The mobile phone has many notable functions other than the ability to make phone calls, such as affordable text-message sending services, built-in photo camera, built-in video camera, music player, alarm-clock function, calendar, calculator, as well as internet access and various applications such as social networking sites, among many other features. These features make the mobile phone appealing to younger users (Davie et al., 2004, p. 365; Syed & Nurullah, 2011, p. 5). Communication using a mobile phone can be performed through various text-message sending methods, thus enabling constant contact with peers and

cultivating interpersonal relationships (Walsh et al., 2011, p. 335) in an affordable and accessible manner (Porter et al., 2012, p. 149).

The appeal of the above-mentioned capabilities lies, not only in their communication value, but also in the fact that they provide an outlet for self-expression, experimentation and entertainment (Williams & Merten, 2008, p. 254), all of which are aspects that form part of the tasks of adolescent development and identity formation. Simple tasks such as personalising a mobile phone with specific background wallpapers, and selected ringtones allow for adolescents' self-expression, while the internet and social networking capabilities allow for sharing of thoughts, images, and videos with others in an easy to access, instant setting (Davie et al., 2004, p. 365; Williams & Merten, 2008, p. 254).

In 2009, research on a popular South African application called "MXIT" showed that adolescents are the most frequent amongst their 7 -13 million daily users (Napolitano, 2010, p. 109). This application can be accessed from nearly any phone on the market, and allows its users to send one another messages at a fraction of the cost of normal Short Message Services (SMS's). Additionally, users can join chat rooms and have conversations with peers, as well as with strangers (Napolitano, 2010, p. 109).

2.2 Risky behaviour and the mobile phone

The internet has introduced a new arena for adolescents to experiment with risky behaviours (Dowell, Burgess, & Cavanaugh, 2009, p. 549; Gable, Ludlow, McCoach, & Kite, 2011, p. 218) in an accessible and unmonitored setting. Risky behaviours involving the internet capabilities of the mobile phone include posting of personal information, access to inappropriate websites, and cyberbullying (Dowell et al., 2009, p. 549; Fogel & Nehmad, 2009, p. 109).

The benefits for adolescents of easy access to the internet cannot be denied. The wealth of information available online is certainly beneficial from an academic point of view. For those who come from a lower socio-economic background, the use of the mobile phone to access academic information is not only affordable, but also allows for the benefit of easier accessibility to all the information the internet has to offer (Napolitano, 2010, p. 109; Tsitsika et al., 2008, p. 655). The accessibility to the internet can however be detrimental to the wellbeing of adolescents due to the numerous hazards that exist online (Dowell et al., 2009, p. 548).

Sensation-seeking behaviours (which increase during adolescence) may lead to participation in risky behaviour, because engaging in risky behaviours often provides the kind of novel and intense stimulation that people with a heightened sense of sensation-seeking find pleasurable (Steinberg, 2008, p. 85; Sustein, 2008, p. 146). The internet capabilities of the mobile phone, as well as the availability of various applications and websites, may stimulate this sensation-seeking aspect of an adolescents' character. For example, accessing sex chat rooms, or engaging in sexual conversation using mobile phones (known as "sexting"), may produce an exciting sensation regardless of any perceived risk (Mitchell, Finkelhor, & Wolak, 2007, p. 536). Furthermore, the use and ownership of a mobile phone has become part of a sub-culture for adolescents (Davie et al., 2004, p. 368; Syed & Nurullah, 2011, p. 7), therefore the sense of belonging (by taking part in risky behaviour using the mobile phone) in itself may produce the positive feelings associated with sensation-seeking (Walsh et al., 2011, p. 335).

Many authors have identified specific traits that would make an adolescent more vulnerable to online risk. Among these are a lack of parental bond, high conflict in the living environment, a previous history of physical, sexual or emotional abuse (Mitchell et al., 2007, p. 535; Wells & Mitchell, 2008, p. 228), the existence of offline harassment or bullying, low

self-esteem, a lack of knowledge of online risks, chatting in internet chat rooms, and accessing the internet via the mobile phone (Mitchell et al., 2007, p. 536; Tsitsika et al., 2009, p. 656). In the following paragraphs the specific risks relating to mobile phone use will be discussed in more detail.

2.3 Cyberbullying

Cyberbullying, unlike traditional bullying, does not involve a physically violent element as it is primarily verbal in nature, and typically takes place electronically, via the internet or the mobile phone (Raskauskas & Stoltz, 2007, p. 565). Cyberbullying is fast becoming as common as traditional bullying, possibly due to the easy accessibility and general popularity of the internet and the mobile phone (Syed & Nurullah, 2011, p. 6). Cyberbullying has been shown to have the same effects as traditional bullying on its victims, causing depressive symptoms, intense fear, humiliation, and a general feeling of hopelessness (Nicol & Flemming, 2010, p. 213; Raskauskas & Stoltz, 2007, p. 566). In the most extreme cases, cyberbullying is reported to produce higher rates of depressive symptoms than traditional bullying, and is closely associated with increased suicide (Raskauskas & Stoltz, 2007, p. 566). These effects are not surprising when one looks at the variety of ways in which bullying can now take place: electronically via the mobile phone, as well as on the internet.

Some of the most common forms of cyberbullying include gossip, teasing, insulting, starting, or spreading rumours about the victim, threats to the victim, intentionally excluding the victim from a group, making a sexual reference to the victim, and taking photos or recording videos intended to embarrass the victim and making these public (Nicol & Flemming, 2010, p. 221). Firstly, while traditional bullying may only be witnessed by a small number of people, cyberbullying can be spread to many more people electronically, thus it can be described as more invasive (Raskauskas & Stoltz, 2007, p. 565). Secondly, the identity

of the bully in traditional bullying is usually known by the victim, whereas in cyberbullying, the bully may remain anonymous (by using a fake name or an unknown phone number for example) making the victim feel even more powerless (Raskauskas & Stoltz, 2007, p. 571). Thirdly, the bullying that takes place electronically can be perpetual throughout the day if so desired by the bully, whereas traditional bullying usually takes place at certain times and places (Raskauskas & Stoltz, 2007, p. 571). Fourthly, the existence of the internet means that once information has been posted online, it may remain there forever and cannot be removed, creating permanent damage for any victims of cyberbullying.

Cyberbullying has become a very popular means of harassment for adolescents. Studies have shown that a large majority of participants have either been victims or perpetrators of cyberbullying at some point. Raskauskas & Stoltz (2007, p. 570) report that 48.8% of respondents reported having been a victim of electronic bullying, and 21.4% reported having been a perpetrator of cyberbullying. Furthermore, a staggering 85% of these victims of cyberbullying reported also having been physically bullied, and 94% of participants who confessed to being cyber bullies also confessed to being physical bullies (Raskauskas & Stoltz, 2007, p. 570). Suicide, depression, school shootings, and physical bullying are all issues that have resulted from cyberbullying (Stanley, 2003, p. 23-25). The internet and the mobile phone can therefore be described as a platform for individuals to be able to express anything, without the monitoring of rules or authority figures, that then becomes available to a multitude of people. These platforms can, if misused, create permanent damage to an individual's reputation. Using the mobile phone, adolescents are easily able to take part in risky behaviour, which may have far-reaching consequences.

2.4 Online harassment and sexual solicitation

Harassment and unwanted sexual solicitation are among the many dangers that exist online, and are therefore accessible through the mobile phone. When engaging in activities online that involve sexual talk or solicitations, youth are likely to be more vulnerable due to the presence of their personal information that is often made available (such as a telephone number or an email address) (Lazarinis, 2010, p. 157; Mitchell et al., 2007, p. 532).

Certain applications, such as Facebook, do have privacy settings that are adjustable according to the users' preferences. There remain, however, certain pieces of information that are readily accessible on Facebook, such as a physical address, contact details, and personal photographs that can be viewed by other users (whether or not these users are approved to view the an individual's profile page as a "friend"), if the individual has not specifically adjusted their privacy settings (Fogel & Nehmad, 2008, p. 153). Recently, Facebook has also added a new feature, which allows an individual to "check-in" to their current location. Doing this provides an actual GPS (global positioning system) location as to where that individual has "checked in". Therefore, people who have access to this individual's profile could view a map of his or her location with a mere click of a button. It is obvious how, by sharing so much personal information, the youth online can become easy targets for "online predators" (Fogel & Nehmad, 2009, p. 159; Mitchell et al., 2007, p. 536).

An unwanted sexual solicitation can be described as an online request to engage in sexual activities, or sexual talk, and to give or ask for sexual information (Mitchell et al., 2007, p. 532). In most cases, these sexual conversations remain limited to online interactions and are not dangerous to the youth on the receiving end. However, the internet is an ideal arena for paedophiles who desire an easy method of approaching adolescents and youth in order to gain their trust (Lazarinis, 2010, p. 157). When a sexual solicitation takes place, it is likely that the "relationship" had been developing over time (Dowell et al., 2009, p. 551). Unfortunately, it

is extremely easy for predators or paedophiles to lie about who they really are whilst online (Mitchell et al., 2007, p. 537). This may be done by posting a profile picture of someone other than the actual person, possibly someone younger, as well as by lying about personal details such as age. Once the trust has been built, the sexual solicitations will begin and the victim may be asked to send nude photographs of themselves, or to engage in sexual phone calls (Dowell et al., 2009, p. 551). Eventually, the paedophile or predator may request a face-to-face meeting with the victim, which is when the victim is put in real danger (Gable et al., 2011, p. 218).

There have been many cases around the world where adolescents have met face-to-face with someone they met online, and were consequently assaulted, raped or stalked (Dowell et al., 2009, p. 551). The main concern is how much personal information one allows to be displayed online, as this determines how vulnerable the individual is to the threat of online predators (Dowell et al., 2009, p. 551). Furthermore, even if a consensual relationship develops online, the age of the adolescent is an important factor to consider. In cases of sexual solicitation, if the adolescent is under the age of 18, the possession of a nude photograph can be considered as child pornography (Dowell et al., 2009, p. 551), and sexual activity with a minor would be considered statutory rape. Online interaction and relationships provide an element of belonging, and contribute to the desire to be connected (Dowell et al., 2009, p. 551), particularly for adolescents who are going through the phase in their lives where belonging and identity are extremely important (Walsh et al., 2008, p. 205).

2.5 Access to age-restricted and violent content

The internet and mobile phone are platforms for unregulated information, whether beneficial or not, to be spread to the community. At times, information need not even be searched for specifically, as “pop ups” allow images or information to appear on the screen

for the user to see without having been specifically accessed (Powell, 2010, p. 78). This could be the case with pornographic material, which can be very easily accessed on a mobile phone whether intentionally or not (Greenfield, 2004, p. 743). At an age where experimentation and self-discovery are the norm, adolescents are frequently and deliberately using the internet to access sexually explicit material (Greenfield, 2004, p. 743; Powell, 2010, p. 77). The existence of file-sharing networks contributes to the persistent and sometimes inadvertent exposure of sexual material to adolescents and youths (Greenfield, 2004, p. 741). The use or viewing of pornographic and sexual material has been linked to younger adolescents' early experimentation in sexual behaviour. Viewing of pornography is also said to encourage hostility and aggression towards women, as well as to normalise promiscuity (Greenfield, 2004, p. 744; Lazarinis, 2010, p. 158).

