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Maserumule, Ngwanadira Tebogo

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Research Report

Parent's use of strategies to monitor children's activities online

Submitted by

Ngwanadira Tebogo Maserumule

Student number: 1042649

ABSTRACT

Although studies have been conducted on the effectiveness of different types of filtering software, limited knowledge is available on parents' use of strategies to monitor their children's activities online. Thus, identifying understanding parents' use of strategies to monitor children's activities online and the extent in which parents use content filtering software will contribute to the body of knowledge. The purpose of this study is to understand parent's use of strategies to monitor children's activities online and the extent in which they use content filtering software in Gauteng Province, South Africa. The study adopted a Social Cognitive Theory to develop a conceptual framework and identify existing theoretical concepts. The conceptual framework adapted Bandura's (2001) framework to inform data analysis.

Data were collected through semi-structured interviews and qualitative, thematic content analysis was used for data analyses. The results of the study indicated that parents do use various strategies to monitor children's activities online and further apply knowledge, experience, and social support as a rationale for using those strategies. The study further revealed that there is a gap between parents, technology industry and government regarding the use of content filtering software. Thus, the study recommends parents, industry and government work together to protecting children online through various strategies and address the concerns regarding the use of content filtering software. Parents' need to understand the importance of content filtering software and discuss this with their children to be able to protect them online without restricting access to relevant information.

Keywords: Harmful content, blocking, strategies, filtering, online content, software, use, non-use, strategies.

DECLARATION

I declare that this research report is my own work. It is submitted in partial fulfilment of the requirements of the degree of Master's degree in Information Systems. It has not been submitted for any other degree or examination at any other university.



Tebogo Maserumule

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Glossary of terms

Blocking – A way of suppressing online content either through a webpage or entire website

Cell phone/Mobile phone – An electronic device used for communication (both voice and data) through a network connection.

Content – A form of communication and information transmitted through the internet

Convergence – A combination of different technologies with the aim to perform a collective task; it refers to a single platform can have the ability to broadcast a collection of content or multiple services.

Internet – A global system of interconnected network.

Filtering - Restricting access to certain content online.

Notifications – A method of delivering a message to users.

Software – A collection of programs used to operate functions of a device or a computer.

Wi-Fi – A wireless technology which allows users to connect their devices to the internet.

CHAPTER 1: INTRODUCTION

1.1 Background

The Film and Publication Amendment Bill, 2014 (hereafter referred to as “The Bill”) inter alia, proposes that distribution of online content must be monitored to ensure that illegal and harmful content is blocked to prevent children from accessing it. Illegal content refers to content which is prohibited in the country such as child pornography, while harmful content refers to content which is not suitable for minors (Akdeniz, 2010; FPB, 2014). The Bill of Rights in the Constitution of the Republic of South Africa defines a ‘child’ as “a person under the age of 18 years.”

Internet content regulation refers to filtering and blocking of online content (Aceto and Pescapé, 2015), thereby, restricting access to content which may be harmful to other groups in society (Jin, 2013). Discussion of internet regulation is generally associated with censorship (Noll and Meinel, 2005). In South Africa, it is a very sensitive issue because of the country’s history with censorship, and therefore, media and civil rights groups complained that regulation deprives the freedoms contained in the Bill of Rights in the Constitution of the Republic of South Africa. Media convergence has resulted in massive content being created and distributed online in South Africa. Since then, the Film and Publication Act of 1996 has been amended to include regulation of online content. The Bill defines the term content as “games, films, publications and self-generated content uploaded or posted on social media platforms.”

Prior research suggested that blocking and filtering solutions can be used as one of the measures to protect children from exposure to online harmful content (Bourdillon, 2013). Currently, there is limited knowledge available on the extent in which parents use strategies to

monitor their children's activities online. It is against this background that this study will apply Social Cognitive Theory to understand parents' use of strategies to monitor children's activities online in Gauteng, South Africa. Filtering software is one of the recommended technology for preventing children being exposed to inappropriate content online (Mitchell, Finkelhor, and Wolak, 2003), therefore, it is crucial to understand parents use of strategies to monitor their children's activities online and the extent in which parents use content filtering software to monitor their children's activities online.

1.2 Problem statement

In the 1990's, proponents of the 'Declaration of the independence of cyberspace' actively advocated for the independence of the internet from any jurisdictional laws and declared the Internet to be a sovereign platform (Barlow, 1996). This exacerbated the availability of sexually explicit content online, and this content is accessible by anyone with connectivity to the internet. Since then, an audience data and insight company with roots in the Middle East and South Africa conducted an online survey which revealed that there were 41 648 985 unique browsers (which includes users on computers and mobile phones) in March 2016 in South Africa (Effective Measure, 2017). This growing number of internet users include children and poses concerns of security and cyber safety amongst children.

Previous studies suggested that children who use social networking sites are likely to experience harm through inappropriate content such as sexual messages, and cyberbullying (Staksrud et al., 2013). Now, the question arises to understand strategies parents use to monitor their children's activities online and to which extent are parents using content filtering software considering children are active online.

1.3 Purpose of the study

The purpose of the study was to understand parents' use of strategies to monitor children's activities online and the extent in which they use content filtering software in Gauteng, South Africa. The data was collected through interviews to answer the research objectives.

Research Objectives:

- To explore strategies to monitor children's activities online.
- To understand the extent in which parents use content filtering software among parents in Gauteng.
- To explore different content filtering software available.
- To understand parents' knowledge, social support, social influence, experience, expectations, concerns, attitudes and affordability towards the use of strategies to monitor children's activities online.

The main question which the research seeks to answer was: To what extent are parents using the content filtering software? In order to answer the main question, the following sub-questions are presented:

- What influences parent use and non-use of content filtering software?
- To what extent do parents' expectations, knowledge, experience, social support and social influence contribute to the use of strategies to monitor their children's activities online?
- What are parents' attitudes towards content filtering software?
- Are parents concerned with exposure of content which their children access?
- What are parents' concerns and perceptions regarding content filtering software?
- If parents do not use software, what strategies do they have in place, if any?

With improved and sophisticated technology, there is a need to explore influences on use and non-use of content filtering software and to understand parents' concerns and attitudes regarding such software. The next chapter covers the literature review on parents 'use of strategies to monitor children's activities online and the extent in which parents use content filtering software

1.4 Delimitations

This study is restricted to parents who reside in Gauteng. In addition, influences which may influence parents' attitude towards the use of strategies to monitor children's activities online such as age and gender of parents were not considered in the scope of this study.

CHAPTER 2: LITERATURE REVIEW

Awareness of the existing literature and related empirical work is important in investigating any phenomena (Yardley, 2007). Therefore, this literature review will be exploring existing literature in understanding the use and non-use of content filtering software by society and also a specific focus on parents. The study was initially aimed at understanding parents 'use and non-use of content filtering software, however, through data collection and analysis, it was found that parents use various strategies to monitor their children's activities online.

Technology has evolved, and access to the internet through mobile phones and home computers have become convenient. This evolution of technology has brought many opportunities to learn and as well as many challenges such as access to harmful content. Children are mostly affected by harmful content as their maturity to handle such content is underdeveloped (Preston, 2009).

This section covers content filtering software, use and non- use of content filtering software, and use and non-use of content filtering software by parents.

2.1 Content filtering software

This section covers different filtering software used by individuals as well as parents to block and filter content online. Filtering and blocking software is perceived as software which assists in preventing access to inappropriate content (Jin, 2013). Aceto and Pescapé (2015) described content filtering software as blocking of online content and services. Knapp (2010) emphasized that content filtering software is a method which promotes self-regulation. Self-regulation refers

to the regulation of online content by individuals or industry instead of government (D'Udekem-Gevers and Poullet, 2000; Jin, 2013).

The debate for filtering and blocking online content in South Africa was elevated by the Film and Publication Board (FPB) (2014) through recommending parents to put measures in place to protect their children from inappropriate content online. The decision to regulate internet content is very sensitive in South Africa due to the history of censorship which was motivated by apartheid. Apartheid manifested in the era of traditional censorship whereby societal views including music, art and films were blocked (Freedom House, 2012). Rose (2011) describes censorship as the restriction of freedom of expression which may be considered offensive or harmful to others.

Previous studies suggested that children who use social networking sites are likely to experience harm through inappropriate content such as sexual messages, and cyber bullying (Staksrud *et al*., 2013). Therefore, there are great concerns regarding access of internet content by children. Content filtering software has been favoured by some researchers (Mitchell *et al.,* 2003) as well as criticised by others (Rose, 2011). Content filtering software has been used by some parents, schools, government and also companies with the main aim to monitor illegal activities online (Kim, 2007).

Rensleigh (2002) found that the most preferred filtering software was used to limit access to the specific web sites or blocking websites which contained certain words. Since then, some researchers recommended self-regulation as an alternative home filtering and blocking mechanisms due to its flexibility to change (Wagner, 2014; Tambini and Leonardi, 2008). Nevertheless, Rose (2011) argued that self-regulation cannot be used to fight against distribution of harmful content, but it should be supplemented with educating children and parents about the danger of online content. There is various content filtering software which could prevent children from accessing inappropriate content which are discussed below.

However, such software has been associated with blocking content which is not harmful or illegal and is unable to block all harmful content.

. Digital Trends (2015) identified the following free content filtering software for home use:

- **Windows family safety** is free content filtering software offered by Microsoft which comes with Windows 8 machines. It requires parents to create an account in order to register. This content filtering software also allows users to filter inappropriate content online, monitor time spent on the internet and limit access to certain applications.
- **K9 Web Protection** is content filtering software which offers an activity log consisting of the browsing history of users. It allows parents to block and filter domains based on categories such as drugs, violence etc. Padmini and Atkinson (2012) recommended K9 web protection as an effective content filtering software with 96% accuracy in blocking inappropriate content.
- **Avira parental control for social media** is a content filtering software which offers parents an analysis of a child's social media activities including friend requests, posts and messages sent and received.
- **Qustodio** is a content filtering software which consists of over twenty-nine (29) categories ranging from gaming, alcohol, drugs, etc. and also allows parents to amend the list. It also allows parents to receive regular reporting based on a child's activity online.

Parents can customise software based on the computer user's age and needs (Behun, Sweeney, Delmonico and Griffin, 2012). This means parents and children can access the same computer but have different settings in terms of blocking and filtering content, so, parents can access inappropriate content under their settings without exposing children to harmful content. Content filtering software has been modernised to also include functionalities to limit the time children spend on the internet (Mitchell *et al.,* 2005) and browsers (such as safe browser) to

ensure harmful content is filtered. This software allows a parent to record children's internet activities (Rubenking, 2006), and caters for the flexibility to change rules (Wagner, 2014; Tambini, Leonardi and Marsden 2008; Jin, 2013).

