



The Impact of Social Media Technologies on Youth in Cape Town

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## Declaration

I, **Kirk Ivor De Doncker**, declare that the contents of this research study represent my own work, and that the study has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

*K I De Doncker*

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**Signed**

July 2021

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**Date**

## Acknowledgment

I would like to thank my Heavenly Father for His unending love and guidance in my life, as well as providing me with the strength to see this study through to the very end.

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## List of Abbreviations

<b>Abbreviations</b>	<b>Definition/Explanation</b>
ADHD	Attention Deficit Hyperactivity Disorder
Apps	Applications
E-mail	Electronic mail
EMW	Electromagnetic Waves
FOMO	Fear of Missing Out
HRV	Heart Rate Variability
IEGMP	Independent Expert Group on Mobile Phones
MP	Mobile Phone
OLS	Ordinary least squares
PIU	Problematic Internet Use
PMPU	Problematic Mobile Phone Use
RF	Radiofrequency
RP	Research Project
PC	Personal Computer
PTSD	Post-Traumatic Stress Disorder
SAR	Specific Absorption Rate
SMAD	Social Media Addiction
SNS	Social Networking Sites
SP	Smartphone
Teens	Teenagers
WHO	World Health Organization
Wi-Fi	Wireless Fidelity

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background

There is an increasing and overwhelming concern that problematic use of social and digital media technologies negatively impact youth's mental and psychological health (Buglass, Binder, Betts and Underwood, 2017: 248; Blackwell, Leaman, Trampusch, Osborne and Liss, 2017: 69; Oberst, Wegmann, Stodt, Brand and Chamarro, 2017: 51; Alt, 2015: 111). This study serves to explore the impact of mental health, attitude towards, and overall behaviour of youth in Cape Town toward social media technologies. The study also seeks to examine the way youth relate to social networking sites. By identifying and understanding the youth's perceptions of the medical side effects and privacy implications, this study seeks to examine any prospective relationship between social media use, sleep disturbance, and depression.

This study defines social media technologies as interactive web-based platforms that allows users to communicate with specific people, share content quickly across multiple digital platforms, such as smartphones, post or edit content, and to view, comment on, or like, or share content that has been posted by others. This includes social media platforms, also known as social networking sites, such as Facebook, YouTube, Instagram, LinkedIn, and Twitter. With that in mind, the use of social media technologies continues to rise at a rapid rate as technological progress continues to drive increased usage of social media platforms as it becomes more fully integrated into everyday life (Odom-Forren, 2012; Hannay, 2018: 34; Chaffey, 2019; Kellogg, 2020).

Consider, for example, that in 2010, a study of young adults, over the age of 18, showed that 73% use Facebook, while 47% and 14% use MySpace and LinkedIn respectively (Lenhart *et al.*, 2010). By 2018, a study among university students indicated that WhatsApp had become one of the most important social media platforms (Jasso-Medrano and Lopez-Rosales, 2018: 185). The study also revealed that the main uses of social media among the group were to be in contact with friends, conversing with a partner, and maintaining contact with other users. The same study showed that after WhatsApp, Facebook was considered the second most important social media platform. In 2015, a study done by World Wide Worx (2015), an independent technology market research organisation in South Africa, reported that 11.2 million people use Facebook in South Africa alone. Similarly, BusinessTech (2015), an online



IT publisher in South Africa, reported that there are 12 million monthly active Facebook users, with 7.3 million using smartphones to access websites. While these studies reveal a growing incidence of social networking on Facebook amongst South Africans, a study in the U.S. showed that, in 2015, already 90% of young people aged 18–29 years were using social media platforms (Pew Research Center, 2015).