Other examples of violent content that adolescents could access on a mobile phone include videos and websites dedicated to weapon and bomb construction, self-harm blogs or communities, as well as websites with downloading facilities for illegal, pirated videos and music (Lazarinis, 2010, p. 158). With so much freely available to adolescents, and limited supervision, it is easy to understand why so much time is spent on mobile phones or the internet, and even how an adolescent may become addicted to the mobile phone.

2.6 Mobile phone and internet addiction

The term “addiction” is traditionally related to excessive dependence on chemical substances. Numerous authors have indicated that the “Diagnostic and Statistical Manual of Mental Disorders-4th edition” (DSM-IV) does not make provisions for non-chemical addictions other than referring to them as “impulse control disorders”, within which only gambling addiction is recognised (Chóliza, Echeburúa, & Labrador, 2012, p. 290; Hwang & Huh, 2010, online; Thatcher & Goolman, 2005, p. 768). Since there is no known category

into which technological addictions (addiction to the internet, the mobile phone and video games) can be diagnosed by professionals, currently the closest parallel would be to look at symptoms of 'impulse control disorders' (Hwang & Huh, 2010, online; Thatcher & Goolman, 2005, p. 768).

Dr Kimberly Young (1996, online) adapted the ten DSM-IV criteria for pathological gambling in order to develop a diagnostic questionnaire that could serve as a screening instrument for Internet Addiction Disorder (IAD). The criteria listed are as follows: i) feeling preoccupied with the internet, ii) the need to spend increasingly more time online to achieve satisfaction, iii) inability to control amount of time spent online, iv) feelings of restlessness or irritability when cutting down on internet use, v) staying online longer than intended, vi) lying to friends or family members about time of internet usage, vii) risking the loss of a significant relationship, job or educational opportunity due to online use and viii) the use of internet to escape problems (Young, 1996, online). In 2008, Young published different criteria in the form of the phases of addiction particularly concerned with internet sex addiction (Young, 2008, pp. 21-37). The process of addiction as postulated by Young (2008, p. 29), begins with discovery, and then experimentation, followed by escalation, and then compulsion, and, finally resulting in hopelessness. In contrast, Griffiths (2000, p. 537) suggests that internet addiction is not related to impulse control and can more accurately be described as a behavioural addiction.

Although there are currently a variety of different questionnaires available for the diagnosis of mobile phone dependence, internet addiction and video game addiction (Chóliza et al., 2012, p. 291), there is clearly a need for the development of more formal diagnostic criteria, such as those of the DSM, to be identified so that uniform risk factors as well as protective measures can be formulated. This is in accordance with the view of Swanepoel and Thomas (2012, p. 117) who attempted in their study to define mobile phone addiction

(specifically MXIT addiction) in terms of the theoretical model termed the “accessibility, affordability and anonymity model” (triple A model). This theoretical model proposes that individuals who have easy and inexpensive access to the internet, and who value the anonymity offered by online communication, will be more likely to become addicted to virtual social media (Swanepoel & Thomas, 2012, p. 118).

It is however also agreed by many researchers (Chóliza et al., 2012, p. 291; Hwang & Huh, 2010, online; Swanepoel, 2012, p. 123; Thatcher & Goolman, 2005, p. 767) that excessive mobile phone or internet use does not alone predict an addiction. Rather, there are specific risk factors that predispose the mobile phone or internet user to become an addict. Some risk factors include loneliness, introversion, depression, low self-esteem, difficulty with self-expression (Ha, Chin, Park, Ryu, & Yu, 2008, p. 784), conformity to peers (in terms of mobile and internet trends), impulsivity online, and loss of control of mobile and internet activity (Hwang & Huh, 2010, online). A South African study on internet addiction found that the age groups most likely to experience internet addiction were 19-24 year olds first, and then 13-18 year olds (Swanepoel & Thomas, 2012, p. 127; Thatcher & Goolman, 2005, p. 780). An increased risk was also found if the individual was male, white, and either still at school or unemployed (Thatcher & Goolman, 2005, p. 780). Recently, Swanepoel and Thomas (2012, p. 127) found a correlation between addiction to MXIT (which is accessed on the mobile phone) and socio-economic status. Findings showed that lower socio-economic status groups were more likely to become addicted than higher socio-economic status groups, and this was attributed to the “triple A theoretical model”.

Exploring the information on the subject of mobile phone and internet addiction showed that very little research in this field has been done within a South African context. Internet addiction alone has been looked at to a limited extent in South Africa (Napolitano, 2010, p.109; Swanepoel & Thomas, 2012, p. 127; Thatcher & Goolman, 2005, p. 768), however,

the use of the mobile phone to access the internet could add to that addiction, as well as adding another element in the possibility of becoming addicted to the mobile phone itself. It has been shown that the mobile phone contains many different avenues and applications which could become addictive to adolescents who possess the risk factors already mentioned above. Mobile phone and internet addiction are very serious problems, although not very common. An addiction implies that an individual becomes dependent on something, and this may lead to a disruption in their daily lives. Other risks of mobile phone and internet use identified in this chapter, such as cyberbullying, online sexual solicitations, and access to age-restricted material and violent content, have also been a limited subject of research within South Africa, specifically when looking at these risks from an adolescent perspective. This will therefore be the main focus of this research.

3 Methodology

3.1 Research Aim and Research Question

The aim of this study was to explore and describe adolescent perceptions of risky online behaviour, and the use of the mobile phone as a possible means to engage in such behaviours. Ultimately, this research may contribute to creating a general awareness of how adolescents use the mobile phone in risky as well as healthy ways. Guiding principles will be generated on safer mobile and internet usage for adolescents, parents, teachers and counselors working with adolescents. The following research questions were formulated in order to achieve this aim:

- What are adolescents' perceptions of risky online behaviour using the mobile phone?
- What do adolescents who have experienced risky behaviour on the mobile phone perceive it to be?

3.2 Central Theoretical Argument

The exploration of adolescents' perceptions with regard to risky behaviour using the mobile phone may produce findings that could contribute to increased awareness of the consequences of this kind of risky behaviour, which could then be utilised in developing guiding principles for healthy use of the mobile phone by adolescents, parents and teachers.

3.3 Paradigmatic Considerations

A paradigm is a general framework that shapes and guides one's observations, understandings (Delpont, Fouché, & Schurink, 2011, p. 297) and actions. The researcher utilised qualitative research methods in order to collect data because qualitative methods are known to provide rich and dense descriptions of human behaviour in context (Creswell, 2007, p. 27). The nature of this research called for an interpretivist method of inquiry, since the focus was on subjective perceptions regarding risky behaviour using the mobile phone. The research used a case study design with the purpose of gaining a better understanding of the social issue (risky behaviour using the mobile phone) (Creswell, 2007, p. 74) and to provide a rich and in-depth description and analysis of the data (Creswell, 2007, p. 78). The perceptions that participants shared with the researcher cannot be separated from what the researcher herself knows and perceives on the topic. Therefore the researcher's values and assumptions were inherent in all phases of the research process, but she was constantly reflexive about this in order to ensure that, as far as possible, the research findings would be the result of the experiences and ideas of the participant and not those of the researcher. The participants' truth was negotiated through dialogue taken from the sketches and semi-structured interviews as well as during the data analysis process (Cohen & Crabtree, 2006, online).

3.4 Participants

The research group consisted of boys and girls aged 15-16, currently in Grade 10, and constituted from all ethnic groups within the consenting Johannesburg high school. A total of thirty Grade 10 adolescents submitted an illustrated sketch of risky online behaviour and from that group, twelve adolescents consented to participate in a semi-structured interview.

3.5 Process of Data Collection

Learners in all Grade 10 classes were informed of the research project during their Life Orientation (LO) class, and a further notice was published in the school newsletter. Learners were asked during one LO lesson to draw a sketch or diagram of what they believed risky behaviour using the mobile phone to be, and to include a sentence beneath the sketch to explain what the drawing depicted. The sketches were thus based on an open-ended question, applicable to adolescents because they facilitated the spontaneous understanding of responses in a non-threatening, non-leading environment. This was a voluntary and anonymous exercise. The sketches were handed to the teacher and then back to the researcher. Focussed, semi-structured interviews were scheduled with volunteering learners who were recruited through invitation to those who had submitted sketches (Greeff, 2011, p. 352). The semi-structured interviews provided the researcher with the opportunity to gather data on particular aspects of the participants' perceptions through non-directive questioning, which facilitated the sharing of their experiences and views on the topic of risky online behaviour using a mobile phone.

3.6 Ethical Considerations

The researcher made an appointment with the principal of the school to establish his/her willingness to allow learners to participate in the study, as well as to explain the objectives of

the research. The principal confirmed that due to the institution being privately owned, Education Department approval was not necessary. The principal together with the governing body gave written consent for the research to be performed at the school. The research project was approved by the Research Committee of the North-West University, Potchefstroom Campus (ethics number NWU-00060-12-S1) and was also conducted with full compliance to the ethical requirements of the Health Professions Council of SA. The following ethical principles were adhered to:

- **Avoidance of harm.**

During the interview process caution was taken in order to do little to no harm to the participant and it was emphasized that the participant could withdraw from the study at any stage and did not have to answer any questions they were uncomfortable with (Babbie, 2010, p. 65). Furthermore, the researcher made provisions regarding any incident or experience that might cause emotional discomfort by arranging beforehand to refer the participant(s) to the school psychologist for counselling if the need arose.

- **Informed consent.**

Written and informed consent and assent was obtained from all parties concerned (the school, the adolescents and their caregivers) informing them before beginning the process, of what the research would involve and that they were free to withdraw at any stage without any consequences.

- **The right to anonymity and confidentiality.**

Information obtained during the study was kept on the researcher's computer in a password protected file, which could only be accessed by the researcher, her supervisor, and the North-West University. The use of participant codes ensured anonymity of all participants' names and information. The school did not receive specific feedback on each

individual participant, but rather general feedback (Kelly, 2008, p. 67; Matthews & Ross, 2010, pp. 73-80).

3.7 The Role of the Researcher

Within the context of this study collecting creative documents in the form of sketches and utilising semi-structured interviews, the researcher can be thought of as the “primary instrument” (Matthews & Ross, 2010, p. 226). The researcher remained conscious of her role as a researcher, which held the responsibility to verify the true meanings of participants’ views and opinions, and to not include her own interpretation thereof. This was done during data collection right through to analysis as well as during the discussion.

3.8 Trustworthiness and Rigour

Various criteria for trustworthiness were adhered to namely; credibility, transferability, dependability and conformability (Lincoln & Guba, 1985, p. 290; Schurink, Fouche, & De Vos, 2011, p. 420) Table 1 shows how these criteria were implemented in the study.