Blocking and filtering of harmful content can be conducted on different platforms such as mobile phones through the World Wide Web, and this can be done through the installation of a mobile application, and configuration of the application to replace a generic browser with a filtering browser (Behun *et al.,* 2012). Valcke, Wever, Van Keer and Schellens (2011) identified three types of filtering harmful content online: inclusion covers all the safe webpages, exclusion covers all pages with harmful or illegal content and content filter software scans webpages frequently.

2.2. Use and non-use of content filtering software

This section covers use and non-use of content filtering software in general and explores attitudes, concerns and contributing factors in relation to the use and non-use of the content filtering software.

Technology is perceived to be costly for some people, Selwyn (2003) concluded that cost is one of the contributing influences on the use of technology. Since then, Mitchell et al. (2005) also identified cost as a contributing factor for non-use of content filtering software. The study argues that customers must investigate which software to buy, and how to install it as well as training or support which can be costly. Akdeniz (2010) highlighted the European Commissions' concern about costs relating to blocking and filtering of harmful content, as this will affect customers indirectly. Subsequently, Taneja, Vitrano and Gengo (2014) found that individual influence towards use and non-use of privacy controls is driven by affordability. Thus, if the software is

perceived to be expensive, then some people will not be keen to use it, on the other hand, if the software is perceived to be affordable, then it will be used.

Blocking and filtering of online content is also associated with concerns such as lack of transparency as well as a violation of freedom of expression and speech. Lack of transparency had led to non-use of content filtering software because users associate such software with censorship (Noll and Meinel, 2005). Lack of transparency has been highlighted as a concern by several researchers (Mthembu, 2012; Akdeniz, 2010; Demeyer *et al.,* 2012). Lack of transparency in this context refers to blocking of harmful content without stating the reasons. Kinikoglu (2014) advocates for transparency through stating the reasons for blocking content online which will encourage users to utilise filtering software.

Kinikoglu (2014) reported that concerns revolve around restricting society freedom of expression and speech. This was reflected in Turkey when over 20 000 webpages were blocked, which led to protests by internet users because there were no reasons provided for blocked content (Kinikoglu, 2014).

Hoffman, Novak and Schlosser (2003) found that people tend to believe that controlling the internet is critical when powerful parties such as government interfere by restricting access. Venkatesh, Morris, Davis, and Davis (2003) indicated that people are more likely to use parental controls if society and other influential people encourage them to do so. Gillespie, Kim and Paudel (2007) suggested that attitude and financial standing determine use and non-use of technology. On the other hand, Song and Li (2009) stated that blocking of online content is a difficult task which should be applied systematically by means of combining non-technical and technical mechanisms. This is supported by Bourdillon (2013) by stating that content filtering software cannot be used as a neutral enforcement mechanism because of its flaws.

2.3 Use and non-use of content filtering software by parents

Some parents do not believe that exposure to harmful content on the Internet poses much risk to their children, hence they do not use any filtering mechanism (Mitchell et al., 2005). While other parents seek to protect their children using content filtering (Livingstone and Bober, 2005). Thus, this section covers use and non-use of content filtering software by parents through categorizing of contributing influences, attitudes and concerns.

2.3.1 Experience

A study conducted by the United Kingdom (UK) Department of Children, Schools and Families (DCSF) showed that seventy-four percent (74%) of 1433 parents surveyed have concerns over online content which could be accessed by children (Hull, 2010). The study further revealed that children who experienced harmful content online, only twelve percent (12%) reported it to parents.

Nikleia, Eteokleous and Zahariadou (2012) suggested that parents with less experience in technology were found to lack the knowledge of the risks associated with exposure to harmful online content, thus, they were less concerned than parents with more knowledge. Another study found that only one in three parents (33%) have experience with filtering their child's internet use while only one in four (27%) uses strategies such as monitoring and filtering software (Livingstone *et al.,* 2012).

2.3.2 Expectations

Expectations is a belief about a product's components (Rust *et al.,*1999), so parents who have strategies in place allowed their children to access online content for educational purposes (Gattiker, 2001).This suggested that some parents have higher expectation of the strategies in use although they were not aware of their children' activities online, and this could be due to

lower level of education and also some parents with little knowledge of technology (Valcke, Bonte, Wever and Rots, 2010; Álvarez, Torres, Rodríguez, Padilla and Rodrigo, 2013).

Research showed that parents expect the use of parental controls to reduce the amount of time children spend on the internet (Lwin *et al.,* 2008), which may prevent exposure to harmful content (Duerager and Livingstone, 2012).

2.3.3 Social support

Scharer (2005) described social support as an act of assisting others with information and knowledge. Brady and Guerin (2010) conducted a survey which revealed that parents who joined online-discussions to get support about technology felt supported and satisfied. Marais, Van Niekerk and Von Solms (2011) recommend social support as a mechanism to assist parents in utilising parental controls. On the other hand, Walker, Im and Vaughan (2012) discovered that parents with low level of income prefer to receive social support through printed material instead of electronic platforms. Installing content filtering software as well as creating an awareness will benefit parents in protecting their children from harmful content online (Ktoridou *et al.,* 2015). Since then, Livingstone, Mascheroni, Dreier, Chaudron and Lagae (2015) emphasized that parents with lack of experience on content filtering software require support in terms of the use of such software and technology knowledge.

2.3.4 Affordability

Affordability is another contributing factor towards non-use of content filtering software (Mitchell et al., 2005). Marais et al. (2011) further support, and stated that open source software should be offered at no cost in order to encourage use by parents and create awareness about harmful content. Ofcom (2012) suggest that parental controls such as content filtering software should be less costly in order to encourage use by parents. Digital trends (2015) identified free content

filtering software which parents can download and apply in order to protect their children from exposure to inappropriate material. Internetsafety (2016) costs of content filtering software range between R700 to R1000 for a once-off subscription.

2.3.5 Knowledge

Livingstone and Bobier (2006) conducted a study which found 10% of six hundred and seventy-seven (677) parents surveyed were not aware of their children's activities on the internet, while eighteen percent (18%) do not have the knowledge to assist their children with the safety of the internet. Four in five households were found to not have the knowledge of the process of reporting and blocking harmful content (Ybarra, Finkelhor, Mitchell and Wolak, 2009), which shows a lack of knowledge and experience about available strategies to monitor children's activities. In South Africa, lack of knowledge was found to be one of the reasons for non-use of content filtering software on mobile phones by parents (Marais, Van Niekerk and Von Solms, 2011).

Ozgur (2016) asked twenty parents about the type of strategies they use to monitor their children's internet use, and eleven parents said they do not use any tools because they do not have the knowledge of accessing the tool and therefore lack support.

2.3.6 Concerns

Mitchell et al. (2005) found that some of the concerns by parents for non-use of content filtering software include restricting access to children's educational information. Kim (2007) recommended that parents must take accountability of content that children access on the internet in order to ensure that they are protected from harmful content and also taking advantage of the benefits which the internet offers. Livingstone, Ólafsson, O'Neill and Donoso (2012) advocate for effective parental control which should focus on addressing concerns that

parents have regarding internet content. The study highlights that in order for parental controls to be effective, the focus must be based on user-generated content as well as time spent online.

2.3.7 Social influence

Social influence is the degree to which an individual believes that she or he must use the technology due to pressure from other important individuals (Venkatesh *et al.,* 2003). According to Anandarajan *et al.* (2002), social pressure is one of the influences explaining the use of a technology in an African context. Social influence is represented by the social pressure on the use of a technology (Martin, Oliveira, Popovic, 2014). Social influence in this study context refers to the degree at which parents perceive opinions of others as important with respect to the use of content filtering software.

2.3.8 Attitudes

Attitudes are described as the degree in which there's an element of bias in an evaluation of a behaviour (Thatcher and Matthews, 2012). In this study content, attitudes refer to an opinion of the respondents regarding the use of the content filtering software.

CHAPTER 3: THEORETICAL BACKGROUND AND FRAMEWORK

3.1 Theoretical background

Social Cognitive Theory (SCT) was developed by Bandura in 1977 and has been widely used in various research fields including Information Systems with a focus on the internet (Hsu, Chiu and Ju, 2004) and training and use of a technology (Agarwal, Sambamurphy and Stair, 2000). SCT posits that behavior is derived from three factors (personal, behavioural and environmental), and individuals learn through observing others' behaviour (Bandura, 1999). Bandura (2001) believes that people can control their behaviour through self-regulation. Behaviour refers to people's perception based on their experience, expectations and knowledge (Bandura, 1977). Bandura (1989) stated that knowledge is an important tool for solving problems. Environment refers to external social factors which can have an impact on individual's behaviour (Andrews, Jones and Mullan, 2013). Bandura (1998) explained that environment and people influence each other. In this study, environmental factors are influenced by social support and social influence. Social influence was adapted from SCT as well as an extended Technology Acceptance Model (TAM), and social support was adapted from SCT. Personal factors are motivational forces which drive the outcome of an individual behaviour (Bandura, 1989). Affordability was adapted from Redman (2012) and concerns was adapted from Benner and Wrubel (1989). Both affordability and concerns are personal factors which parents consider when deciding on whether to use or not use technology.

SCT outlined that individuals can achieve outcomes through observing others, and it provides a framework to understand human behaviour (Bandura, 2001). For that reason, SCT was used to

develop a conceptual framework to understand parents' behaviour relating to use and non-use of content filtering software. Imenda (2014) stated that research can be based on concepts from different theories to have a meaningful research understanding, and through a grouping of these concepts, a conceptual framework can be developed. Therefore, this research will also add concepts from other theories in order to understand the use and non-use of content filtering software by parents. Below is a conceptual framework to understand different behaviours which determine use and non-use of content filtering software by parents.