Social media platforms can be accessed on multiple digital devices, including smartphones (Buglass, Binder, Betts and Underwood, 2017: 248). Smartphones are characterised by the ability to access the Internet and social networking sites, send e-mails, record videos, and take and upload pictures (Cornell, 2016). As smartphone use increases due to its convenience, there is a susceptibility to the health and social difficulties that occur during problematic use of these devices (Repacholi, 2001: 323; Deepinder, Makker and Agarwal, 2007: 267; Korpinen and Pääkkönen, 2009: 431; Samaha and Hawi, 2016: 321). Social media is most frequently accessed through digital handset technologies, which intertwines their online and mobile habits, thereby contributing to problematic checking habits (Griffiths, 2018). For example, Goldstuck (2017) showed that more than three quarters of Facebook users in South Africa access the social networking platform from smartphones or similar mobile devices.

In an effort to explain the increasing user numbers, Dogruer, Menevis, and Eyyam (2011: 2642) argue that the attraction to social media networking sites lies in its ability to provide users with a platform that enables them to connect and interact with others in a virtual environment. But these sites not only connect people on a social and emotional level where they can support each other, it also provides opportunities for them to grow acquainted with others whose common interests are shared (Eyadat and Eyadat, 2010 cited in Dogruer *et al.*, 2011: 2642; Sutcliffe, Binder and Dunbar, 2018: 227). Social media thus offers an array of facilities that are bound to keep the average user connected throughout the day, which can substantially impact the emotional state or wellbeing of the user (Brueck, 2019). For instance, studies seeking to understand the link between social media technologies and its impact on mental health have shown depressive symptoms such as anxiety, mood changes, and a feeling of hopelessness among young adults (Kross, Verduyn, Demiralp Park, Lee, Lin, Shablack, Jonides and Ybarra, 2013; Hunt, Marx, Lipson and Young, 2018). Community Behavioral Health Services (CBHS) Health and Wellbeing (2017) suggest that people with higher self-esteem post more about their work, family and education; whereas individuals with lower self-esteem concern themselves more about what other people post, while continuously monitoring feeds

and deleting unwanted posts. Thus, individuals may experience an increase or decrease in their self-esteem depending on how they perceive information that has been posted. In light of this, studies in South Africa, similar to Shava and Chinyamurindi (2018), captures the positive effects of social media technologies among young people, with minimal coverage on the adverse effects (McLean, 2018; McLean, 2013; Schoon, 2011). Thus, while social media technologies have been shown to increase social well-being, there remains concerns about the impact on the general well-being of users (Pantic, 2014: 652; Griffiths *et al.*, 2015: 473). This concern persists because of evidence that suggests that the problematic use of social networking sites (SNS) may lead to symptoms which are generally akin to addictive disorders similar in nature to substance abuse (Andreassen, 2015; Samaha and Hawi, 2016: 321; Meshi. Elizarova, Bender and Verdejo-Garcia, 2019: 169). Addictive behaviours, such as obsession and an inability to cease using social media, are likely a consequence of Problematic Internet Use (PIU) where the problematic use of the Internet may negatively affect wellbeing (Davis, 2001 cited in Caplan, 2002: 556). Yet, evidence relating to SNS addiction and social media technologies in South Africa among youth and any associated potential effects appears to be limited.

The lack of research into social media technologies is alarming when the potential health concerns associated with the continued usage of smartphones is considered, which includes cancer, male infertility, and other non-specific complaints such as headaches and dizziness from exposure to radiofrequency (RF) fields (Deepinder, Makker and Agarwal, 2007: 267; Kundi, 2016: 560 and Samaha and Hawi, 2016: 321). A further concern, which could potentially result in the loss of life, is demonstrated by the amount of motor vehicle drivers who access social media through smartphones while commuting during any given day (Walsh, White, Hyde and Watson, 2008: 1893; Nemme and White, 2010: 1257; Čubranić-Dobrodolac, Čičević, Dobrodolac and Nešić, 2013: 381). Čubranić-Dobrodolac *et al.* (2013: 385) highlight this point from previous studies which have shown that higher accident risks are associated with drivers who use mobile phones while driving as opposed to drivers who do not.