Table 1: Measures taken to enhance the rigour of the data through trustworthiness

Criteria	Application in the research
Credibility	The researcher ensured <i>credibility</i> by: a) Transcribing the interviews verbatim. b) Utilising reflexive journaling to keep account of the researcher's bias and using thick, densely described interpretations about adolescents' perceptions on the phenomenon studied.
Transferability	The researcher ensured <i>transferability</i> by: a) Providing a dense description of the population studied by providing descriptions of demographics and geographic boundaries of the study. b) Keeping records and files of the data analysis. These are available upon request.
Dependability	The researcher ensured <i>dependability</i> by: a) Keeping a record of all the processes from emails and contact with the school to reflexive journaling during the data collection phase as well as a collection of notes taken during the data analysis phase. The interviews were also video recorded.
Conformability	The researcher ensured <i>conformability</i> by: a) Always remaining aware of the role of the researcher by ensuring, as far as possible that the research findings are the result of the experiences and ideas of the participant and not those of the researcher. b) Admission of researcher's beliefs and assumptions written in a reflexive journal. c) Recognising and acknowledging the shortcomings in the study methods and their potential effects.

Section B
ARTICLE MANUSCRIPT

**“OUR SOCIAL GATEWAY”- RISKS AND MORALS OF ADOLESCENTS USING
MOBILE PHONES**

*NOTE: The article references are done according to the indicated format of The Journal of Child and Adolescent Mental Health in their instructions to authors (See Appendix B). For this reason, the list of references also follows the prescribed format instead of that of the APA, used for Sections A and C.

“Our social gateway”- risks and morals of adolescents using mobile phones

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Objectives: The primary purpose of this paper was to establish a coherent understanding of what adolescents perceive as risky behaviour using their mobile phone, and of the moral implications of such behaviours during the adolescent stage of development.

Method: Thirty-three anonymous sketches were collected from learners in Grade 10. Twelve of the learners subsequently consented to participate in semi-structured interviews. Various aspects of mobile phone ownership in terms of its advantages and risks were explored. A thematic analysis of data was conducted.

Results: Three broad themes emerged from the analysis, namely- socialising without boundaries, self-expression crossing the line to oversharing, and negotiable moral boundaries.

Introduction

Although South Africa (SA) is considered to be behind the rest of the world technologically, this “digital divide” does not extend to mobile phone use since even low income homes have access to a shared mobile phone (Swanepoel and Thomas 2012). By 2009, 39 million South Africans (of whom significant proportions were youth) were already using a mobile phone (International Telecommunication Union 2009). Research conducted by a South African bank indicates that, of South Africans aged 16 and older, 39% from urban areas and 27% from rural areas access the internet via their mobile phones (Independent Online 2011). The mobile phone and the internet, unlike other mediums of technology such as television and radio, are largely uncensored and unregulated. Irrespective of their age, individuals are therefore easily able to gain access to censored content, whether intentionally or unintentionally (Lazarinis 2010, Stanley 2003, Young 2008). The mobile phone and the internet contain many elements that may be considered positive for the development of adolescents. This ease of accessibility, however, also introduces many risky behaviours that need to be considered.

Healthy and risky mobile phone behaviour

Healthy behaviours using the mobile phone include social interaction, sharing of ideas, artistic expression, research for school work, online journaling (blogging), and photographic editing (Dowell, Burgess and Cavanaugh 2009, Gable *et al.* 2011). In SA, adolescents from low income homes use mobile phones to communicate with friends as well as to conduct research from the safety of their homes (Swanepoel and Thomas 2012). The internet (accessible through the mobile phone) has also been described as a safe medium for adolescents to explore their sexual identity, through the use of various online chat rooms, (Powell 2010, Young 2008). This same facility may, however, leave adolescents vulnerable to the threat of sexual predators and paedophiles, who, online, have the ability to pose as someone their own age, gain their trust, and “groom” them for sexual exploitation (Powell 2010, Stanley 2003).

Risky behaviour is the tendency to engage in behaviour that has the potential to be harmful and dangerous, yet at the same time may produce an outcome that can be perceived as positive and thus feels exciting at the time of engaging (Dictionary of Medical Terminology 2010). Some of the listed risky behaviours using the internet capabilities of the mobile phone include posting of personal information, access to inappropriate websites, banking fraud and cyberbullying (Dowell *et al.* 2009, Fogel and Nehmad 2009). The implications of these risks are reflected in SA’s media, as illustrated by numerous cases involving dangerous scenarios such as adolescents who have been abducted, raped or murdered after meeting strangers in online chat rooms. Incidents where school children have recorded each other engaging in sexual behaviours, and sent the recording around the school as well as publishing it on the internet, have also been reported.

Specific traits have been identified, which increase the vulnerability of adolescents to risks online. Among these are a lack of parental bond and high conflict in the living environment, a

previous history of physical, sexual or emotional abuse (Mitchell, Finkelhor and Wolak 2007, Wells and Mitchell 2008), experience of offline harassment or bullying, low self-esteem, a lack of knowledge of online risks, chatting in internet chat rooms, and accessing the internet via the mobile phone (Mitchell *et al.* 2007). Both literature and media reports have suggested that the main cause leading problems online is the adolescents' lack of awareness with regard to the consequences of engaging in risky online behaviour (Burrow-Sanchez *et al.* 2011, Holtz and Appel 2011).

Considering adolescence as a life stage with specific milestones regarding identity, cognitive, and moral development, may help develop an understanding as to how the adolescents participating in this study perceived the uses, risks and moral boundaries regarding mobile phone use.

Adolescent identity development and the mobile phone

During adolescence (12-18 years of age), the most influential relationships are those with partners and friends (Berk 2006). Erik Erikson's Classical Theory suggests that during adolescence, the individual struggles to discover his or her identity, whilst at the same time negotiating with social interactions and trying to "fit in" (Berk 2006). Current day adolescents are technologically proficient, and the internet is integrated into their everyday lives (Seery 2010, Williams and Merten 2008). Mobile phones with access to Social Network Services (SNS) such as Facebook and Twitter, form part of their daily social interactions (Greenhow and Robelia 2009). By implication, their everyday social ventures could then take them into a virtual reality, presenting experiences that evoke responses ranging from resonance, intrigue and excitement; to those that, due to their newness, may cause discomfort and perplexity; and to those that may draw them into delusions concerning a 'world' or a 'life' that is actually entirely unreal and untrue. Adolescents are thus enabled to experiment

with various behaviours, to manipulate the image others have of them, as well as to actively engage in discovering their identity (Greenhow and Robelia 2009, Roesler 2008).

Adolescent cognitive development

Engaging in risky behaviour is considered developmentally “normal” for adolescents (Casey, Jones and Hare 2008, Giedd 2008), and the mobile phone is an ideal instrument for engaging in this type of behaviour. Evidence from numerous studies using Magnetic Resonance Imaging (MRI) scans display the course of brain development during adolescence, and have indicated that there are subcomponents of the brain still undergoing transition during adolescence (Casey, Gets and Galvan 2007). The prefrontal cortex is one of the last regions of the brain to reach maturation. This area orchestrates functions such as impulse control, processing of emotions, future-oriented goal making, distinguishing between what is appropriate or inappropriate behaviour, and delaying gratification (Casey *et al.* 2008). Additionally, during adolescence risk preference and sensation-seeking behaviour increase rapidly, while impulse control behaviours increase slowly (Steinberg 2008, Sustein 2008). This can explain why adolescents behave in ways that may be considered dangerous regardless of the perceived risk (Giedd 2008). Research further shows that adolescents have exaggerated activation of the accumbens response of the brain, which is responsible for “reward anticipation” after engaging in a behaviour that may be risky (Casey *et al.* 2007), meaning that risky behaviour may produce a rewarding sensation in adolescents. Furthermore, an increase of sensation-seeking behaviours is considered common during adolescence due to the increased levels of dopamine (the “feel good” chemical) released into the brain (Steinberg 2008) when partaking in these activities.

Adolescent moral development

It is during adolescence that the neurological development of moral character starts to take shape (Reimer 2003). During this stage, adolescents are actively engaging in their worlds, trying to find an identity for themselves and discovering who it is that they want to become (Hart and Carlo 2005). This is a time of experimentation, where adolescents will inevitably come across situations that require moral judgements to be made. Turiel (cited in Bradley 2005) proposed three domains of judgement: *moral* (rights, justice, issues with serious implications that are universally agreed upon), e.g. the rule that it is wrong to rape; *social* (arbitrary rules, that are authority dependent), e.g. some parents allow their teenagers to engage in social networking and others only allow it at an older age; and *personal*, (depending upon the individual), i.e. outside of social conventions.

Situations such as online behaviour, whether risky or healthy, require coordination from different domains of judgement (Bradley 2005). Depending on the accumulated interpretation of previous interactions within social contexts, information from social and moral domains will be used to guide adolescent decision-making processes (Bradley 2005, Reimer 2003). Thus when faced with a situation, whether online or on the mobile phone, that requires moral judgement, an adolescent considers information from both the social and moral domains when deciding which action to take (Bradley 2005). This is evident when one considers how two adolescents will react differently in similar situations, or how moral beliefs will differ across different societies (Hart and Carlo 2005). The internet, however, is considered a completely separate social context, and therefore has its own rules and etiquette (Bradley 2005). Since interaction takes place in a “virtual world”, adolescent users appear to believe that the consequences of their actions online are not immediate, and therefore the distinction between what is right and what is wrong, is considered flexible. The danger, and therefore

much of the risk, lies in how far the adolescents stretch their moral boundaries in this “virtual world”, and in the consequences that occur as a result.

Method

Participants

The research group was constituted from all ethnic groups within a consenting Johannesburg high school. A total of 33 Grade 10 adolescents responded to a request to anonymously submit a sketch of what they believed risky behaviour using the mobile phone to be. From that group, 12 adolescents consented to participate in a semi-structured interview. Table 1 (below) shows the details of the participants interviewed.

Data collection

An appointment was scheduled with the principal of the school in order to establish her willingness to participate in this study, as well as to explain the objectives of the research. Written consent was obtained for the research to be performed at the school. Learners in all Grade 10 classes were informed of the research project during their Life Orientation class, and a further notice was published in the school newsletter. Learners, if willing, were asked to anonymously draw a sketch or a diagram of what they believed to be risky behaviour using the mobile phone, and to include a sentence beneath the sketch explaining what the drawing depicted. Thirty-three sketches were thus produced. Thereafter, volunteering learners as well as their caregivers gave informed consent for participation in semi-structured interviews. Twelve interviews lasting between 25-45 minutes were conducted and video recorded, focussing on the participants’ perceptions through non-directive questioning. This facilitated the sharing of participants’ experiences and views on the topic of risky behaviour on the mobile phone. The interview data were transcribed for data analysis.

Data analysis

The meanings of the drawings were determined from the content and presentation of the sketches, as well as the text and explanations given on each participant's sketch; enabling the researcher to identify themes. Analysis and interpretation of interviews using thematic analysis included organising raw data and field notes with indexing, coding material, identifying themes, as well as exploring, constructing and describing thematic networks. Data analysis concluded by reviewing themes and relationships found in both sketches and interviews in conjunction with the raw data and correlating findings with current literature.