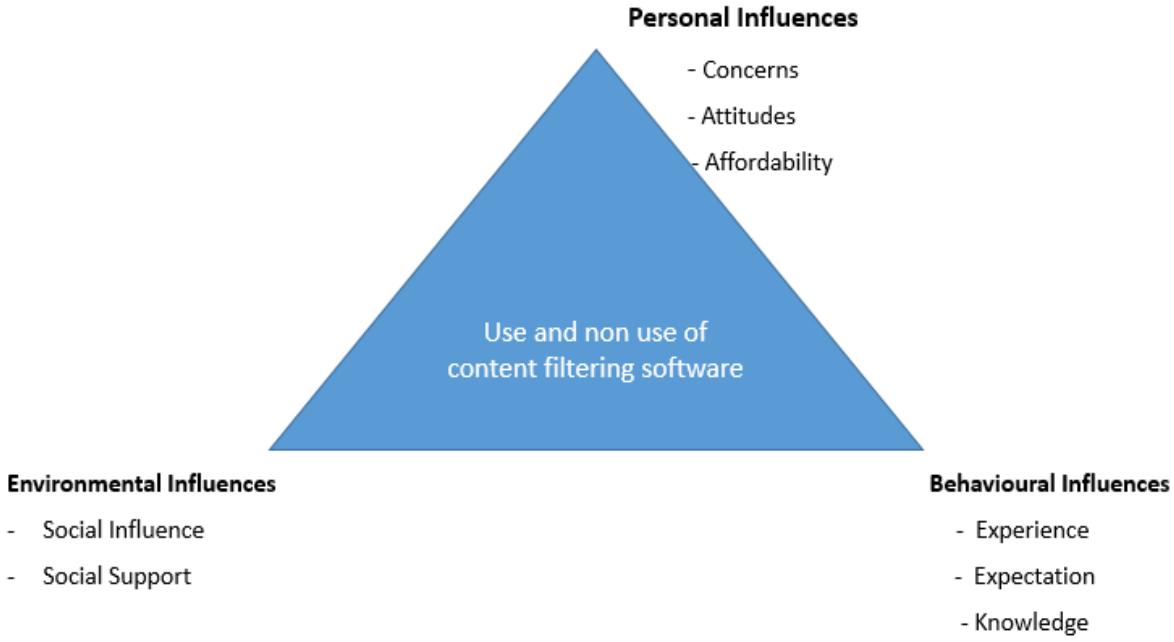


Figure 1: Conceptual framework adapted from SCT.

3.1.1 Behavioural influences

Behavioural influences comprise of experience, expectations and knowledge. Original SCT themes include knowledge, expectations and experience which were adapted from SCT themes and none of them were dropped throughout the study.

3.1.1.1 Experience

Experience refers to an opportunity to use a particular technology (Venkatesh *et al.*, 2003). Experience is an important factor in determining the user' intention regarding the use and non-use of technology (Dhir, Kaur, Chen and Lonka, 2016). Bandura (1977) emphasized that prior experience in a similar setting gives rise to people's perception about a future experience. The study further posits that experience has a strong influence on behaviour. In this study, experience refers to a number of years of using content filtering software and satisfaction relating to content filtering software. Thus, parents with the past or current experience in the use of technology may be more comfortable using the technology than those who are less experienced.

3.1.1.2 Expectation

LaRose and Eastin (2004) perceive expectation as a factor whereby people learn from observing others. Expectations is explained as a perceived set of beliefs about a person or product (Venkatesh and Goyal, 2010; Susarla *et al*., 2003). Bandura (1977) posits that expectations are influenced by experience. Paul (2012) further explains that expectation is a "perceived value" that users expect from acquiring a product. Thus, users set expectations when purchasing a product or service, if the expectations are not met through interaction with the product, then users are unlikely to use the product. In this instance, expectations refer to user's perceptions about the use of a content filtering software. This implies that parents will use content filtering software and strategies to monitor childrens activities online if their perceptions about the technology are good.

3.1.1.3 Knowledge

Brown and Venkatesh (2005) explained knowledge as a user's beliefs that s/he has the ability to use the technology. Knowledge plays a critical role in parents' ability to ensure safety of children

online. Bandura (1990) posits that people require sufficient knowledge and guidance in order to act or put mitigation in place regarding their concerns. Thus, creating awareness about a concern is an essential for a change of behaviour (Bandura,1998).

Knowledge can be about technology or internet content or children's activities. Mitchell *et al.* (2005) outlined that parents' use of filtering software is influenced by concerns and knowledge about the internet content. Subrahmanyam and Greenfield (2008) recommended that some parents do not have sufficient knowledge about technology as compared to their children.

3.1.2 Environmental influences

Environmental influences covers social influence and social support. Both social support and social influence were derived from SCT themes and in addition, social influence was also borrowed from the extended TAM studies. Both themes contributed to the body of literature.

3.1.2.1 Social influence

Social influence is the degree to which an individual believes that she or he must use the technology due to pressure from other important individuals (Venkatesh *et al.,* 2003). In other studies, social Influence was found to be relevant in the context whereby use of technology is mandatory (Venkatesh and Davis, 2000). Bandura (1989) suggested that people's behaviour is influenced by their perceptions, and it can also have an influence on their environment. In this study context, social influence refers to parents' perceptions regarding other peoples' opinion about the use and non-use of content filtering software. According to Anandarajan *et al.* (2002) social pressure is one of the influences explaining the use of technology in the African context.

3.1.2.2 Social Support

Social support is a remedy to reduce exposure to a potential risk, however, people must be willing to receive such support (Bandura,1998). Hence, Cobb (1976) advocates that social support is about creating awareness that individuals are valued, important and have a sense of belonging. Social support can be used as a communication medium which can be either electronic or face to face between people in order to empower one's personal experience (Finn and Kerman, 2004).

Scharer (2005) recommend social networks as a communication medium for social support, while Finn and Kerman (2004) and Lin, Liu, and Huang (2012) suggested technology training for both parents and children to ensure the safety of children online. In this study, social support refers to the ability to find assistance when experiencing challenges using content filtering software. Parents who will benefit from social support, especially on the challenges relating to the use of technology from other parents (Fuchsberger, Sullner, Moses and Tscheligi, 2012) are likely to continue using the technology.

3.1.3 Personal influences

Personal influences comprise of affordability, attitude and concern. Affordability and concern are adapted from other literature and attitude is derived from SCT themes.

3.1.3.1 Affordability

Affordability refers to the purchase of a product or service at a reasonable cost which is within a customers' budget (Redman, 2012). Affordability has been identified as one of the limitations of not using the technology (Musa, Meso, and Mbarika, 2005). With that being said, this study

aims at understanding how affordability determines the extent in which parents use of content filtering software.

3.1.3.2 Concerns

Concern is described as “a way in which people act” (Benner and Wrubel, 1989: p.408). In this study, concerns vary in terms of restriction (relating to restricting access to useful information which may benefit children) (Delen, Kaya, Ritter and Sahin, 2015) and protection (parents use content filtering software to protect children from harmful content) (Livingstone and Bober, 2004). *Delen et al.* (2015) stated that most parents are concerned with their children’s activities online.

3.1.3.3 Attitudes

Attitude refers to individual’s behaviour in their choice to use or not use a technology (Davis *et al.,* 1989; Venkatesh, 2013), and in this instance, use or non-use of content filtering software. Furthermore, attitude towards technology refers to “positive or negative feelings about performing the target behaviour” (Fishbein and Ajzen, 1975: p.216). Attitude to either use or not use a technology is related to opinions of the user concerning its use (Chen and Tan, 2004). This suggests that users with a positive attitude do use the content filtering software as compared to those with a negative attitude.

In this chapter, SCT was adopted to understand parents’ behaviour regarding the use and non-use of content filtering software. Chapter four will cover an overview of the research paradigm, setting, and design, data collection method and analysis, as well as ethical considerations.

CHAPTER 4: RESEARCH METHODOLOGY

According to Avison *et al*. (1999) research methodology must be influenced by the research context, the research objective and the research question. Choosing a research methodology is characterised by the researcher's theoretical perspective and approach towards how data will be used (Gray, 2004). In this Chapter, the research paradigm, research methodology, research design, sampling, data collection and analysis and ethical considerations are discussed.

4.1 Research Paradigm

4.1.1 Interpretivist research

According to Klein and Myers (1999), interpretivism believes that environments change, and this results in a change in technology and people. In addition, Neuman (2000) outlined that interpretivist focuses on people and their experiences with the aim to understand phenomena. The interpretivist approach does not predefine independent and dependent variables (Kaplan and Maxwell, 1994), instead, it seeks to understand how people interpret their world (Hussey, 1997).

The purpose of the interpretivist paradigm in information systems is to produce a rich understanding of the social context thorough understanding how a phenomenon is influenced by the context (Walsham, 1993). Moreover, the interpretivist approach argues that reality can be interpreted differently as well as understood through subjective interpretation. Thus, an interpretivist approach integrates human experience in order to understand and interpret the world based on a perspective that reality cannot be detached from people (Myers, 2009). This

study applied Miles and Huberman's (1994) middle range approach by partly applying a deductive approach through the development of a conceptual framework and a partly inductive approach by remaining open to emerging themes. In conclusion, the interpretivist paradigm will be followed in this study with the aim to seek different perspectives in order to explore common themes.

4.1.2 Positivist research

The positivist approach is objective in nature, and aims at theory testing, and also tends to be deductive in nature and also uses a quantitative approach to measure variables and test hypothesis in order to discover causal relationship (Neuman, 2003). Pilot tests are conducted in this paradigm to ensure content validity by using instruments such as survey (Moore and Benbasat, 1991; Chau and Hu, 2002).

The positivist approach applies an experimental and relational and descriptive research design which demonstrates that the nature of reality is separated from the study context (Neuman, 2003). Such research design employs data collection techniques (lab experiments and survey) which are designed to measure effects, and use statistical analysis to analyse data (Antwi and Hamza, 2015). However, this study aims at understanding parents' use of strategies to monitor children's activities online and the extent in which parents use content filtering software, therefore, this can be achieved through conducting interviews in order to identify emerging themes from participants.

4.2 Research Methodology

This study employed a qualitative research methodology. Qualitative research involves a collection of non-numeric data and involves observation of people and detailed analysis (Denzin

and Lincoln, 2011). Subsequently, this study applied a qualitative approach in understanding parents' use of strategies to monitor children's activities online and the extent in which parents use content filtering software

Qualitative research methods also guided the researcher in engaging parents throughout the interviews to generate a rich understanding to answer the research question and purpose. Thus, this study will be applying qualitative research methods. Kaplan and Duchon (1988) suggested that quantitative research methodology presents a variety of statistical techniques, therefore, this study research questions won't be answered by quantitative approach since this research is not aiming at presenting statistical techniques but rather at engaging with the parents in order to understand strategies they use to monitor children's activities online.

4.3 Research Design

Research design serves as an overall plan which includes decisions about where, what, how much and when data will be collected (Orlikowski and Baroudi, 1991). Research design is influenced by the research objectives and the research questions (Avison, Lau, Myers and Nielsen, 1999). When applying exploratory research design, "what" research questions are commonly used (Lewis-Beck, Bryman, Liao, 2004). Thus, this study was aiming to answer the "what" question through exploring factors contributing to use and non-use of content filtering software. Furthermore, Brink (2006) emphasized that exploratory study aims at exploring the experience, knowledge and understanding of a selected population through asking questions. The exploratory research design seeks to understand the research problem, generates new insights and adding to the existing knowledge about a phenomenon (Lambin, 2000; Burns and Grove, 2009) and to explore whether phenomena exist (Dane, 2011). Hence, the purpose of the study was to understand parents' use of strategies to monitor children's activities online and the extent in which they use content filtering software in Gauteng, South Africa.