What the aforementioned studies also show is an increase in the use of social media, most notably among young adults. Consequently, this rapid rise in social media use may be related to similar addictive disorders such as substance abuse that may inadvertently lead to health complications (Nezgovorova *et al.*, 2018). In South Africa, studies on the relationship between

social media use and health among young adults appear to be limited and may therefore require further investigation to ensure that awareness is both informed and created.

## 1.2 Rationale

With this context in mind, this study seeks to determine whether social media technology use has an impact on the well-being of youth residing within the Cape Town area. The study focuses on youth, as it is a period where young people are vulnerable and prone to poor mental health, such as depression (Lemola *et al.*, 2015: 408). The study will further examine if sleep difficulties are experienced with increased social media use, as good sleep quality is an important component to achieving optimal well-being (Kent *et al.*, 2015: 912; Takahashi, 2012: 1). In this regard, the rationale for this study lies in its capacity to contribute to the body of knowledge on the experiences and the effects of social media technologies among youth. The study achieved this in three broad steps. Firstly, the study quantitatively assessed how youth are making use of social media. Secondly, it sought to determine whether social media use causes any evident negative effects among its users. Finally, it sought to identify, through interviews, which factors promote addictive use of social media technologies amongst youth.

## 1.3 Research Problem Statement

The status of one's health determines how effectively an individual can perform their daily activities. The World Health Organisation defines health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (Repacholi, 2001: 324). Despite the benefits of social media, such as enhanced communication and sustained connection between family and friends (Alt, 2015: 111), incidences of Internet addiction negatively impact the health and social problems of its users, or even result in death in extreme cases (Čubranić-Dobrodolac *et al.*, 2013: 381). Arguably, the health problems affecting its users may primarily stem from the dangers found within the communication frequencies that are emitted from smartphone devices (Moradi *et al.*, 2016: 2452; Repacholi, 2001:323), especially as we witness a continued increase in the use and reliance of digital devices (Oberst *et al.*, 2017: 51). The increased use and reliance may compound the need for users to feel that they need to be readily connected throughout the day. In extreme cases, young people have engrossed themselves into digital technology to the extent that physical activity is profoundly neglected (Baker, 2014; Boone, Gordon-Larsen, Adair and Popkin, 2007: 6). According to Schwartz (2008: 165), living a sedentary life increases the likelihood of obtaining illnesses such as cardiovascular problems and cancer. The negative implications of

problematic social media use, as mentioned, serves as one of the primary motivations to explore the impact of social media technologies on youth in Cape Town.

#### **1.4 Research Aim and Objectives**

The primary research aim is to explore the impact of social media technologies on youth in Cape Town. Three objectives, which will be achieved through various research activities, will support the aim of the research study:

1. To determine which social media platforms and technologies are used among youth in Cape Town;
2. To determine the correlation between social media use and health issues amongst the youth in Cape Town;
3. To explore the factors that promotes frequent social media use among youth in Cape Town.

#### **1.5. Research Questions**

Main Research Question: What are the effects of social media use on Cape Town youth?

Sub-Questions:

1. How do Cape Town youth make use of social media platforms and technologies?
2. What is the correlation between social media use and the health issues associated to its use?
3. What factors promote the addictive use of social media technologies amongst Cape Town youth?

#### **1.6 Research Methodology**

The philosophy of this study's research process was a mixed methods approach with the objective of generating more accurate and reliable results, as well as to extract intricate details of human behaviour that are difficult to convey solely with a quantitative approach (Strauss and Corbin, 1990: 19; Castellan, 2010: 2). The methodology draws extensively from behavioural psychology with the approach used broadly in media effects research (Baran and Davis, 2011). Behavioural psychology stems from the notion that behaviour is developed through conditioning, which transpires from the individual interacting with environmental activities (Cherry, 2021).