Results

Table 1 Participant Details

Code	Sex	Age	Race	Hours per day spent on mobile phone	Type of phone
1	F	15	W	4-5	BB
2	F	15	B	4-5	BB
3	M	16	I	4-5	BB
4	M	16	W	2-3	BB
5	F	15	I	2-3	BB
6	M	15	W	1	BB & iPhone
7	F	16	W	4-5	BB
8	F	16	W	4-7	BB
9	M	16	I	2-3	iPhone
10	F	16	I	4-5	BB
11	F	16	W	2-3	BB
12	F	16	W	4-5	BB

Table 1 shows that more girls than boys (8:4) volunteered to participate in the interviews. All the participants interviewed were in possession of a Smartphone, mostly Blackberries (BB) or the iPhone, with one participant owning both a Blackberry and an iPhone. The substantial amount of hours spent daily by each participant on their mobile phone, the most common duration being 4-5 hours, is notable. Although the time was most likely dispersed throughout

the day, it is sure to have had a significant impact on the time and focus spent on other commitments such as homework, and on their opportunities for real as opposed to virtual experiences.

Three broad themes emerged from the analysis: socialising without boundaries, self-expression crossing the line to oversharing, and negotiable moral boundaries.

Socialising without boundaries

All of the adolescents interviewed stated that the mobile phone was their main method of socialising with friends and family. They indicated that they utilised a number of applications to do so, namely: SNS's such as Facebook or Twitter, as well as IMS's such as Blackberry Messenger (BBM), Whatsapp, and MXIT. Using applications such as these, adolescents are able to share photos and videos, as well as to communicate via text messages for a fraction of the cost of sending an SMS or making a phone call. Participants found these methods convenient: *"You can chat... send videos, pictures...you don't have to call them you can just send a voice note"* (Participant 8).

Emphasis was also placed on the importance of owning a mobile phone in order to be socially accepted. This was evident from the following statements: *"This is how we interact now, this is how we communicate, this is how we do everything... to a certain extent, [it is] like our social life"* (Participant 2); [the mobile phone is] *"your gateway to a social life"* and *"people tend to go out with you more if you have social networking"* (Participant 1). It is evident that many of the participants believed that the mobile phone is a status symbol and by *"having a fancy phone...you are popular with the in crowds"* (Participant 4).

All of the participants also mentioned the usefulness of their mobile phone for schoolwork. Sharing photos of homework, voice recording of lessons, researching online for

projects, and class chat groups where teachers would post assignments and reminders, were listed as examples.

Interactions using various mobile applications naturally increase the opportunity to interact with strangers. Participants indicated that many of their peers accept communication from strangers on their SNS's and IMS's services, therefore making many of their personal details available to these strangers if they neglected to use their privacy settings. Participants extended their definitions and understanding of risky behaviour to include both the mobile phone and the computer. Thirteen (39%) of the sketches collected portray communication with strangers online as risky behaviour, and two (6%) sketches show the entering of banking details into pop-up menus and emails as risky (see Figures 1 and 2 below).

Figure 1: An illustration depicting banking fraud on the mobile phone

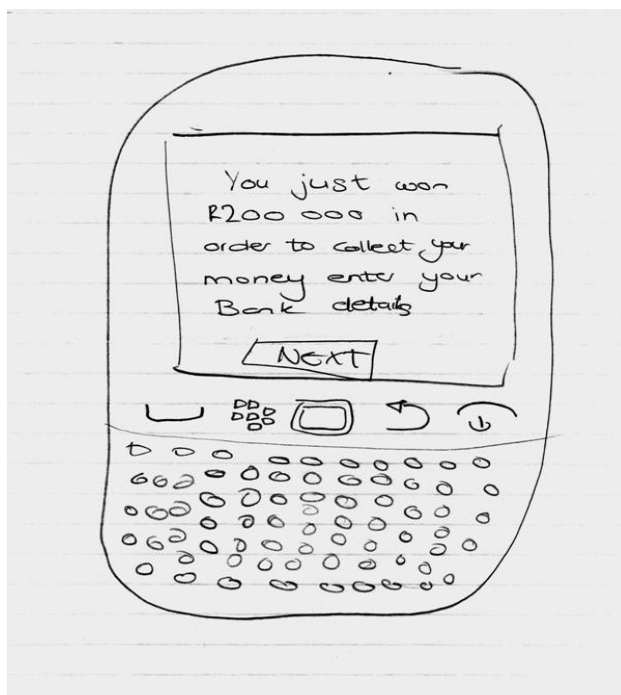
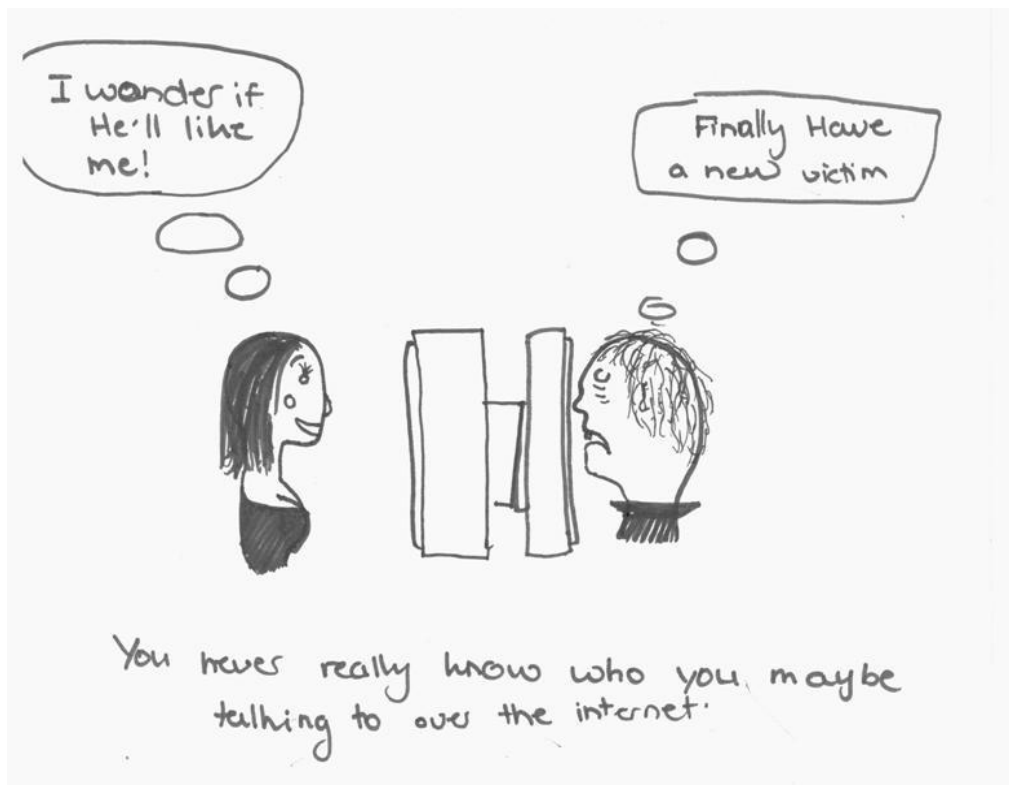


Figure 2: An illustration depicting a dangerous online interaction with a stranger



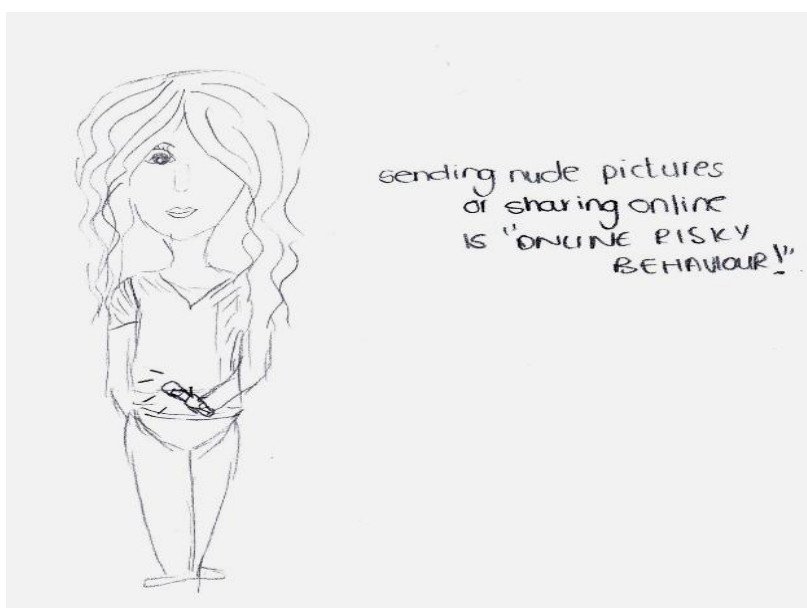
Self-expression crossing the line to oversharing

Participants all mentioned that socialising using a mobile phone entails sharing aspects of themselves with the virtual community; which, in their view, provides a valuable outlet for self-expression and experimentation. Examples given on ways to do this included changing personal statuses to reflect their mood, putting up pictures they liked, as well as posting music or videos onto their profiles. Eleven participants mentioned that they found it easier to express emotions virtually than in real life because *“you can take time to think about what you’re gonna say”* (Participant 1). In the virtual world one is not expected to respond to situations immediately, but is rather given time to formulate answers, unlike in face-to-face communication where conversation happens in real-time. Participants also indicated that when online *“you can create an image of yourself and you can make people see what you want them to see”* (Participant 8), *“[people] create a whole new identity for themselves ...*

they could find a picture online of someone younger...and put it up and [say], oh, that's me..." (Participant 10). One can also mask one's true feelings: *"I could be the most depressed person and post all sorts of happy stuff on Facebook...you can hold back and hide as much as you want... you're holding the reigns"*(Participant 2).

The lack of supervision of these activities, coupled with the amount of control adolescents have online, were noted as being problematic. Incidents of racism, cyberbullying, sharing of pornography, and creating and distributing "slut lists" (lists created, typically referring to girls who are labeled as "sluts", that are sent around via text message and added to according to the opinions of those distributing them) were stated as personal experiences of many participants. Twenty (61%) of the thirty-three sketches portraying a scene of risky behaviour using the mobile phone showed images of a sexual or pornographic nature. These included images of people sending nude images of themselves (see Figure 3), pornographic videos and sexting (sexualised conversation taking place via text messaging).

Figure 3: A participants' interpretation of risky behaviour on the mobile phone



In addition to sexual and bullying behaviour online, participants also indicated that many people share personal details online in a manner that is too free. Providing information such as residential addresses, contact numbers, dates of birth, in conjunction with the ability to virtually “check in” to a location (a feature which then provides an exact Global Positioning System (GPS) /map location of one’s location) were considered risky because they provide information that may be useful to hackers, bank fraudsters, stalkers and paedophiles.

Negotiable moral boundaries

All twelve participants who took part in the interview mentioned an incident in which a female peer had taken a nude photograph of herself on her mobile phone and sent it to a male peer, who subsequently distributed the image around the school. Participants shared the view that it was inevitable that the boy would forward this photograph, and did not appear to see this action as morally wrong. Instead, they spoke critically of the girl saying that she had done it because of: *“a drive inside...competition...you want to be cool”* (Participant 6), *“if they’re not that popular among the guys...they will send it to feel, ‘Maybe he thinks I’m pretty’”* (Participant 8). The general consensus concerning this incident among the male participants was that *“like girls that are on this [slut] list...they deserve it”* (Participant 3), and that the girl would be labelled negatively. Female participants tended to have more sympathy for the girl in this incident, and noted a damaged reputation as a consequence. They did, however, state that it was a “stupid” thing to do.