4.4 Research settings

The study was conducted at the parental spring festival in order to ensure that the participants were comfortable. Spring festivals take place around July-August annually across Gauteng. They take place at school grounds and free parks across cities and towns in the province. They usually involve different fund-raising activities such as selling of food, music concerts, competitions, races and other activities. Both parents and children are involved, and it is generally a fun day function for the whole family. Both parents and children are involved, and it is generally a fun day function for the whole family.

4.5 Data collection and analysis

Bhattacherjee (2012) explained that through interpretivism approach, the researcher can conduct both data collection and analysis jointly. By doing so, a researcher can be able to add new emerging themes throughout the study. When conducting qualitative research, the researcher takes part in the process of data collection and analysis (Creswell, 1998; Klein and Myers, 1999), and data can be collected through interviews and existing documents in order to understand and explain a social phenomenon (Bhattacherjee, 2012). Data collection applied a semi-structured interview to answer the research questions and objectives.

Interviews were aiming at understanding and interpreting people's experiences (Seidman, 1998), and this study conducted interviews (Refer to Annexure 1) which covered concepts from the conceptual framework. In-depth interviews refer to a conversation between the researcher and the participants and serve as a tool to obtain insightful qualitative information into the perceptions and experiences of the participants (Burns and Grove, 2009). The aim of the in-depth interview for this study was to allow the parents an opportunity to express their views on the research objectives.

According to Kumar (2011), data collection and analysis can be conducted at the same time in an iterative manner in order to allow analysis results to consequently guide preceding data collection. Data analysis for this study involved coding of all interview data and identification of themes. Therefore, qualitative content analysis was applied in order to understand social phenomena holistically because of the limited prior knowledge about the subject to be researched (Elo and Kyngas, 2008). The interpretivist approach is concerned with extracting knowledge and rich understanding through interviews (Klein and Myers, 1999).

Data analysis followed steps for inductive, qualitative content analysis through the procedure identified by Miles and Huberman (1994):

Step 1: Data reduction. The interviewer reviewed the field notes and interview scripts multiple times in order to organize data according to a coding scheme and also reduce irrelevant data. Since this study applied a middle range approach, the following themes were identified *a priori* from the literature: concerns, experience, expectation, knowledge, social influence, attitudes and social support. Thus, representing a deductive approach, nonetheless, the study was open to new emerging themes which represented an inductive element.

Step 2: Data display. Data were then sorted according to categories in order to identify similarities and difference (patterns and relationships) within the themes. This process involved dividing data into manageable themes and patterns (Mouton, 2001) and also reflected what respondents had said in the interview and matched those responses into the underlying theory as well as ensuring there was sufficient evidence to support the theory (Gaskell, 2000).

Step 3. Conclusion drawing/verification. This process allowed the researcher to draw conclusions based on the data display outcomes.

4.6 Sampling methods and techniques

Purposive sampling refers to a technique applied in a qualitative research to extract a rich understanding of phenomena using limited resources (Patton, 2002). Purposive sampling allows a researcher to select participants based on their knowledge about a phenomenon and their ability to communicate the subject matter. A combination of purposive and snowball sampling was applied. According to Bhattacherjee (2012), purposive sampling is applicable when both data collection and analysis are conducted at the same time. Purposive sampling applies when respondents are likely to provide and share information about a phenomenon whereby little is known about it (Kumar, 2011).

Snowball sampling involves selecting participants through a network or group then request them to recommend other participants (Kumar, 2011). The interview used a semi-structured with an open-ended approach (Neuman, 2006). Dates for the interview were July-August 2016, and each interview took an hour and were conducted in English because it is a commonly spoken language in Gauteng. Parents were identified at the parental spring festival across Gauteng. Fridlund and Hildingh (2000) suggested between one to thirty (1-30) participants for a qualitative research. Therefore, this study sample was ten (10) parents.

4.7 Adequacy and trustworthiness

Denzin and Lincoln (1994) identified credibility as a factor to be considered when conducting a qualitative study in order to determine the trustworthiness of findings. Creditability was demonstrated as all participants were asked the same questions, and also the researcher was neutral and did not influence participants in answering questions. The researcher also reflected professionalism and was not biased. Participants varied in terms of age, gender, education and their children's age as this variation was likely to increase transferability and strengthen

credibility (Graneheim and Lundman, 2004). Moreover, credibility was demonstrated when the researcher interviewed the participants by using a voice recorder and also taking field notes during the interview.

Some literature suggests that reliability and validity are only relevant to quantitative study (Stenbacka, 2001), however, Patton (2002) argued that qualitative study should also be concerned with validity and reliability. Reliability takes the form of trustworthiness in qualitative research (Seale, 1999). The experience of the participants was precisely represented which highlighted that the study is trustworthy and the interviews were recorded and transcribed and communicated with the participants to validate the transcripts.

4.8 Ethical Considerations

This research was evaluated by the School of Economic and Business Sciences (SEBS) Ethics Committee and the letter explaining the purpose and confidentiality of the study is attached (Annexure 2) and an ethics clearance certificate issued with a protocol number CINFO/1108 (Annexure 3). The views of all interviewees were handled with confidentiality and each participant was given a consent form to sign before the interview commenced.

Ethical principles were adapted from The Belmont Report (1979) and (Polit *et al.,* 2001):

i. **Respect for persons**

- All research participants were treated with respect in order to prevent the risk of harm. The researcher gave the participants details of the study which included the purpose and information about who will have access to the data as well as the outcome before consent is signed. Participants were given adequate time to consider their participation and participants were given a consent form to complete in the study.

ii. **Beneficence**

- During this study, no participants experienced harm. The outcome of the research assisted in understanding parents' use of strategies to monitor children's activities and the extent in which parents use content filtering software. Furthermore, a written guarantee was given to the participants which stated that the data to be collected will remain confidential, and only the researcher has access to it.

iii. **Anonymity**

- The researcher ensured that no unauthorized access to the data was granted, and this was done thorough locking of the data in a secure cupboard. Moreover, names of the participants were not revealed during data collection process and aliases (Respondent 1-10) were used.

iv. **Rights to self-determination**

- Participants were advised to decide voluntarily in taking part in the study and ensure there are no material gains as well. The participants were given sufficient time to understand the objectives of the study before taking part in the study.

v. **The right to full disclosure**

- It is recommended to allocate sufficient time to the people who will be part of the study in order to build trust before embarking on a data collection approach (Kumar, 2011). The researcher disclosed the nature of the study to participants before the interview.

CHAPTER 5: FINDINGS AND DISCUSSIONS

This section contains the results of the data analysis as well as the discussions of the findings. The study initially focused on the use and non-use of a content filtering software (technology), however, results show that parents were not using the content filtering software. This leads to new emergent themes, and thus, the study used SCT to further understand children's activities online, Parents' use of different strategies to monitor children's activities online and the extent in which in paren. This section discusses the revised conceptual framework and is divided into three components (technology, children's activities and strategies to monitor children's activities online).

In this section, the discussions of the data analysis are linked back to the study objectives through the revised conceptual framework:

- To explore strategies to monitor children's activities online.
- To understand the extent in which parents use content filtering software among parents in Gauteng.
- To explore different content filtering software available.
- To understand parents' knowledge, social support, social influence, experience, expectations, concerns, attitudes and affordability towards the use of strategies to monitor children's activities online.

The study discovered that parents are not using content filtering software and as a result, do not have experience with regard to the software. With that being said, parents disclosed that they use other strategies to monitor their children's activities and protect them online. The study also found that parents were not using the technology but did have an interest in their children's activities online. SCT has been demonstrated to be an effective theoretical framework to

address human behaviour, and thus, it was useful to explore parents' behaviour with regards to their children's activities.

Bandura (1986) found that individuals are capable of controlling their action in order to improve their own development. While parents highlighted they were not aware of the content filtering software, it was discovered that they were monitoring their children's activities online. Since parents did not have experience or never used content filtering software, the study did not explore different content filtering software as stated in the study objectives.

Demographics

The sample of this study included 10 participants, two (2) men and eight (8) women. The men were 35 and 36 years old and their professions were in technology and digital media, while women were between the ages of 31 to 45 and their professions ranged from finance, banking, insurance, media and beauty industry. Children were between the ages of 10-17 years old. Parents were from different racial groups (Indian, Black, white and coloured) and their qualification varied from a college degree to Masters degrees.

Research results

This section covers the results of the data analysis. The results are categorised according to the pre-identified and emergent themes. Bandura (2001) emphasised that the results of a study can be organized based on the both predefined and emergent themes from the data. The presentation of the current study results includes direct quotes which added to the emerged from the participant responses and also predefined themes.

The first section was to discuss the respondents' understanding of content filtering software. The rest of the questions were categorised based on the pre-identified themes.