This study's participants were recruited using sampling, which was determined by the participation rate of youth in Cape Town. Sampling, a method that is used to select a certain group of members from a population who will be researched in a specific study when populations are usually too large to work with directly, was chosen for its associated benefits (Burns and Bush, 2012: 155). One such benefit is that the use of sampling method makes research of any type and size more manageable which, in turn, results in more accurate and robust research findings (Bhattacharjee, 2012: 23).

The primary data collection method was through questionnaires which covered questions about social media addiction and health, including sleep, social media consumption before going to sleep and depressive symptoms. The structure of the questionnaires included multiple-choice and scaling questions. Questionnaires were used due to their increased speed of data collection, low cost requirements, and associated ability to obtain higher levels of objectivity. In addition, a valid and reliable social media addiction scale (SMAS-SF) was used to examine the existence of social media addictions (Sahin, 2018: 179). In light of research by Lemola *et al.* (2015:406), which suggests that there may be a relationship between sleep difficulties and depressive symptoms. Thus, the questionnaire gathered information on sleep duration and sleep difficulties from the Insomnia Severity Index (ISI) (Bastien, Vallieres, and Morin, 2001: 299; Lemola *et al.*, 2015: 410). More so, the consumption of various social networking sites – such as Facebook, Instagram, Twitter, and general Internet use – were investigated. Finally, depressive symptoms were assessed using five elements from the Center of Epidemiological Studies Depression Scale (CES-D), such as “feeling depressed”, “feeling fearful”, “feeling sad”, “feeling everything one does is an effort” and “that one enjoyed life” (Radloff, 1977; Lemola *et al.*, 2015: 411).

The format of the questionnaire was illustrated using a structured approach through the use of closed-ended questions, which assisted in the coding and analysis of standard answers. In this way, the participants had a better understanding of the question, which contributed to fewer participants failing to answer (Bailey, 1987: 118). One-on-one interviews were also conducted with 10–15 participants with the objective of obtaining more in-depth details at how youth negotiated social and digital media technologies. This was helpful in gathering data regarding the beliefs and motivations around youth and social networking. Based on the information received from responses, the appropriate analytical techniques such as

correlation and regression models were used to examine any relationship between sleep disturbance, social media use and depression (Gerber *et al.*, 2010: 895; Lemola *et al.*, 2015: 406).

### **1.7 Significance of Study**

The findings of this study provide evidence of problematic social media technology use on Cape Town youth and their health, which serves young people and all users of digital technological devices, with relevant information on the potential risks. This allows them to make more mindful decisions about how they spend time on their digital devices. It further provides the basis for future research into the effects of social media technology and health implications of its users. It is for these reasons that the research is aimed at exploring potential risks among youth to ensure they are knowledgeable when pursuing their life goals, specifically related to optimal health.

### **1.8 Delineation and Limitations**

This study focused on how youth negotiate the use of social media technologies and its relevance to mental health concerns. It further focused on the well-being of a relatively large sample of youth which excluded any investigation into physical illnesses, such as cancer. The sample size was chosen so that future research could use it as a basis to focus on a wider variety of social media use and its impact. That said, one of the limitations of sampling is non-compliance from participants. To combat this, an incentivised approach was used to obtain not only a high response rate from participants, but also reliable and valid feedback. The incentivised approach was helpful in this regard, especially as it was fulfilled with a conscious mind of ethical concerns, such as exploitation and biased enrolment (Resnik, 2015: 35).