Four participants indicated a difference in perception of the sexes after participation in a risky behaviour such as this. They were of the opinion that a boy’s reputation was generally unharmed or enhanced while a girl’s reputation was damaged following an incident such as this. Only one participant thought that there was no difference at all between the perception of boys and girls who participate in risky behaviours. Seven participants noted that both boys

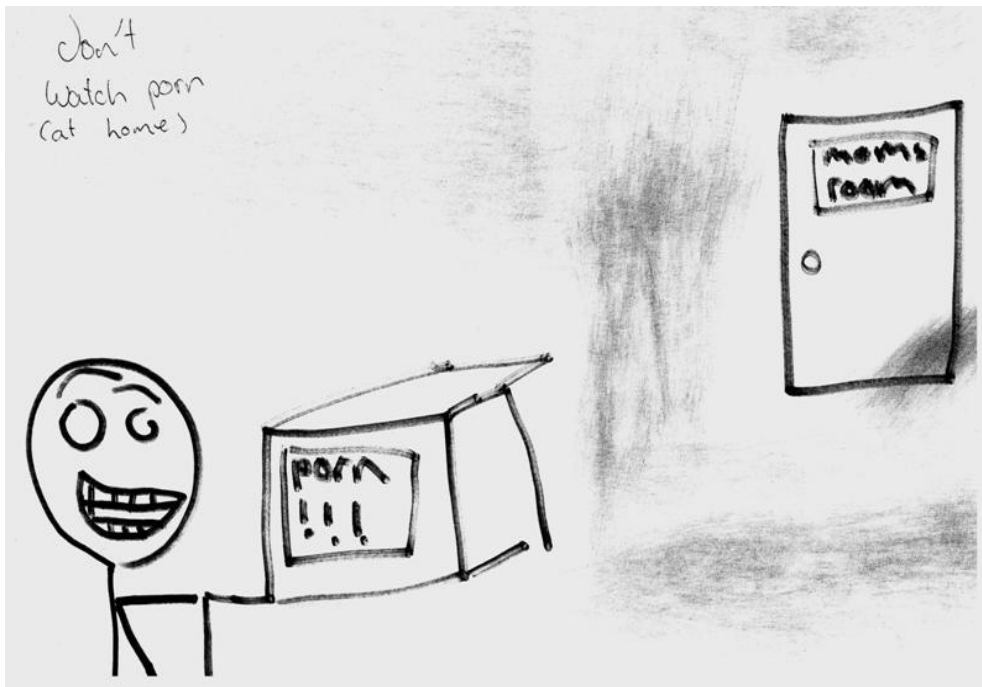
and girls were trying to portray a desired image to the opposite sex when engaging in this kind of risky behaviour. Boys try to portray a “tough guy” exterior by sending videos of fights at school, or sexual material in the form of images or videos; whereas girls portray sexual attractiveness by sending seductive photos or videos of themselves.

The participants interviewed in this study seemed to have a negotiable set of morals when it came to their own actions as well as the actions of others using the mobile phone, and in judging these actions as right or wrong. Racism was brought up by eight participants as a regular occurrence on various mobile applications. Participant 1 spoke of incidences of racism on a SNS, which sometimes caused offence and sometimes amusement: “*He had a picture of a man burning away the Israeli flag and another person had the Nazi sign*”. Racist profile pictures, statuses and videos were named as the reasons for the start of many fights at the school.

Participants noted that the spreadability of the material made it nearly impossible to remove once it was online, and impossible to remove from others who already had it on their phones. As indicated by Participant 7, “*It’s out there, you can’t really take it back. It’s not like [giving] a picture to a friend and then you can take the picture back, it’s on the internet it’s there for good*”. This was a point brought up by all the participants, and yet they did not consider the forwarding of that material as risky.

A few participants were aware of methods of hiding information on their mobile phones; either from their parents, or from others (see figure 4), and stated that, “*most parents don’t even know how to use a phone*” (Participant 3). It was explained how one can create passwords, hidden folders, and change the names of applications so that parents would not be suspicious when monitoring their phones. Amongst other things hidden, participants mentioned illegal downloads of movies, series, and music being hidden in various folders of their phones.

Figure 4: Hiding behaviour from parents



Discussion

It must be acknowledged that the sample chosen for the present study is not entirely representative of the SA adolescent population. SA is diverse in terms of cultures, languages and regions, and the sample did not represent these factors. The present study also focussed only on certain aspects of the mobile phone relevant at the time of the study. Since mobile technology is constantly changing, future research should focus on new and alternative emerging mobile technologies. This study could, however, make some contribution to research on mobile phone use by adolescents, as prior to this study these issues had only been researched to a minor extent in SA. Specifically, this study provides valuable, thought provoking information on the matters of risky and healthy mobile phone use by high socio-economic status adolescents in SA. This study could be utilised as a pilot study for future research among differently constituted samples of adolescents.

In the sub-sections to follow, each theme identified in the data is discussed separately with reference to verification from research literature. Finally, a brief synthesis of the findings is drawn as well as a conclusion.

Socialising without boundaries

The consensus widely held regarding the central position of the mobile phone in maintaining an adolescent's social life, and contributing to a sense of "belonging" among peer groups (Porter *et al.* 2012, Syed and Nurullah 2011, Walsh *et al.* 2011) is consistent with participants' perceptions in this study. The popular features of the mobile phone are valued as useful to adolescents (Davie, Panting and Charlton, 2004). The great amount of time participants spent on their mobile phones (Table 1) further confirms the major role mobile phones play in their lives. The 'triple A engine' discussed by Cooper *et al.* (2001) reflects the popularity of online interaction due to ease of *accessibility*, and *affordability* of services or interactions online, and the possibility of *anonymity*. Participants acknowledged ease of access to the internet and affordability as part of the appeal of using a mobile phone. However, *anonymity* was mentioned as a risk, rather than a benefit.

Interacting with strangers or anonymous persons online was duly recognised as a possible mobile phone risk, due to the possibility of a stranger concealing his or her true identity, which is in concordance with Mitchell *et al.*'s (2007) observation, that it is extremely easy for predators or paedophiles to conceal their true identity online. This scenario was portrayed in thirteen (39%) of the sketches, and was mentioned by all the interview participants, but none admitted to having experienced such situations themselves.

Self-expression crossing the line to oversharing

Participants enjoyed activities on their mobile phones that enabled them to self-express by sharing their thoughts via their personal statuses, as well as through the posting of pictures, videos and music on their mobile phones. This is in agreement with the views of Davie *et al.* (2004), as well as Williams and Merten (2008). Participants also indicated that the ability to control the parts of oneself one opted to share with others, and which parts not to share, appealed to them. This, in terms of posing as someone else, could entail anonymity. However, apart from anonymity, it also provides the ability to manipulate the view others have of one, and thus has an element of inauthenticity. The activities listed by participants, such as manipulating photos to a desired image, and status changes on applications of the mobile phone, enable adolescents to experiment with, and explore different roles as proposed by Erikson's developmental theory (1974 cited in Thom and Coetzee 2004).

Incidents discussed by participants such as sending around "slut-lists" or nude photographs, making racist comments, and teasing others online, are described by Nicol and Flemming (2010) as *cyberbullying*. However, whilst describing these incidents, none of the participants specifically used the term *cyberbullying*. Risky behaviours on the mobile phone, such as cyberbullying, can take place perpetually throughout the day, and create permanent, irremovable damage (Raskauskas and Stoltz 2007). The spread-ability of these transgressions, as well as anonymity of the transgressor, were recognised by participants. Participants furthermore all displayed an awareness of the dangers postulated by Mitchell *et al.* (2007), of posting personal information such as residential addresses, contact numbers, dates of birth, and personal or nude photographs online. Participants were aware of all these online dangers, as well as of the privacy settings available to safeguard against this. Nevertheless, a high rate of participation in such risky behaviours was still reported by many participants.

Negotiable Moral Boundaries

The explanations offered by participants for why their female peer had sent a nude photograph of herself to their male peer, are in line with Steinberg's (2008) explanation of sensation-seeking during adolescence. By sending the nude photograph (risky behaviour), a novel and pleasurable sensation (popularity) would assumedly be experienced. Participants' admissions of attempting to portray a desired image to others are indicative of sensation-seeking, in that adolescents seem to wish for the acceptance and approval of their peers. Previous studies have not focussed on gender differences in terms of the perceived reputation of the person (male or female) engaging in risky behaviour using the internet or mobile phone. This study found that girls may be discriminated against more than boys when engaging in risky mobile phone behaviour. This may be due to the different pressures that exist for girls and for boys regarding appearance and attractiveness, and, as pointed out by participants, a boy who sends a risky image may have an unharmed or enhanced reputation, whereas a girl's reputation would be damaged by doing so. Nicol and Flemming (2010) indicate that girls are statistically more likely to display aggressiveness verbally, and to bully via text attacks, and that boys tend to be more physical in displaying their aggression. Although the present study found that both girls and boys participated in text attacks, the indication that boys tend to send around videos of involvement in physical fights, may confirm that boys are more physical in their displays of aggression.

Considering the *moral* and *social* domain judgements proposed by Turiel (cited in Bradley 2005); the *moral* domain could involve an individual's consideration of the implications of risky behaviour, such as possible suspension from school, punishment from parents, or even jail persecution in extreme cases (such as possession of child pornography). The *social* domain judgements would entail individuals taking actions that they feel are expected of them by authorities, teachers and parents. Participants indicated, like Davie *et al.* (2004), that

the mobile phone can be used anywhere, at any time, and without the supervision of adults or caregivers and indicated that there are tricks one can use to hide information from authority figures. Participants in the present study admitted that they did indeed hide information from authorities such as their parents and their school. This indicates awareness that certain actions may be considered wrong, yet participants continued to do these in secret. Furthermore, participants seemed to display an expectation to forward the nude photograph to their peers, which could indicate the presence of peer reinforcement. In terms of age-restricted content, certain participants made mention of access to pornographic content through the internet browser of their mobile phones, but no mention was made of violent content, such as websites on self-harm and bomb-creation as a risk. This could perhaps be due to participants not accessing websites such as these, or not believing that accessing these websites posed a risk.

Participants therefore appeared to be aware of both risks, and moral values, and yet did not directly feel the consequences of their actions. This is possibly because the individuals who forwarded the nude images of their peers could not be traced. Rather, there seemed to be a feeling of excitement and scandal when forwarding these images and talking about them to the researcher, accompanied by an attitude that the girl deserved the consequences of her actions.

Synthesis

The objective of this study was to explore perceptions of adolescents concerning risky behaviours using their mobile phones. Adolescents were found to be fully aware of the risks that exist in interactions using their mobile phones, and yet they continued to engage in such behaviours. The developmentally grounded factors of social pressure, sensation-seeking and

negotiable moral boundaries, as well as the lack of adequate supervision and immediate consequences, were found to contribute to their continued engagement in risky behaviours using the mobile phone. It was also found that the mobile phone could not be withheld from the adolescent as it forms an important part of their social life and identity. The mobile phone can be a positive and enriching instrument in an adolescents' life, and yet it can just as easily become an instrument for behaviours containing a serious degree of risk.