Content filtering software

One of the interview questions was to discover whether parents use content filtering software and their awareness of the software. Ten parents were interviewed and none of them used content filtering software. The most common reason for non-use was due to lack of awareness or knowledge about the content filtering software. However, some of them highlighted that they had other strategies in place to prevent their children from accessing harmful content:

"*No, I don't. I wasn't aware of it.*" (Respondent 1)

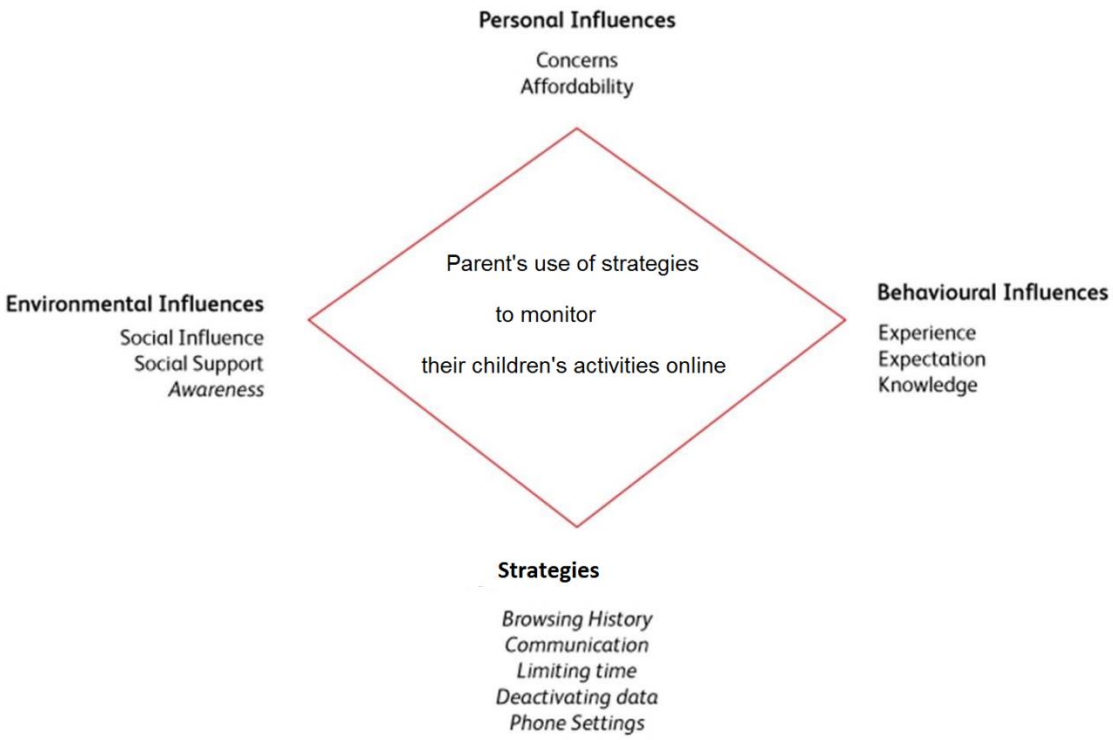
"*No. Ignorance and not aware of it*" (Respondent 6)

Chaudron (2015) recommended that further research needs to be conducted which focuses on creating awareness on the use of parental controls and protecting children online.

The themes were divided into two major elements which are technology and children's activities which were guided by the findings of the study. These were then, categorized using SCT through behavioural, personal and environmental influences.

5.1 Revised Conceptual framework

The study initially focused on the use and non-use of content filtering software and data analysis revealed new emerged themes which will be discussed individually and in detail, and were added to the conceptual framework. Thus, the findings led to the study aligning the new themes and revising the research objectives and purpose. The revised framework encompassed themes which were extracted from the literature and the emerged themes were added to the revised framework. Strategies was added as a fourth component to the conceptual framework which covers additional emergent themes and consists of these themes: communication, limiting of time spent online, deactivating data, browsing history and phone settings. All new emergent themes are reflected in italic and below is a revised conceptual framework:



5.2 Technology

Despite the ample opportunities the internet offers, exposure to harmful content is considered to be a risk amongst children and youth. Technology is rapidly changing and is affecting how people view the world and thus, SCT becomes a key framework to understand behaviour (Ratten and Ratten, 2007). This section looks at the study findings based on how technology (content filtering software) influence the four components of the conceptual framework (behavioural, personal, environmental influences and strategies).

Technology has given society the privileges to advance our knowledge. This advancement has allowed us to use our mobile phones not only for phone calls and messages but also for accessing social networking sites, communication with people across the world and as well as sharing content. This section covers technological findings relating to the personal, environmental, behavioural influences and strategies. Parents were not aware of the technology, thus, their attitude towards the technology could not be identified through the data collection and analysis. Thus, attitude is no longer relevant to the study as it was aimed at understanding parents 'attitude towards the technology.

5.2.1 Personal Influences

This section discusses personal influences (concerns and affordability) related to technology amongst parents with the regard to the use or non-use of the content filtering software.

5.1.1.1 Affordability

Researchers have recommended that content filtering software should be less costly or free to parents to create awareness and also encourage use (Ofcom, 2012; Marais *et al.*, 2011). This was supported by the findings as one interviewee highlighted that if the content filtering software is affordable then they will use it, but on condition, it does not block content which is relevant to their children's research assignments.

Respondents reported that apps are now free, and so, if this software is available in an app which will be convenient to use, then it should be free and be easy to use. One of the research objective was to understand the extent in which affordability contributes to the use of strategies to monitor children's activities online. Literature revealed a similar outcome that affordability was one of the limited for parents use content filtering software and the findings suggest that some

parents believe that the software should be free while others revealed that it is not about affordability.

Respondents carry different views with regard to affordability of the content filtering software as some stated that affordability is not a concern or reason for not using content filtering software, however, the software should still be free in order to encourage use:

"*The software must be free because apps are now free*." (Respondent 9)

"…*due to affordability*." (Respondent 7)

"…*for the protection of the children, so every parent should have access to it*." (Respondent 6)

There is a common ground about affordability not being a concern between literature and findings as Delen *et al.* (2015) revealed that affordability is not a concern for parents, this has been highlighted by some parents. Avaa (2014) recommended that content filtering software should focus on harmful content, and further explained that although this might have budget restrictions, it is a better approach rather than blocking an entire website.

5.1.1.2 Concerns

Concern about the software

One of the research objective was to understand parents' concerns and respondents stated that they have used various strategies to monitor their children online activities. Literature revealed that parents do have concerns on various content filtering software available which could block relevant educational information. Some parents are concerned with content distributed online and attempt to monitor their children's activities online (McAfee, 2012). The study findings confirmed that parents are concerned about availability of content online as well as whether the software will not block content which is not intended to be blocked, while another respondent pointed at the time and effort a parent need to spend setting up content filtering software.

"*Open free PC at the gym do not have such filtering and also at a friends' home or schoolmate*." (Respondent 2).

"*My concern is about the extent in which the software blocks content, how will it not block content which is beneficial to children*?" (Respondent 1)

"*Filtering software requires a lot of time and effort to configure and it is not worth it because the challenge is the free Wi-Fi at the restaurant*" (Respondent 7)

5.2.2 Behavioural Influences

Behavioural influences cover experience, expectation and knowledge of parents with regard to technology and various strategies parents use. SCT suggests that observation play an important role in influencing behaviour even for parents. All these themes were identified in the literature review and the outcome will be discussed below.

5.1.2.1 Experience

One of the research objectives was to understand the extent in which parents use content filtering software. The findings discovered that respondents do not have experience with the use of content filtering software, however, they use various strategies to monitor their children's activities. This concurs well with the literature as Livingstone et al. (2012) demonstrated that there is a low usage (27%) of the technology and other studies further revealed that a relatively small number of parents (two parents from twenty-two (22) surveyed) used a tracking software as well as their own experience to navigate the internet controls (Ozgur, 2016). The present study found that all parents are not using the technology, however, the sample size was not sufficient to be able to generalise findings. This was also demonstrated in the study findings which showed that all parents used other strategies such as monitoring their children's internet

history, deactivating data, limiting time, communication, and phone settings. Therefore, parents used their own experience to protect their children from harmful content online.

5.1.2.2 Knowledge

Literature explained knowledge as the ability to utilise the technology and the findings revealed that lack of knowledge contributed to parent's non-use of content filtering software. Respondents were asked whether they communicate to their children about the importance of a content filtering software, however, because none of them uses the software, they have never communicated about it. Another question was to understand if respondents believed that exposure to the internet poses risks to their children, and 80% agreed because the internet is not controlled and therefore they can be exposed to harmful content such as nudity and violence:

"*If is not controlled, then, yes*." (Respondent 4)

Respondents explained that they do communicate to their children about the importance of understanding social media and how to use it, and harmful content.

Another question was about whether respondents were aware of the type of content children access online. Most of the respondents are aware of their children's activities online and mentioned that they stream YouTube videos, play games and watch cartoons.

"*YouTube videos for songs and lyrics or Television programmes*." (Respondent 2)
"*They play games.*" (Respondent 4)
"*I do not have 100% full control of what she watches but when I check she is always watching cartoons*." (Respondent 3)

Ozgur (2016) conducted a study to understand parents' knowledge of the internet and risk associated with the internet and the results showed that 55% of parents reported having not use any tools to protect their children from online harmful content because they do not have the knowledge of accessing the tool. Lack of knowledge is one of the reasons for non-use of the content filtering software by parents (Marais *et al.*, 2011).

5.1.2.3 Expectations

Although parents did not use the content filtering software, responses (30%) regarding expectations of a content filtering software highlighted that it should be able to block and restrict sites which are not suitable for children, while others (20%) expected the content filtering software to notify the parents when children attempt to access sites which are blocked.

"*Limit what she can access, view what she tried to access*." (Respondent 10)

"*Alerts/ Notifications and monitoring*." (Respondent 8)

"*I expect the software to allow parents to restrict access through blocking adult content*" (Respondent 3)

"*The fact that it can give notification, it will assist me in terms of monitoring which sites he visits or attempt to visit."* (Respondent 1)

"*Block certain apps and pictures*." (Respondent 9)

Ofcom (2012) found that some parents do not use content filtering software due to the effort expected in setting up such software. Another study found that some parents had a higher expectation regarding the software, although they were not aware of their children activities online, and was due to a lower level of education (Alvarez et al., 2013).

5.2.3 Environmental Influences

This section covers technological components (awareness of software) of the conceptual framework. Awareness emerged as a new theme and interviewees offered diverse responses about their lack of awareness regarding the content filtering software.

Awareness on the internet safety has been in the forefront of many organisations across the globe regarding protecting children from exposure to online harmful content (Valcke, De Wever, Van Keer and Schellens, 2011). Most parents revealed that they were not aware of the content filtering software and, therefore, do not use it to protect their children online but use other strategies.

The study further revealed that parents would appreciate support with regard to using content filtering software and strategies available to monitor children's activities online, support in terms of training, notification of sites their children attempted to access and also automated reports regularly which state their children's activities online.

5.2.3.1 Awareness of software

Awareness of software focuses on respondents' feedback on the content filtering software. The findings revealed that all respondents were not aware of the content filtering software, and further emphasized that awareness campaigns need to be conducted to inform parents about such software and protect children from accessing harmful content. Respondents further revealed that such software will be important to protect their children from harmful online content, and for sharing knowledge:

"...*If the government would create a campaign, I would have been more informed and by the time I get my child a smartphone, I would have made sure that I installed a content filtering software."* (Respondent 3)

"*Yes, for knowledge sharing.*" (Respondent 8)

"*For protection of children*." (Respondent 6)

The findings revealed a need for training for parents and also government intervention in a way of a campaign to share knowledge will be beneficial for parents in order to protect their children online. This was also supported by the literature as (Chaudron, 2015) highlighted that Training and awareness campaigns on how to use technology to protect children online should be facilitated either by employers and industry.