### **1.9 Ethical Considerations**

The study was conducted in a manner that endeavoured to avoid infringing on the privacy of participants. To this end, the anonymity of participants was paramount and preserved throughout the study, particularly during the data collection and analysis stages. Securing the anonymity of participants was to ensure that any data provided could be traced back to them in any form of dissemination (Crow and Wiles, 2008). A letter was issued to all participants indicating that their identity would be protected during all phases of the research process. This included informed consent as well as providing sufficient information that explained all the details pertaining to and implications of the study, which allowed the participants to make

an informed decision about whether to participate prior to data collection (Drazen, Harrington, McMurray, Ware and Woodcock, 2017: 856). Gregory (2003: 38) indicates that the decision on whether to participate in research should be voluntary and free of unwarranted pressures. This was illustrated to participants during the informed consent process, whereby indicating that participation within the study may be terminated at any time. Upholding individuals' rights to confidentiality and privacy is essential. All data and documentation have been stored electronically using a password protected digital storage unit, which will be kept for up to five years. At the completion of the data collection phase, the importance of informed consent was again discussed with participants. For example, ethical issues, such as the way data would be used, how research data would be stored and accessed, and how confidentiality would be maintained, was essential to discuss with participants (Oliver, 2010: 66).

### **1.10 Outline of Chapters**

An overview of each of the chapters is provided below to guide the reader and provide an understanding of the reasoning and progression of the study's content.

#### *Chapter Two: Literature Review*

The literature review introduces the reader to potential concerns regarding the excessive use of social media technologies. A review of accessible literature elucidates concerns that include fear of missing out (FOMO) and cyberbullying. In addition, it highlights potential social concerns that include addiction, anxiety, depression, and the potential health risk associated with the use of social media when driving.

#### *Chapter Three: Theoretical Framework*

The theoretical framework is grounded in the literature of cognitive-behavioural theory of Problematic Internet Use (PIU). The framework serves as a lens through which to review social media and its impact on mental health.

#### *Chapter Four: Research Methods and Design*

This chapter explains the methodological approach to the study. As mentioned, the philosophy of the research process consisted of quantitative and qualitative methods to collect the necessary data associated with social media use among Cape Town youth. This

chapter unpacks the data collection process in more detail and also provides a description of the population and cases for the study.

#### *Chapter Five: Data Analysis*

The focus of this chapter presents a combination of how data was collected and analysed. The analysis of data obtained was used to identify specific factors pertaining to the relationship between social media use, sleep difficulties, and depressive symptoms.

#### *Chapter Six: Research Findings*

The penultimate chapter will discuss the findings in relation to the research questions that guided the study.

#### *Chapter Seven: Conclusion*

The final chapter includes final conclusions based on the analysis of data indicated in Chapters five and six. It also includes recommendations that could promote healthier social media use among youth.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

The purpose of the literature review is to provide an overview of the potential risks associated with problematic use of social media technologies. Although existing literature covers a wide variety of theories, this review focuses on four major themes. These themes are:

1. Internet and social media use among youth.
2. Fear of Missing Out (FOMO) and Cyberbullying.
3. Social media networking and Problematic Mobile Phone Use (PMPU) among smartphone users.
4. The social and potential health risks associated with the use of social media technologies.

The sections that follow unpack the literature pertaining to the four themes mentioned as a lens from which to consider the impact of social media technologies on its users.

#### 2.2 Internet and Social Media Use among Youth

Social media is defined as an assembly of Internet-based applications that has been constructed with both ideological and technological foundations, which allow for the creation and exchange of user-generated content (Kaplan and Haenlein, 2010: 61). However, the quick and effortless sharing of content was not always the case. In the 1990s, social media – such as the Bulletin Board System – was a communication tool that was used on personal computers (Edwards, 2016). It was not until the early 2000s that advancements in the functionality of communication technologies saw social media applications move onto smartphones (Cornell, 2016). Initially, social media was imagined to offer simple social communication while allowing users to build reputations and establish career opportunities (Ngai, Tao and Moon, 2015: 33). In the current moment, however, the Internet is ubiquitous and exists in most electronic devices that society possesses. According to Longstreet and Brooks (2017: 73), social media is popular among Internet users with more time being spent on this group of technologies as opposed to other forms of entertainment and news combined.