It remains to be elucidated how best to effectively control the risks taken by adolescents when using mobile phones. Noting the knowledge of the participants, there does not seem to be a need for more education on the risks, and neither would disciplinary measures, nor moral education seem to provide a solution at this stage of development. There is a need for more guidance at a practical level, into the *consequences* of participation in these behaviours, which begs the lasting question as to how such guidance could be presented most effectively during this stage of adolescence. The lack of supervision and knowledge of mobile phones, and its capabilities, by parents and authority figures was found in this study to contribute to continued engagement in risky behaviours by adolescents. The starting point could thus possibly be for authority figures to better educate themselves in this regard, so as to provide this essential guidance to adolescents.

Conclusion

This study must be considered as a preliminary investigation. Future research could focus on using a more demographically representative sample in different regions of SA, by sampling varying age groups, as well as schools of varying socio-economic statuses. Finally, adolescent perceptions of the advantages of the mobile phone could be focussed to a greater

extent, since this study found that there are many advantages of using a mobile phone, and the risks cannot accurately be looked at in isolation.

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Section C: Reflection on the study

1 Brief Overview

This study aimed to explore and describe adolescent perceptions of risky online behaviour using the mobile phone. The following research questions were formulated to achieve this aim:

- What are adolescents' perceptions of risky online behaviour using the mobile phone?
- What do adolescents who have experienced risky behaviour on the mobile phone perceive it to be?

These research questions were addressed by conducting research on Grade 10 learners at a Johannesburg high school. Thirty-three learners anonymously submitted sketches on what they believed risky behaviour on the mobile phone to be. From that group, twelve learners together with their caregivers gave informed consent to participate in one-on-one semi-structured interviews. This section consists of the findings of the research in addition to those presented in the article in Section B, a synthesis of all the findings, consideration of the strengths and limitations of the study, the implications of the findings for practice, recommendations for research, and a final conclusion.

2 Additional Findings

The focus of this study was on assessing adolescent perceptions of risky behaviour using the mobile phone, and the article duly presents and discusses the findings in that regard. It must be noted, however, that perception of risk does not give the entire picture of adolescent perceptions, neither does it, by implication describe their full use of their mobile phones. The

participants also briefly shared their views on the behaviour on the mobile phone that they found to be beneficial and “healthy”.

2.1 Beneficial uses of the mobile phone

All the participants that were interviewed made numerous positive remarks regarding their mobile phone use. Participants indicated that they had used the mobile phone on several occasions to help them with school-work, listing research using Google, using online dictionaries, and downloading images and information for school projects as some of the beneficial uses of their mobile phones. Participants further mentioned the usefulness of the camera on their phones to take photographs of teachers’ notes on the board, and of the voice notes recorder to record lessons. As indicated by Participant 6, *“If you are absent you can find out what work you missed via your cellphone and it’s very helpful”*. Participants also noted that certain teachers are available on group chat forums through Blackberry Messenger or Whatsapp, and they found this to be useful *“for like asking them if this is right or you know, just asking questions. And they sometimes, they have a group like the class has a group including the teacher, and then she will remind you that your assignment is due tomorrow...”* (Participant 2).

2.2 Healthy behaviour begins with moderation

Participants’ main use for their mobile phones was to connect with peers socially, and they believed this could generally be seen as healthy use of their mobile phone. The key, they stated, was to not overindulge and isolate oneself from real life interaction. Participant 3 indicated that healthy behaviour is *“using the phone for what it’s intended for, communicating, downloading music, you’re moving with the age and that’s good ... just everything in moderation”*. Other participants expressed similar sentiments, indicating that most behaviour, such as socialising on the phone, accessing social networks, sharing

photographs, and using the phone for school work, are considered healthy when done in a controlled and moderated setting. Being cautious was mentioned in this regard, as knowing what to post online and what not to; as well as being aware that once something was posted online it would be available to all contacts. *“What else can you do? Don’t upload stuff that you don’t want people to see! If you are that worried about people seeing, then don’t upload it and don’t put it out there”* (Participant 7). A general consensus amongst participants was that adolescents should be trusted by parents to take correct action on their mobile applications. *“They [parents] did not have anything against us getting Facebook. They know we are at an age where we want to communicate with our friends and we want to, like, interact with them. But they also know that we are mature enough and we understand enough to know that you don’t speak to people you don’t know and you don’t upload pictures like that and stuff and you don’t put stuff out there that you would not want to be out there...”* (Participant 7). This finding, however, is in direct contradiction with another finding reported in this study: that participants were aware of means of hiding information from their parents. This contradiction once more emphasizes that adolescents’ moral boundaries are negotiable. Participants wanted to be trusted by their parents, assuring the researcher that they were cautious mobile phone users, and yet made note that they hide certain interactions from their parents.

3 Synthesis

The objective of this study was to explore perceptions of adolescents concerning risky behaviours using mobile phones. Findings revealed that all the participants consider the mobile phone to be an integral part of their social lives. They indicated that the variety of different applications available on the mobile phone enabled them to communicate instantly,

affordably and conveniently. Cooper et al. (2001) proposed the “triple-A model”, indicating that *affordability*, *accessibility* and *anonymity* are reasons for popularity of internet interactions. This study’s findings indicate that participants, in both sketches and interviews, believe “*anonymity*” to be a risk rather than an attraction, as it may lead to interactions with strangers and persons who have unsolicited, ill intentions.

Participants indicated the benefit of using their mobile phones for their school work, as a means to search the internet, as well as take photos and recordings of class-work. The use of these technologies for school work could be indicative of the present research being conducted in a high socio-economic status (SES) group. However, literature has shown that adolescents from a lower SES background also use their mobile phones to access academic information as it is not only more affordable, but it also allows the benefit of easier accessibility to all the information the internet has to offer (Napolitano, 2010). Participants in the present study had full access to, and owned, sophisticated phones; whereas adolescents from lower SES groups, and indeed a majority of the adolescent population of SA, may not have access to this privilege and are more likely to share one phone amongst all members of their family (Swanepoel & Thomas, 2012). Other attractions of the mobile phone indicated by participants included the active engagement in activities that allow for self-expression. Sharing thoughts, images, videos and music enable participants to share parts of themselves with online communities. The participants indicated that they enjoyed the ability to have control over what they share with others and what they choose not to. The works of Erik Erikson (cited in Thom & Cotzee, 2004) indicate that this type of self-expression and experimentation with identities is consistent with the developmental tasks of adolescence. Healthy behaviour, according to participants, included knowing how much information to post, and using the mobile phone for what it is intended for (i.e. communication). However, participants did not extend their definitions of healthy behaviour to include moderate use of

the mobile phone on a daily basis. The findings of this study show that participants spent an average of 4-5 hours daily on their mobile phones. This is not considered to be moderate, and in fact borders on excessive use. According to Swanepoel and Thomas (2012), excessive mobile phone or internet use alone does not predict an addiction. Specific risk factors such as loneliness, introversion and depression predispose the mobile phone user to become an addict (Ha, Chin, Park, Ryu, & Yu, 2008). Since this study did not explore those risk factors, it cannot be said that any participants were addicted to their mobile phones, but only that they reported using their phones excessively.

Harmful situations among peers, and in the virtual community were also mentioned by participants. Participants indicated numerous incidents of cyberbullying (although that term was not explicitly used), where peers made racist comments about others online, created and distributed demeaning lists such as “slut-lists” and “ugly-lists”, and did the same with offensive or nude photographs of peers. Participants were quite thorough when listing behaviour that they believed posed a risk. The importance of not sharing too much personal information of any kind via mobile applications was specifically emphasized. Participants indicated that sharing one’s address, phone number, and personal or intimate photographs and videos was risky behaviour. Participants struggled, however, to distinguish moral boundaries with behaviour regarding what was considered “acceptable” or “unacceptable” in differing contexts. Thus, when considering different situations of moral conduct on their mobile phone interactions, their moral boundaries appeared to be negotiable.

Davie et al. (2004) state that the mobile phone can be used anywhere, at any time, without the supervision of adults and caregivers. Participants’ desire to be trusted with their mobile phones was contradicted by the statements that they made indicating that they knew of methods to hide information from their parents. Much of the relevant literature has suggested that adolescents’ lack of awareness with regard to the consequences of engaging in risky

behaviour on mobile phones is the main cause leading to such behaviour (Burrow-Sanchez et al., 2011; Holtz & Appel, 2011). However, the present study's findings show that although the participants knew and understood the risks that exist in virtual mobile interactions, this did not stop them from engaging in these risky behaviours. Rather, they believed that the danger lay mainly in being caught by authorities and parents. Participants also indicated that much of the risky behaviour was performed in order to achieve a desired sensation, such as popularity or attractiveness. There therefore seems to be no need for more education on the risks, and neither would disciplinary measures nor moral education seem to provide a solution to the problem at this stage of development. The starting point could possibly be for authority figures to better educate themselves in this regard, so as to provide essential guidance to adolescents.

4 Strengths and Limitations of the Study

4.1 Strengths

This study produced rich data, which was corroborated through the interviews of the various participants, and further enhanced by the sketches produced, so that much consistency was evident in the data. The researcher was rigorously reflexive in her interviewing in such a manner that created a relationship of trust, thus contributing to the authenticity and truth of the data collected. Furthermore, careful systematic data analysis was implemented within and across the data sets of the sketches and interviews, enabling crystallisation of the themes. In SA, there has been little focus on research regarding adolescents' mobile phone use, and specifically the risks involved. This study has made some contribution to this field. It provides a preliminary view on SA adolescents' mobile phone use by indicating incidences of cyberbullying, online harassment, and excessive mobile phone

use, as well as adolescent perceptions of these behaviours. This research has also indicated the healthy and safe uses of adolescents' mobile phones. This study has further indicated how high SES learners can utilize their mobile phones at school in a positive manner to assist with work in terms of research, taking down notes, and recording lessons.

4.2 Limitations

This study made use of semi-structured interviews, which are known to elicit rich and authentic descriptions from participants. However, the truthfulness of certain responses could be questionable due to their personal nature. Furthermore, the small sample size (12 participants), uneven composition (8 females and 4 males), and limited age distribution (15 to 16 year olds) do not make it possible to generalise the results to the entire SA adolescent population. SA is diverse in terms of geographic and demographic regions, cultures, languages and races, and it would be difficult to study a sample which accommodates this diversity accurately. This study was also conducted at a private school with participants of high SES. All participants either owned a Blackberry or an iPhone, and one participant owned both, which is not comparable with the vast majority of SA adolescents. This study would have benefited from research being conducted at more than one school, but this was not possible due to time constraints. Finally, an analysis of the sketches as projections would, by its greater depth, have added to the value of the data. However, this fell outside of the scope of the study.

5 Implications of the Findings

This study has provided a preliminary understanding from which other South African researchers may embark on further research regarding adolescent mobile phone use; its risks, benefits, and implications on development. It has provided notable insights into the role that

the mobile phone plays in SA adolescents' lives. Of particular concern is the amount of time adolescents in this study reportedly spent using the mobile phone. There is strong evidence that adolescents, being proficient in the use of mobile technology, are cognisant of the risks and dangers that exist on their mobile devices. They are, however, still prone to engage in risky behaviour, in order to achieve the pleasurable sensations experienced when engaging in such behaviour. Participants' statements regarding their ability to safely use their mobile phones, as well as their plea to be trusted, directly contradict their statements that many of them hide certain information and interactions from their parents. This finding suggests that adolescents' moral consideration when engaging on the mobile phone is negotiable.