5.3 Children's activities

The internet plays an important role in the lives of children to advance their knowledge, parents are expected to guide their children in order to avoid them from accessing harmful content (Dueranger and Livingstone, 2012). The study findings revealed that parents monitor their children's activities using various strategies and this section covers how parents monitor their children's activities online. Although the intention of the study was to apply SCT to understand the use and non- use of the technology, the findings showed that parents are not using the technology but that they use strategies to monitor their children's activities online. So, this led to the alignment of the study to focus on the use of strategies to monitor children's activities online.

SCT views people as self-organised and self-regulated as compared to being reactive to external influences (Bandura, 2001). SCT believes that people can manage their own thoughts and beliefs to achieve an outcome through developing their own rules, so, they are capable of self-regulating. Self-regulation captures the ability for individuals to influence their own actions

which affect their environment influences (Bandura, 1986). Thus, since the present study has found that parents are not using content filtering software, this section will reflect on how parents are currently applying self-regulation on their children's activities online through various strategies.

The next section covers parents understanding of their children's activities online with respect to the personal, environmental, and behavioural influences.

5.3.1 Behavioural Influences

This section covers parents' expectation regarding children's behaviour online and experiences on their children's activities online.

5.3.1.1 Expectation

The findings revealed that parents indicated they expect their children's behaviour online to be safe and communicate to them when faced with such content. One parent reported they trust their children, therefore, expect them to watch content appropriate to their age. Some parents stated that they have no control over the type of content their children access because they can access the internet out of their reach (such as gym, restaurants and school) which might expose them to harmful content.

"*She saw a topless man during an advert break while watching a movie and she reported it to me as she thought they were showing adult stuff*" (Respondent 3)

"*I expect my children to communicate at all times when exposed to inappropriate images*" (Respondent 4)

"*I trust their innocence, so I expect them to only watch kiddies show*" (Respondent 6)

"*He can be exposed to harmful content such as violence, pornography.*" (Respondent 9)

Delen *et al.* (2015) indicated that parents need to set expectations with their children which indicates the standard process of using the technologies in order to protect them from harmful content. This has been highlighted in the findings of this study as other parents (20%) indicated that they trust their children, therefore, do not monitor their activities. Mitchell *et al.* (2005) found that 60% of parents do not use content filtering software and this was because they trusted their children.

5.2.2.2 Experience

One of the research objectives was to understand parents' use of strategies to monitor their children's activities online. The study indicated that parents know what their children access online, however, there was no indication that they participate in their children's activities.

"*I do not have 100% control of what she watches, but when I look she's usually watching cartoons*" (Respondent 3)

"*I allow her to download games on my phone and is less effort for me*" (Respondent 5)

A study conducted by Flander, Cosic and Profaca (2009) which researched exposure of children to sexual content online revealed that children (59%) are exposed to harmful content (nudity and sexual images). The findings revealed that some parents allowed their children to perform certain activities online as a strategy to monitor their activities such as downloading and playing games, watching cartoons and YouTube videos.

Parents need to engage with their children in order to understand their experiences online (Delen *et al.,* 2015), and this can be done through participating in their activities online and also supporting them which will improve parents' experiences (Davies, 2011).

5.3.2 Environmental Influences

This section covers environmental influences of the conceptual framework. It consists of emerging here which is awareness, social support and social influence.

5.3.2.1 Awareness of children's activities

Sorbring and Lundin (2012) conducted a study which revealed that some parents believe they have been aware of their children's activities online. The findings support this fact as respondents (80%) reported that they are aware of the activities and content their children access online because their children use smartphones and home computers to play games. It is very important for parents to be aware of their children's activities as this will assist in placing measures in place to control their internet activities in order to protect them from harmful content. Other parents mentioned that their children use YouTube (10% percent) to view songs and lyrics and cartoons (10% percent):

"*YouTube videos for songs and lyrics or TV programmes*." (Respondent 2)
"*Yes, Cartoons.*" (Respondent 3)
"*Yes, games*" (Respondent 4)
"*Yes, she plays games*" (Respondent 5)
Boyd and Ellison (2008) emphasised that social media has become very popular amongst children. This point is still relevant as the findings proved that children use social media such as YouTube to view songs and also cartoons.

In a study to determine the level of parental awareness with regard to children activities online, Hamade (2015) discovered that parents who were aware of their children's activities online were more engaged and aware of the type of activities their children perform online (Delen *et al.,* 2015).

5.3.2.2 Social Support

Parents offered diverse opinions about the various support that could be useful in assisting them to monitor their children's activities online as they have highlighted that children understand the internet at a very early age, therefore, parents need to seek social support in order to be proactive. It was revealed that majority of the parents would benefit from social support in terms of understanding content filtering software functionality in order to be able to use the software.

Respondents were asked about whether support and training will be necessary, although none of them has used the content filtering software before, some respondents (80%) did highlight that support and training would be beneficial to guide parents who do not have sufficient knowledge, to reduce time for research and as well as for the protection of children.

The finding supports this fact as parents reported that social support will be beneficial through technology-driven solutions such as automated reporting (online activities and notifications) and continuous online support:

"*Yes. Automated reports (what was blocked and amount of data spend) and it doesn't have to be an individual support*." (Respondent 2)

"*Technical support must be available*." (Respondent 3)

"*Having support and training will actually be beneficial because if I encounter any challenges I would know what to do*." (Respondents 1)

"*Training will be useful as some parents are not technologically savvy*." (Respondent 3)

"*I have no idea how to set it up so that I can only block harmful content*" (Respondent 4)

Welsh, Bierman, and Mathis (2014) revealed that social support is one of the fundamental intervention to assist parents with protecting their children. Digital or online support must be

readily provided and available for parents (Niela-Vilen, Axelin, Salantera and Melender, 2014) and some parents believe that support will be beneficial to improve their online skills (Livingstone et al., 2015). It is therefore important for parents to seek social support which could assist them through a technology driven solution (Plantin and Daneback, 2009). Thus, social support has been proven to be useful for parents in protecting their children online (Ktoridou *et al.,* 2015).

Further 20% of respondents reported that they do not need any training as they will be fine setting up content filtering software due to their knowledge about technology, while others believed that it is a personal accountability.

"*No training needed, training will be too much to deal with and I can setup software using my knowledge.*" (Respondent 2)

"*No, it's a personal accountability*." (Respondent 9)

5.3.2.3 Social Influence

Parents reported that they would use content filtering software if they found that other parents would use it, while (20%) reported that they would use it based on other parents' recommendation, and others (30%) reported that they would use it for the safety of their children. All respondents did not know anyone using content filtering software. However, the majority of the respondents have highlighted protection as the reason to consider using the content filtering software.

Respondents (50%) reported that they would use the technology if they knew other parents who are using the software and

"*Yes. Because of the need to protect children*." (Respondent 4)

"*Yes, for protecting my child*" (Respondent 5)

"*Yes, based on other parent' recommendations*." (Respondent 6)

"*I will use it as well for the safety of my children*" (Respondent 7)

"*A lot of parents can benefit from using this software*." (Respondent 2)

Respondents were also asked about the government interference through enforcing of the content filtering software. The findings showed that respondents (70%) will use the content filtering software if the government were to enforce it, while others reported that it's for the protection of their children as well as:

"*Yes, for the purpose of protecting my kids*." (Respondent 4)

"*Yes, for the protection of my children and their innocence*." (Respondent 6)

"*Because most parents buy their children smartphones without thinking of exposure of harmful content, therefore, government will assist a lot.*" (Respondent 10)

"*It will be ideal for protecting my child because I cannot watch her 24 hours*" (Respondent 8)

Meanwhile, other respondents (30%) reported that government cannot enforce such decisions and also the level of comfort regarding harmful content will differ between parents, so the government cannot enforce it:

"*My level of comfort with content and information might be different from another person. Therefore, that will create difficulty*." (Respondent 2)

"*Don't like people forcing things on me, so I will not use it if they do*." (Respondents 9)

In addition, some parents highlighted that they would use content filtering software if the government or industry enforce it in order to comply. Compliance has been viewed as one of the components for driving social influence (Venkatesh and Davis, 2000). On the contrary, Delen et

al. (2015) also believe that parents need to keep abreast of the latest technology in order to be able to able to prevent their children from potential harm online.

5.3.3 Personal Influences

5.3.3.1 Concerns

There is a growing trend amongst parents on the use of the internet by children (Jin, 2013). This growing trend still reflect in the findings which revealed that parents become concerned with the availability of harmful content which can be accessed by their children.

Concern about the harmful content

Of the concerns were based on the advertisements while children are watching movies or television, highlighting that although parents can try block harmful content, do not believe that the software will have the ability to block such adverts.

"My biggest concern is the ads, so I don't know if there's a way in which those ads can be blocked and filtered." (Respondent 3).

Hopper-Losenicky (2010) stated that blocking and filtering of online content can be futile in instances whereby there are adverts and games within webpages.

The study found that although there are contradicting facts about ways in which parents tackle the concerns, most of them agree to the fact that exposure to the internet poses many risk to their children. With literature revealed that parents must take accountability of their children and the type of content they access online (Kim, 2007). This agrees with the finding as some of the parents (20%) responses as they have believed that government should not intervene as it's a personal accountability to ensure that their children are safe online. Furthermore, they have added that government interference is a concern as the level of comfort for harmful content may vary amongst parents.

That was because some parents (80%) argued that facilities such as schools, adverts during movies and television programmes for children and gyms need government interference as they cannot be accountable while their children are away from them. Hamade (2015) highlighted that teachers at the school have the ability to aid and direct children through limiting the time spent online and therefore, channelling them into a greater path in terms of ensuring they are protected from harmful content. Overall, it has been found that parents are concerned with exposure of content which their children access online, and therefore, with assistance from schools, other parents and other public areas, concerns about the filtering content software and exposure of harmful content can be addressed.

5.4 Strategies for monitoring children's activities

Strategies were one of the themes which emerged through data collection. One of the sub-questions was to discover strategies parents use to monitor their children online. The study findings indicated that some respondents (80%) use strategies for monitoring their children's activities online such as browsing history, communication, time spent online, deactivating data, parents' presence and settings on the computers and phones. The other respondents (20%) trust their children and therefore do not have any strategy.

5.4.1 Browsing history

The findings revealed that 40% of the respondents browse history as a method of monitoring their children's activities online. Some parents highlighted that they use the device history, while others stated that they do spot checks on who their children are chatting with.