With regards to parents, educators and other individuals who work with youth, this study has served to provide information and insights into adolescent perceptions, uses, and behaviour on mobile phone interactions. It can therefore aid in educating adolescents on safer mobile phone usage, as well as shed some light for parents and individuals working with adolescents, on the dangers that may exist during mobile phone interactions. This may provide these individuals with an incentive to better educate themselves so that they may guide and monitor their children or students in future interactions. Further, this study also demonstrated that the mobile phone can be used as a valuable learning tool, as well as a means to provide outlets for interaction and self-expression for learners. Hence the beneficial, rather than the risky uses of the mobile phone should be encouraged.

6 Recommendations for Research

Very little research has been done within the SA South African context on the subject of adolescent mobile phone use, the advantages and the risks. Future research could focus on various varying age groups, various varying cultural groups, and using examining varying

schools and different SES brackets. Research on different types of media platforms used in different SES groups may also be useful in future. Finally, development of technology and social media platforms, are continually changing. For example, Twitter is gaining popularity whilst Facebook is decreasing in popularity and various new Social Networking Sites have been introduced. Therefore, research using the various media platforms that are popular at the time would be beneficial. Addressing the above-mentioned suggestions with specific regard to adolescents' usage of the mobile phone will be beneficial. In addition to this, research into parents' and teachers' awareness of the above-mentioned suggestions may also prove valuable.

7 Conclusion

Technology, and specifically the mobile phone, has become an integral part of adolescents' daily lives, and as time progresses this integration will certainly increase. There are many benefits to using a mobile phone, yet there are equally as many risks. It was found that adolescents have an awareness of the risks that are present online, as well as of preventative measures that can be taken in order to avoid the harm that these risks may cause. Adolescents continue to engage in risky behaviour however, because they feel a rewarding sensation whilst doing so. Furthermore, adolescents are aware of ways in which they can hide information and online interactions from parents and caregivers in order to avoid being reprimanded. It may therefore be beneficial for parents and caregivers to educate and immerse themselves in the virtual mobile world within which adolescents communicate, in order to better monitor and guide adolescents and children.

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APPENDICES

Appendix A: Schedule for the semi-structured interviews

<u>Probes</u>	<u>Interview topics to cover</u>
FOR CLARITY/SPECIFICITY • Can you be more specific? • Can you tell me more about that? • What is your best estimate? • What do you think? • Which would be closer? • Which answer comes closest to how you feel/think? • If you had to pick one answer, what would you choose?	1. Tell me about the role of the cell phone in a teenagers' life. (What does having a cell phone mean to you?) a. What are the main uses for your cell phone? b. Can you give me an example of what your phones features enable you to do? c. What is the specific term you would use for that? 2. What are the typical behaviours that you think take part in through these mentioned apps? 3. Explain what your understanding of risky online behaviour and healthy online behaviour is. a. Can you give me examples of risky and healthy online behaviour? b. If these are considered risky and known to be, why do you think ppl take part in it?
FOR COMPLETENESS: • Anything else? • Tell me more. • Has anything similar happened to you?	4. What are the consequences for people who would take part in this kind of risky online behaviour? a. How would this affect how others such as friends and peers would see you? 5. What is your understanding of privacy settings on some of these apps? a. E.g. Facebook, Twitter, Mxit b. Can you give me examples of settings where you would think privacy settings are necessary?
OTHER PROBING TECHNIQUES: • Repeat the question • Echo their response • Pause a second • Baiting	

Appendix B: JCAMH Instructions to authors

JOURNAL OF CHILD & ADOLESCENT MENTAL HEALTH

Instructions to authors

Each issue of the Journal contains several different types of contribution: original research papers (including brief reports (<2 000 words)); review papers (to be limited to 4 000 words, unless by special arrangement); clinical perspectives; book reviews; and editorials. We welcome contributions for all of these sections of the Journal.

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Manuscripts: Manuscripts should be submitted in English. They should be typewritten and double-spaced, with wide margins and saved in MSWord format. Manuscript submissions should be made online at the *Journal of Child & Adolescent Mental Health*, ScholarOne Manuscripts site (<http://mc.manuscriptcentral.com/rcmh>). New users should first create an account. Once a user is logged onto the site submissions should be made via the Author Centre.

Layout: A most recent issue of the *Journal of Child & Adolescent Mental Health* should be consulted for general layout and style.

Manuscript format: All pages must be numbered consecutively, including those containing the references, tables and figures. The typescript of manuscripts should be arranged as follows:

Title: This should be brief, sufficiently informative for retrieval by automatic searching techniques and should contain important keywords (preferably <10 words).

Author(s) and address(es) of author(s): The corresponding author must be indicated. The authors' respective addresses where the work was done must be indicated. An e-mail address, telephone number and fax number for the corresponding author must be provided.

Abstract: For data-based contributions, the abstract should be structured as follows: *Objective* — the primary purpose of the paper, *Method* — data source, subjects, design, measurements, data analysis, *Results* — key findings, and *Conclusions* — implications, future directions. For all other contributions (except editorials, letters and book reviews) the abstract must be a concise statement of the content of the paper. Abstracts must not exceed 200 words. It should summarise the information presented in the paper but should not include references.

Headings: Use sentence case for the title, and any headings in the manuscript. Format headings in the following style: **First Level heading. Second level heading. Third level heading.**

Referencing:

References in text: References in running text should be quoted as follows: Louw and Mkize (1990), or (Louw 1990), or Louw (1990, 1991a, 1991b) or (Louw and Mkize 1992), or (Mkize 1990, Louw and Naidoo 1993). For up to three authors, all surnames should be cited the first time the reference occurs, e.g. Louw, Mkize and Naidoo (1990) or (Louw, Mkize and Naidoo 1990). Subsequent citations should use *et al.*, e.g. Louw *et al.* (1990) or (Louw *et al.* 1990). For four or more authors, cite only the surname of the first author followed by *et al.* and the year, for the first and subsequent citations. Note, however, that all authors

are listed in the Reference List. 'Unpublished observations' and 'personal communications' may be cited in the text, but not in the reference list. Manuscripts accepted, but not yet published, can be included as references followed by 'in press'.

Reference list: Full references should be given at the end of the article in alphabetical order, using double spacing. References to journals should include the authors' surnames and initials, the full title of the paper, the full name of the journal, the year of publication, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated. References to books should include the authors' surnames and initials, the year of publication, the full title of the book, the place of publication, the publisher's name. References should be cited as per the examples below (refer to **Reference Exemplars for Authors: format and style considerations** available on the Journal's Instructions to Authors page at www.nisc.co.za/journals?id=4 for more examples):

Haynie DL. 2000. *The peer group revisited: a network approach for understanding adolescent delinquency*. PhD thesis, Pennsylvania State University, Pennsylvania, USA.

Louw J. 1990a. Comorbidity of conduct and anxiety disorders. *Southern African Journal of Child and Adolescent Psychiatry* 5: 43–51.

Louw J, Mkize AC, Naidoo DH. 1990. Cultural disorders. In: Isaacs S (ed.), *Psychiatric disorders in South African children*. Cape Town: Juta & Co. pp 84–96.

McRoy RG, Grotevant HD, White KL. 1988. *Openness in adoption: new practices, new issues*. New York: Praeger Publishers. PRB (Population Reference Bureau). 2002. Unpublished fact sheet. Available at http://www.prb.org/content/navigationMenu/Other_reports/2000-2002/sheet1.html [accessed 22 February 2002].

Tables and figures: Each table and figure must be numbered with Arabic numerals and must be accompanied by an appropriate stand-alone caption. Tables and figures must be formatted to fit the page vertically with a printed width of 140 mm. Tables may include up to five horizontal lines but no vertical lines. Figures must not repeat data presented in the text or tables. Authors must ensure that their figures conform to the style of the journal. Pay particular attention to line thickness, font and figure proportions, taking into account the Journal's printed page size. Costs of redrawing figures may be charged. Please refer to **Figure Guidelines for Authors: format, style and technical considerations** available from the Journal's Instructions to Authors webpage at www.nisc.co.za/journals?id=4. For digital photographs or scanned images the resolution should be at least 300 dpi for colour or greyscale artwork and a minimum of 600 dpi for black line drawings. These can be saved (in order of preference) in PSD, JPEG, PDF or EPS format. Graphs, charts or maps can be saved in AI, PDF or EPS format. MS Office files (Word, Powerpoint, Excel) are also acceptable but DO NOT EMBED Excel graphs or Powerpoint slides in a MS Word document, rather send the original Excel or Powerpoint files. More detailed technical information is given in **Figure Guidelines for Authors**.

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Appendix C: Consent Forms

NORTH-WEST UNIVERSITY

POTCHEFSTROOM CAMPUS

SCHOOL CONSENT TO CONDUCT RESEARCH

Title of the Research: **Exploring grade 10 learners' perceptions of risky online behaviour using the mobile phone**

Grade 10 learners, who use mobile internet and attend a Johannesburg High School, are asked to participate in a research study conducted by Natalie De Gouveia MA (Psychology), from North-West University, Potchefstroom Campus. The results of this study will be in fulfilment of an MA degree in psychology.

1. PURPOSE OF THE STUDY

The research goal is to explore and describe what grade 10 learners perceive as risky online behaviour using the mobile phone.

2. PROCEDURES

The Grade 10 learners, who have volunteered to participate in this study, will be asked to participate in one-on-one interviews which will help enhance the researcher's understanding of learners' perceptions of risky online behaviour and the use of mobile internet as means of engaging in it. The interviews will be on a one-on-one basis and last about 1 hour and be held at the school premises or where decided to be most convenient. Participants will be asked to share in a discussion surrounding their perceptions of risky online behaviour and the use of a mobile phone to engage in it. All interviews will be video recorded, transcribed, and all data will be stored in a safe place and will only be accessible to the researcher. In addition, feedback will be provided on request.

3. POTENTIAL RISKS AND DISCOMFORTS

Participants will not be exposed to any unnecessary risk. The study will be using one-on-one interviews to ensure that participants feel comfortable sharing their perceptions of risky online behaviour using the mobile internet. This may cause some discomfort when sharing information, but it is each participant's choice what to share with the researcher. If a participant feels uncomfortable during the interview because of emotional discomfort, the interview will be stopped. Participants do not have to answer all of the questions and may choose to stop participating in the research at any time. The researcher will be available to address any queries, issues and concerns as well as provide participants with necessary support in the form of recommendations, information or referrals to the school psychologist (if necessary).

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no immediate direct benefits expected from this research. However, by investigating adolescents' perceptions of risky mobile online behaviour, a broader and more realistic understanding of adolescent's awareness regarding risky online behaviour may be provided. It may also provide information and recommendations for adolescents, parents, teachers and counsellors regarding the risks that exist on mobile internet and safer usage thereof.

5. PAYMENT FOR PARTICIPATION

The participants and the Johannesburg High School will not be paid for participating in this study neither will a payment be required to participate in this study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with the Johannesburg High School will remain confidential and will be disclosed only with the school's permission or as required by law. Confidentiality will be maintained by means of using pseudo names for each participant for the duration of the study to ensure that they are not identifiable. All data will be labelled with pseudo codes and stored in a locked filing cabinet or on the researchers PC that is protected by a password only known by the researcher.

The researcher's supervisor, external examiners and the university that the researcher is associated with will have access to the information, however no identities of the research participants will be revealed.

Interviews with the participants are to be video recorded, for reference purposes and will be destroyed once the research is complete. The participants have the right to review/edit the tapes.

The final research report, using pseudo names, will be published at the North-West University, Potchefstroom campus.

7. PARTICIPATION AND WITHDRAWAL

The volunteering grade 10 learners can choose whether to be in this study or not. If they choose to be part of this study, they may withdraw at any time without any consequences. They may also refuse to answer any questions and still remain in the study. The researcher may withdraw a participant from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Natalie De Gouveia (student) by telephone (083 357 7660) or email (natsdg@hotmail.com), or Colleen Potgieter (research supervisor) by telephone (082 338 5900).

9. RIGHTS OF RESEARCH SUBJECTS

The volunteering grade 10 learners may withdraw their consent at any time and discontinue participation without penalty. They are not waiving any legal claims, rights or remedies because of their participation in this research study. If they have questions regarding their rights as a research participant, contact Colleen Pogieter (082 338 5900).

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to [me / the subject/ the participant] by Natalie De Gouveia in English and [I am/the subject is/the participant is] in command of this language or it was satisfactorily translated to [me/him/her]. [I/the participant/the subject] was given the opportunity to ask questions and these questions were answered to [my/his/her] satisfaction.

[I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study.] I have been given a copy of this form.

Name of Participating School

Name of Legal Representative (Headmaster)

Signature of Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____
[*name of the subject/participant*] and/or [his/her] representative _____
[*name of the representative*]. [*He/she*] was encouraged and given ample time to ask me any
questions. This conversation was conducted in English and [*no translator was used/this*
conversation was translated into _____ by _____].

Signature of Investigator

Date

NORTH-WEST UNIVERSITY

POTCHEFSTROOM CAMPUS

PARENTAL CONSENT TO CONDUCT RESEARCH

Title of the Research: **Exploring grade 10 learners' perceptions of risky online behaviour using the mobile phone**

Your child has been asked to participate in a research study conducted by Natalie De Gouveia MA (Psychology), from North-West University, Potchefstroom Campus. The results of this study will be in fulfilment of an MA degree in psychology

1. PURPOSE OF THE STUDY

The research goal is to explore and describe what grade 10 learners perceive as risky online behaviour using the mobile phone.

2. PROCEDURES

Your child has been selected to participate in this study and should he/she choose to participate, he/she will be asked to participate in a one-on-one interview, which will help enhance the researcher's understanding of learners' perceptions of risky online behaviour and the use of mobile internet as means of engaging in it. The interviews will be on a one-on-one basis and last about 1 hour and be held on the school premises or where decided to be most convenient. Your child will be asked to share in a discussion surrounding what he/she perceives of /views as risky online behaviour and the use of a mobile phone to engage in it. All interviews will be video recorded, transcribed, and all data will be stored in a safe place and **will only be accessible to the researcher**. In addition, feedback will be provided to you and your child before the final report is published.

3. POTENTIAL RISKS AND DISCOMFORTS

Your child will not be exposed to any unnecessary risk if he/she participates. The study will be using one-on-one interviews to explore your child's perceptions of risky online behaviour using the mobile internet. This may cause your child to feel some discomfort when sharing information, but it will be your child's choice what he/she does and does not want to tell the researcher. If your child feels uncomfortable during the interview because of emotional pain, the interviews will be stopped and the researcher will organize for your child to receive the necessary support. Your child does not have to answer all of the questions and he/she may choose to stop participating in the research at any time. The researcher will be available to address any queries, issues and concerns as well as provide your child with necessary support in the form of recommendations, information or referrals to the school psychologist (if necessary).

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no immediate direct benefits expected from this research. However, by investigating your child's perceptions of what they believe risky online behaviour is, a broader and more realistic understanding of adolescent's awareness regarding risky online behaviour may be provided. It may also provide recommendations for adolescents, parents, teachers and counsellors regarding the risks that exist on mobile internet and safer usage thereof. Your child will also be provided with the opportunity to be heard and understood.

5. PAYMENT FOR PARTICIPATION

Your child will not be paid for participating in this study, nor will he/she have to pay anything to participate in the research.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you or your child will remain confidential and will be disclosed only with yours and your Child's permission or as required by law. Confidentiality will be maintained by means of using pseudo names for each participant to make sure that you and your child's identity is protected. All data will be labelled with pseudo codes and stored in a locked filing cabinet or on the researchers PC that is protected by a password only known by the researcher.

The researcher's supervisor, external examiners and the university that the researcher is associated with will have access to the information and data from interviews, however no identities of the research participants will be revealed.

Interviews with the participants are to be video recorded, for reference purposes and will be destroyed once the research is complete. The participants have the right to review/edit the tapes.

The final research report, using pseudo names, will be published at Northwest University Potchefstroom Campus.

7. PARTICIPATION AND WITHDRAWAL

Your child can choose whether to be in this study or not. If he/she chooses to be part of this study, he/she may withdraw at any time without any consequences. Your child may also refuse to answer any questions and still remain in the study. The researcher may withdraw your child from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Natalie De Gouveia (student) by telephone (083 357 7660) or email (natsdg@hotmail.com), or Colleen Potgieter (research supervisor) by telephone (082 338 5900).

9. RIGHTS OF RESEARCH SUBJECTS

Your child may withdraw his or her consent at any time and discontinue participation without penalty. He or she is not waiving any legal claims, rights or remedies because of participating in this research study. If your child has questions regarding their rights as a research participant, contact Colleen Potgieter (082 338 5900).

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to [me / the subject/ the participant] by Natalie De Gouveia in English and [I am/the subject is/the participant is] in command of this language or it was satisfactorily translated to [me/him/her]. [I/the participant/the subject] was given the opportunity to ask questions and these questions were answered to [my/his/her] satisfaction.

[I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study.] I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____
[*name of the subject/participant*] and/or [his/her] representative _____
[*name of the representative*]. [*He/she*] was encouraged and given ample time to ask me any
questions. This conversation was conducted in English and [*no translator was used/this*
conversation was translated into _____ by _____.

Signature of Investigator

Date

NORTH-WEST UNIVERSITY

POTCHEFSTROOM CAMPUS

PARTICIPANT CONSENT TO CONDUCT RESEARCH

Title of the Research: **Exploring grade 10 learners' perceptions of risky online behaviour using the mobile phone**

You are asked to participate in a research study conducted by Natalie De Gouveia MA (Psychology), from North-West University, Potchefstroom Campus. The results of this study will be in fulfilment of my MA degree in psychology.

1. PURPOSE OF THE STUDY

The research goal is to explore and describe your perceptions of risky online behaviour and the use of the cell phone as a possible means to engage in it. Your input will help to contribute to a broader and more realistic understanding of how adolescents' perceive risky online behaviour using the cell phone as well as shed some insight to the online behaviours that maybe considered as risky.

2. PROCEDURES

If you volunteer to participate in this study, you will be asked to participate in a one-on-one interview which will help enhance the researcher's understanding of adolescents' perceptions of risky online behaviour and the use of cell phone internet as means of engaging in it. The interviews will be on a one-on-one basis and last about 1 hour. During the interview, you will be asked to share in a discussion surrounding your perceptions of risky online behaviour. All interviews will be video recorded, transcribed (conversation typed out), and all data will be stored in a safe place and will only be accessible to the researcher. In addition, feedback if you request it will be provided to you before the final report is published.

3. POTENTIAL RISKS AND DISCOMFORTS

You will not be exposed to any unnecessary risk if you participate. The study will be using one-on-one interviews to explore what you perceive as risky online behaviour using mobile internet (3G/wifi). This may cause you to feel some discomfort when sharing information, but it will be your choice what you do and do not want to tell the researcher. If you feel uncomfortable during the interviews because of emotional pain, the interviews will be stopped and the researcher will organize that receive the necessary support. You do not have to answer all of the questions and you may choose to stop participating in the research at any time. The researcher will be available to address any queries, issues, concerns and provide you with necessary support in the form of recommendations, information or referrals to the school psychologist (if necessary).

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no immediate direct benefits expected from this research. However the interviews may help others and yourselves to better understand how risky online behaviour is perceived and engaged in using mobile phones. It will give you an opportunity to be heard.

5. PAYMENT FOR PARTICIPATION

You will not be paid for your participation in this study, nor will you have to pay anything to participate in the research.

6. CONFIDENTIALITY

Any information that is collected in connection with this study and that can be identified with you will remain confidential and will only be revealed with your permission or as required by law. To keep your identity secret pseudo (fake) names will be used for each participant. All data will be labelled with pseudo codes and stored in a locked filing cabinet or on the researchers PC that is protected by a password only known by the researcher.

Interviews with the participants are to be video recorded with your permission, for reference purposes and will be destroyed once the research is complete. The participants have the right to review/edit the tapes.

The researcher's supervisor, external examiners and the university that the researcher is studying at will be able to view the information obtained from the study, however no names of the research participants will be revealed/made known.

The final research report, using pseudo names, will be published at North-West University, Potchefstroom Campus.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you do choose to be in this study, you may withdraw at any time without any consequences. You also do not have to answer questions that you do not want to answer and still remain in the study. If at any stage you feel uncomfortable or change your mind about participating in the research, you may drop out of the study at any stage.

The researcher may remove you from this research if circumstances arise which warrant (demand) doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Natalie De Gouveia by telephone (083 357 7660) or email (natsdg@hotmail.com).

9. RIGHTS OF RESEARCH SUBJECTS

You can choose to stop participating at any stage of the research without penalty. You are not breaking any legal claims, rights or remedies because of your participation in this research study. If you have questions about your rights as a research participant, contact Colleen Potgieter (082 338 5900).

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to [me / the subject/ the participant] by Natalie De Gouveia in English and [I am/the subject is/the participant is] in command of this language or it was satisfactorily translated to [me/him/her]. [I/the participant/the subject] was given the opportunity to ask questions and these questions were answered to [my/his/her] satisfaction.

[I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study.] I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____
[*name of the subject/participant*] and/or [his/her] representative _____
[*name of the representative*]. [He/she] was encouraged and given ample time to ask me any
questions. This conversation was conducted in English and [*no translator was used/this*
conversation was translated into _____ by _____].

Signature of Investigator

Date

Appendix D: Editor's letter certifying language edit of the document

Enquiries: Alesandra Prioreshi

0117172140

alessandra.prioreshi@wits.ac.za

26 April 2013

This letter serves to certify that I have conducted a full language edit of the dissertation entitled "Exploring adolescent's perception of risky behaviour using the mobile phone", as per the request of Ms. Natalie De Gouveia.

Sincerely,



Alessandra Prioreshi

26 April 2013