"*She uses my iPad so I always go and check history. I do not have 100% of what she watches but when I check she is always watching cartoons*." (Respondent 2)

"*We do spot checks on history in order to check who they are chatting to. The software could be useful because of its presence full time*." (Respondents 3)

In a study conducted by Sorbring and Lundin (2012), which looked at the parents' insights into their children's internet use and found that most parents had a good idea of what children were doing online. Dorty and Dworkin (2014) findings revealed that 63% of parents used social networking sites for parenting purposes by monitoring of their children's online activities. The study found that parents use various methods to monitor and protect their children from harmful content such as browsing history. Delen *et al.* (2015) conducted a study to understand whether parents are aware of their children's activities, and the results showed that parents used browsing history.

5.4.2 Communications

Communication was discovered to be one of the strategies which respondents (20%) use in preventing their children from accessing harmful content online. Parents highlighted that they discuss the danger of harmful content online with their children regularly, as well as talking about harmful content and also benefits of the internet. Lastly, one parent pointed that communication is key as it allows children to be open by reporting harmful content whenever it reflects either on television or online. Some interviewees stated that they communicate with their children about the danger of online content, share passwords to their mobile phones and about their online experiences and activities.

"*We talk about it weekly because they understand social media more than us so we discuss social media and how to use it*." (Respondent 2).

"*Yes, every time we communicate on what is good online and what is harmful and give them reasons*." (Respondent 4).

"*In a sense, I do, if she watches something on television and she sees a topless man, she literally says this is not for kids. Those ads been played before the stuff she wants to watch then it becomes a problem.*" (Respondent 3)

"*We have an open relationship and talk about everything. We talk about everything from drugs, sex and girls. I am able to check history on his phone and we have spoken about things which are not appropriate for his age*." (Respondent 1)

Sorbring and Lundin (2012) found that parents who have an open communication with their children are aware of their activities online because they discuss it freely. Communication has been showed to improve interaction between parents and children as well monitoring children's activities online (Liau, Koo and Ang, 2008; Valcke *et al.*, 2011). Parents need to discuss with the children about the risks associated with accessing harmful content and reasons why it is not appropriate (Anderson, 2014). This is emphasized by Shin and Kang (2016) through a study which showed that open communication between parents and children is key as it will encourage children to discuss their online activities. Thus, communication proved to be a strategy in monitoring children's activities online and ensuring that they are not exposed to harm.

5.4.3 Limiting time

The study findings also proved that some parents limit time children spent online as a strategy for monitoring their children's activities online. The study found that some parents limit time children spend online as a strategy to protecting them from online harm. One interviewee reported that their children access the internet for an hour in the afternoon after school to watch YouTube videos and lyrics for an hour under supervision.

"*The girls' usage of the internet is limited to a certain time during the day*." (Respondent 2)

Martínez de Morentin, Cortes, Medrano and Apodaca (2014) conducted a study which aimed at discovering the time children spent on the internet, and it was revealed that children spent 7 hours per week browsing the internet. The study further indicated that some parents experience difficulties in communicating with their children, and therefore, opt for restricting or limiting time children spent on the internet instead of communications. Studies have found 62% of parents monitored their adolescents online by checking their Internet activities or enforcing rules (Dowdell, 2011). This is similar to what Valcke *et al.* (2011) described as restricting mediation which is a type of a parental supervision which restrict or limit time children spend online.

Hamade (2015) investigated different strategies parent's uses to protect their children online and discovered supervision and safety guidance such as limiting time spent online as new adopted strategies by parents. Limiting access to allow children to access the internet for a certain duration during the day was highlighted as one of the strategies which were outlined during the interviews.

5.4.4 Deactivating data

Deactivating data was one of the strategies from data collected. It refers to the switching data mode off during the time that children are using a device in order to restrict them from accessing any harmful content through the internet. When the interviewee was asked about mature content on their mobile phones which children could access, they've reported that they switch off mobile data to protect their children from accessing harmful content while using their cell phone to play games.

"*I allow my child to use my cell phone only when data is off to play games"* (Respondent 9)

Studies show that parental supervision is important as it allows parents to easily monitor their children's activities online through various approaches as well as improving children's behaviour

online (O'Neill, Livingstone and McLaughlin, 2011; Davies, 2013). Thus, by ensuring that children play games when data is off, it will eliminate access to the internet and as well as exposure to harmful content. On the contrary, Overaa (2014) explored the effectiveness of content filtering software in schools and highlighted that denying access to online content will lead to children accessing the internet elsewhere. However, the interviewee has stated that it has been effective in protecting their children online.

5.4.4.1 Phone settings

The findings revealed that there is a clear indication that some parents are aware of their children's activities online and use device settings by blocking certain folders, while other parents share a password with their children to allow them access to their children's phone at any point. One of the interviewees reported that they setup a password for videos and images thereby preventing access to certain content which may be harmful to their children.

"...*I only have age restriction settings on my phones operating systems*." (Respondent 3)

"*I have never used software but I have access to his phone so I can track who he chats with and what he says on social media*" (Respondent 1)

Parents use various strategies to understand and manage children's use of the internet (Sorbring and Lundin, 2012). Huffingtonpost (2013) outlined that parents can be able to deactivate certain features on the phones such as cameras and app store as well using a rating system to filter and set an age limit for certain content such as movies and music.

In conclusion, parents highlighted different strategies which they apply to protect their children online. Phone settings and deactivating data was not a popular approach amongst parents, but it was highlighted as other strategies as well. On the contrary, Hamade (2015) stated that children can access harmful content from other devices, and therefore, set measures to block and restrict access through devices is not effective. This view was supported by one of the

interviewees by stating that even if parents can setup phone settings, internet at the gym is not filtered and children can access it. The next chapter discusses the recommendation and conclusion of the study in line with the research objectives which were discussed in chapter one.

CHAPTER 6: RECOMMENDATIONS, REFLECTION AND CONCLUSION

This chapter highlights the findings of the study based on the research questions, explains the contributions to the theory and practice as well as recommendations for future research. Although the study was initially aimed at understanding parents 'use and non-use of content filtering software. However, more information was discovered during data collection and analysis which influence the study purpose and research questions being realigned to the findings. Below table (Table 1) highlighted the findings for each research question:

The main research question was: To what extent are parents using the content filtering software? The study revealed that parents are not using content filtering software due to lack of awareness, knowledge about the software and experience. The study further discovered strategies which parents use to monitor their children's online.

Sub- Research questions	**Findings**
What influences parents use and non-use of content filtering software?	The findings revealed that parents are not using content filtering software due to lack of awareness about the software, however, indicated that they do use various strategies to monitor their children's activities online. Parents highlighted that they would consider use content filtering software if government or industry enforces content filtering software and if other parents are using it, and that they do feel the pressure to use the content filtering software as a measure to protect their children from harmful content online. Thus, government, industry and parents need to collaborate to create

	awareness and social support on the use of content filtering software as well as looking into the different strategies.
To what extent do parents' expectations, knowledge, experience, social support and social influence contribute to the use of strategies to monitor their children's activities online?	Expectation was found to have an influence on parents use of strategies and it was categorised into two: the expectation of the software and expectation with regard to the children's activities. Parents expected the software issue reports on their children's activities online and give options of blocking and restricting certain online content, offer notification to alert when their children are trying to access harmful content. Some parents stated that it will be challenging to expect their children only be accessing content which is not harmful as public areas offers internet which is not filtered, and this can lead to their children being exposed to harmful content. Parents' knowledge and experience was found to be a contributing influence to their use of strategies to monitor their children's activities online. They've stated that they know what activities their children are engaging on and use various strategies to monitor them. Social support was discovered to be a contributing factor regarding parents use of strategies as they have highlighted that through social support, they would be able to engage with other parents and share knowledge. Some parents further stated they would not use other strategies or software based on other parents recommendations.
Are parents concerned with exposure of content which their children access?	Th findings revealed that parents were found to believe that exposure to the internet poses much risk to their child, hence they monitor their children's activities online. This study further found that parents are concerned with harmful content which their children are exposed to, and therefore, have an important role to play in ensuring that their children are protected from harmful content. Of greater concern is the lack of collaboration between parents, industry and government because

	one parent reported that they are concerned about certain television advertisement which displays during children's program and contain harmful content.
What are parents' attitudes towards content filtering software?	The study found that attitude was not a contributing influence in the use or non-use of the content filtering software by parents. Parents were found to not use the technology because they were not aware of it, and they further stated that such technology could be useful in protecting children online. The study also found that parents expected the content filtering software to have automated reporting, notifications, and block and restrict only content which is stated or set.
If parents do not use software, what strategies do they have in place, if any?	These strategies included deactivating data, communications, browsing history, limiting time and phone settings were emerged themes which parents used as strategies to monitor their children's activities online. The study has discovered that communication can improve relationship between parent and a child, therefore, parents need to be friends with their children on social networking sites in order to monitor their children's activities freely. Most parents reported that they talk to their children regularly about the internet and content available online which might not be suitable for them. Limiting time children spent online also emerged as an effective strategy parents use in monitoring children's activities online.
What are parents' concerns and perceptions regarding content filtering software?	The findings revealed that parents do not communicate to their children about content filtering software, however, they are aware of the content their children access online through various strategies. Affordability emerged as a concern for most parents, highlighting that Apps are freely available, therefore, content filtering software should be free. Other parents highlighted that the software should be free in order to allow all parents to use it and lastly, blocking of sites which do not consist of harmful content.

6.1 CONCLUSION

The main contribution of this study includes identifying of strategies which consist of themes that emerged through data collection which parents identified as a strategy to monitoring activities and protecting their children's online. Initially, the study used SCT to understand how parents' behaviour is influenced by personal, behavioural and environmental influences, and the results revealed that although parents do not use the technology, they use other strategies. Thus, the study applied SCT themes to analyse and thus, the themes were categorised into technology and children's activities. So, themes relating to technology were derived from behavioural, personal and environmental influences, while themes relating to children's activities were derived from personal, behavioural and environmental influences as well as the newly emerged component which is one of the strategies.

Literature has shown that parents' perceptions regarding the use and non-use of content filtering software differ based on knowledge, experience and expectations, social support and social influence. Themes were obtained through literature review and some emerged through data analysis. The literature review revealed that knowledge, social support, social influence, experience, expectations, concerns and affordability contributed to the extent in which parents use content filtering software and strategies to monitor their children's activities online.

The findings revealed browsing history, communications, limiting time, deactivating data and phone settings as strategies parents use to monitor children online.

6.2 REFLECTION AND RECOMMENDATIONS

The study adopted SCT which posits that behaviour is driven by three influences (personal, environmental and behavioural) and further suggested that individuals learn through watching others perform the same task. Thus, SCT was a useful framework to build up the study because three influences were used as a foundation for the study, however, the analysis revealed the fourth component which is strategies. So, the present study recommends that people can use strategies to understand a behaviour.

The purpose of this study was to understand parents' use of strategies to monitor children's activities online and the extent in which they use content filtering software in Gauteng. The data was collected through interviews to understand parents' knowledge, social support, social influence, experience, expectations, concerns, attitudes and affordability. The interviews were transcribed and content analysis was applied to extract themes and categories.

In the present study, it was discovered that parents use various strategies to protect their children from harmful content online, in addition, it was also discovered that they were not using the technology (content filtering software). Although SCT recommended that people learn through observing others, the result showed that only parents (50%) disclosed that they would use the technology if other parents were using it. Thus, SCT proved to be a useful framework in understanding behaviour regarding social influence.

The study revealed social support can be a form of an intervention to support parents by industry and government is required, communication between parents and children needs to be strengthened to be able to openly discuss online content risks and benefits. Furthermore, parents need to acquire knowledge regarding effective strategies for monitoring their children's

activities online and as well exploring different content filtering software which could meet their expectations such as allowing notifications, automated reporting and blocking adverts which play in between children's programs.

Although parents have reported having a clear indication of their children's activities online using different strategies, content filtering software could serve as an efficient strategy as parents will not need to actively or regularly be setting up their phones or deactivating data instead, once a software is set then parents will have a peace of mind knowing their children are safe online. The findings have a practical implication for implementation of programmes which will educate children and parents on internet safety and technologies available in the market as well as parents engaging with their children to understand their behaviour online.

Even though the interviews outcomes reflect that people were not using the software which is a limitation in this study, the results of the interview shed light which proved that parents do use strategies to monitor children online. Such strategies have proved to be effective as parents stated that they manage to restrict access to online harmful content which may instil harm to their children behaviour. This limitation has created a lack of depth since parents were not using the software. Nonetheless, future study is needed to focus on the depth of these strategies and expand on the participants to include children.

6.3 LIMITATIONS

Sampling in this study focuses only on parents residing in Gauteng with children who have access to computer and smartphone at home. In addition, this research did not sample children in order to understand their experience with harmful content because of the time constraints and ethical considerations. Research scope is limited to exposure of harmful content distributed online which can affect children. It is not in the scope of this study to focus on other types of

filtering software as this would broaden the scope of the research. Lastly, the study depends on a single source of data, therefore, no triangulation is possible.

In conclusion, this study contributes to the body of literature on parents' use of strategies to monitor their children's activities online through four components depicted in the revised conceptual framework. The study separated the components by technology and children's activities and further themes into all the components. The study found that all parents are not using content filtering software because they are not aware and lack knowledge of such software. It has further stated that affordability is one of the limiting contributors for using the technology and parents have demonstrated other strategies which they apply to monitor their children's activities.

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ANNEXURE 1: INTERVIEW PROTOCOL

Responsible Investigator: Tebogo Maserumule

Title of Protocol: Parent's use and non-use of content filtering software

5 Introduction

- Confirmation of confidentiality
- Permission to record
- Overview of the study

6 Content filtering software

6.1 Do you use content filtering software? If yes/no, why?

6.2 Are you aware of content filtering software? If yes, what do you know about content filtering software?

6.3 If yes to 2.2, what are your concerns regarding the use of content filtering software?

6.4 If yes to 2.2, do you have experience using content filtering software? If yes, please elaborate?

6.5 If yes to 2.2, what are the benefits of using content filtering software?

6.6 If yes to 2.2, what challenges do you experience regarding content filtering software?

6.7 If yes to 2.2, do you think content filtering software is affordable?

6.8 If yes to 2.2, what concerns do you have about content filtering software?

7 Experience

7.1 What was your experience with content filtering software? Were you happy with using it?

7.2 Do you think the software is useful for the purpose of blocking and filtering online content? If yes/no, why?

7.3 Are you monitoring your child's activities online? If so, how?

7.4 Do you have any filtering software installed? If yes, which one and why?

8 Knowledge

8.1 Do you communicate to your child about the importance of content filtering software? If yes/no, why?

8.2 Are you aware of the kind of online content your child access? If yes/no, how did you realize it?

8.3 Is your child aware of the content filtering software installed? If no/yes, please elaborate.

8.4 Do you believe exposure to the internet poses much risk to your child? If no/yes, please elaborate.

9 Expectations

9.1 What are your expectations in terms of content filtering software? Are you satisfied? if yes/no, why?

9.2 Do you think filtering software is useful? if yes/no, please explain?

9.3 Will installing content filtering software help you relax knowing your child is safe online?

9.4 Do you believe content filtering software will block only harmful content? If yes/no, why?

9.5 Will you use content filtering software if it's part of the software package when you buy a phone or a computer? If yes/no, why?

9.6 Are you concerned about the availability of harmful content available online? If yes, why? If yes/no, why?

9.7 Do you think blocking and filtering harmful content restrict your children from accessing important information? If yes/no, why?

10 Social Influence

10.1 Do you know anyone using content filtering software? How did you find out?

10.2 If government or industry enforces content filtering software, will you use it? If yes/no, why?

10.3 If other parents would use the content filtering software, will you also use it? If no/yes, please elaborate.

10.4 Do you have the pressure to use the content filtering software? If no/yes, why?

11 Affordability

11.1 Do you think content filtering software should be free? If no/yes, why?

11.2 Are you aware of the cost associated with content filtering software? If no/yes, please elaborate.

11.3 Will you use content filtering software if it was free? If no/yes, please elaborate.

11.4 Will you use content filtering software if it's part of the software package when you buy a phone or a computer? If no/yes, please elaborate.

12 Social support

12.1 Is someone available to assist when you experience challenges with content filtering software? If no/yes, please elaborate.

12.2 Do you think industry or government should create awareness on the importance of content filtering software? If no/yes, please elaborate.

12.3 Do you have sufficient training on the use of content filtering software? If no/yes, please elaborate.

12.4 Will you use content filtering software if support is provided? If no/yes, please elaborate.

ANNEXURE 2: COVERING LETTER

Date: 21 May 2016

Good day,

My name is Tebogo Maserumule, and I am conducting a study on the use and non-use of content filtering software. The study aims at understanding the influences which contribute to the use and non-use of content filtering software. Therefore, the results will benefit industry in creating awareness about the use of content filtering software which will motivate parents to use such software. I am writing to invite you to participate in an interview. Should you consider participating in this study, the interview will take you only 60-minute, face-to-face, tape-recorded interview. Should you be interested in the study findings, please indicate in your response to this request. Confidentiality will be further guaranteed by protecting all respondents' identity.

Kindly note the following:

1. By accepting to participate in this interview, you are consenting to your responses being used for research purposes.
2. Participation is voluntary, therefore, you are welcome to discontinue at any time.
3. Confidentiality is guaranteed.
4. Should you choose to participate, kindly answer all questions to the best of your ability

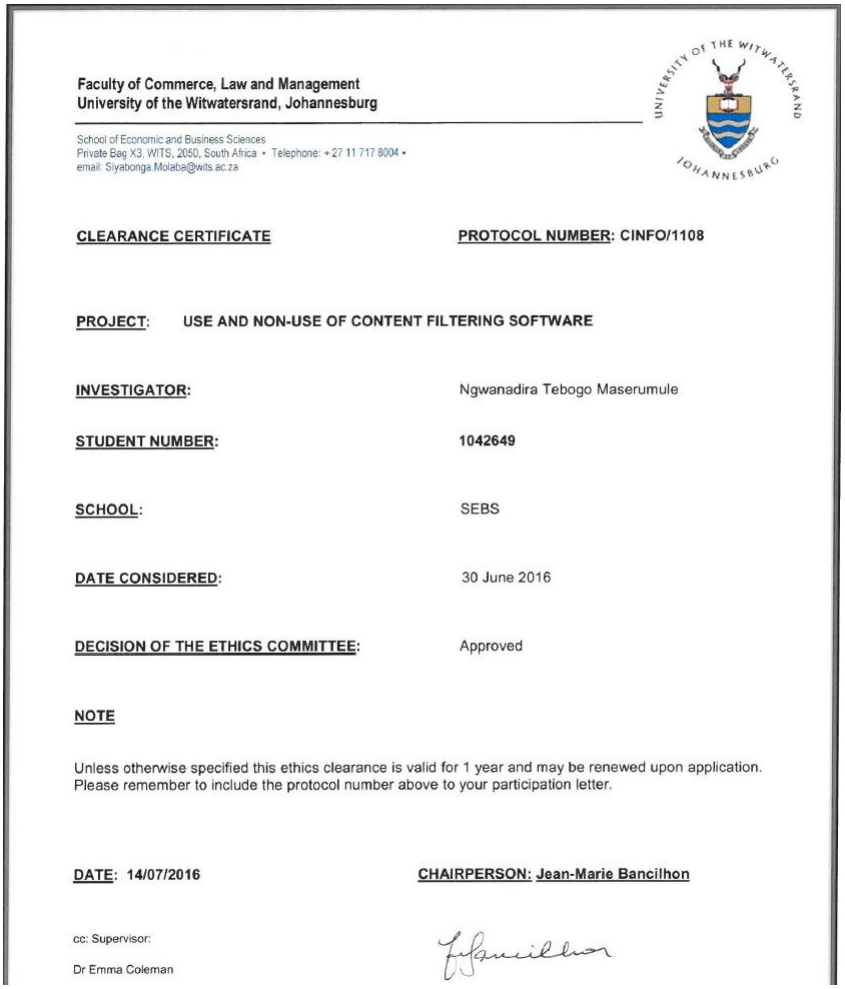
Thanking you in advance for considering participation in this interview.

Kind Regards,

Tebogo Maserumule

Cell.no: 0732095377, Email address: Ngwanadira@gmail.com

ANNEXURE 3: ETHICS CERTIFICATE



Faculty of Commerce, Law and Management
University of the Witwatersrand, Johannesburg

School of Economic and Business Sciences
Private Bag X3, WITS, 2050, South Africa • Telephone: +27 11 717 8004 •
email: Siyabonga.Molaba@wits.ac.za

CLEARANCE CERTIFICATE **PROTOCOL NUMBER: CINFO/1108**

PROJECT: **USE AND NON-USE OF CONTENT FILTERING SOFTWARE**

INVESTIGATOR: Ngwanadira Tebogo Maserumule

STUDENT NUMBER: **1042649**

SCHOOL: SEBS

DATE CONSIDERED: 30 June 2016

DECISION OF THE ETHICS COMMITTEE: Approved

NOTE

Unless otherwise specified this ethics clearance is valid for 1 year and may be renewed upon application.
Please remember to include the protocol number above to your participation letter.

DATE: 14/07/2016 **CHAIRPERSON: Jean-Marie Bancilhon**

cc: Supervisor:

Dr Emma Coleman