The increased enjoyment of social media can stimulate strong habitual tendencies, which may result in the formation of increased levels of addiction to usage (Limayem and Cheung, 2011:

91; Limayem *et al.*, 2007: 706; Turel and Serenko, 2012: 513). The excessive use of online digital media may primarily stem from Internet addiction, which is also known as Problematic Internet Use (PIU) (Davis, 2001: 187). Moreover, incessant Internet use may cause individuals to become too dependent on the technology, which could possibly result in users feeling an inability to disconnect from the online realm. Longstreet and Brooks (2017: 74) suggest that users' becoming too dependent on the Internet for their emotional health in particular, is where negative feelings from deprivation become most pronounced. Dependency thus results in a psychological state whereby users feel that there is a need for Internet communication to be able to perform simple daily activities. That said, Internet use should not be completely vilified, as it has become an essential part of daily living (Davis, 2001: 193). Thus, it is worth acknowledging that healthy Internet use does exist, where users are not frequently connected to their devices. Yet, in spite of this possibility, negative consequences associated with Internet abuse continue to persist. Internet addiction and abuse are concerning and treated seriously. Some countries, such as China, Taiwan, and South Korea, have even drafted specific treatment plans and advocate for professional help for sufferers (Gregory, 2019; King *et al.*, 2011: 1111).

There is a belief that Internet addiction and abuse are prone among adolescent Internet users in particular due to their flexible schedules and freedom from parental interference (Kuss *et al.*, 2013: 960; Hsieh *et al.*, 2016: 209). Parents have been blamed for this phenomenon, as it has become a common tendency for them to pacify their children with Internet-based technologies, such as smartphones and tablets (Hsieh *et al.*, 2016: 209). Similarly, there is a suggestion that parents can remedy the addictive tendencies in children by involving themselves more in their daily lives (Hinduja and Patchin, 2013: 712). In addition, studies have shown that children with parents who are more involved, supportive, and attentive are less prone to reckless Internet behaviour (Simons *et al.*, 2007: 482). Hinduja and Patchin (2013: 712), for example, argue that parents who have a good relationship with their children can promote virtuous Internet behaviour. This suggests that it may be useful for parents to educate their children about the potential dangers of online technologies in order to promote the healthy use of digital media.

A further concern that stems from increased Internet use is the addictiveness of social media (Turel *et al.*, 2018: 84; Giunchiglia *et al.*, 2018: 177). The addiction to social media is considered a specific form of technology addiction, which exhibits tendencies such as changes

in behaviour, mood modification, withdrawal symptoms, and increased conflict (Turel *et al.*, 2018: 84). These tendencies are further described as a state where users are so engrossed in social media, due to the constant desire to participate, the high volume of time spent online interferes with other important life areas (Dong and Potenza, 2014:7). The addictiveness of social media has been exacerbated by how the Internet has infiltrated the lives of its users and the emergence of smartphones has strengthened this occurrence (Giunchiglia *et al.*, 2018: 17). The extended use of smartphones has explicitly been associated with many various health concerns, such as headaches, loss of memory, road accidents, cancer, and even male infertility (Repacholi, 2001: 323; Coggon, 2006: 298; Deepinder *et al.*, 2007: 267; Korpinen and Pääkkönen, 2009: 431; Čubranić-Dobrodolac *et al.*, 2013: 385). As a consequence, the combination of social media and smartphones may offer a prelude to the dangers of the excessive and problematic use of these technologies.

Amidst these concerns, there is reason to believe that social media addiction is evolving into a growing problem amongst adolescents in particular (van den Eijnden *et al.*, 2016: 478). For instance, a study of 36,950 students indicated that 90% of them used social networking websites with 97% of that group being on Facebook (Junco, 2012: 187). In 2014, Facebook revealed that there were 1.28 billion users who were active per month with 802 million accessing the platform daily (Ryan *et al.*, 2014: 133). Facebook is unsurprisingly widely accepted as one the most popular social networking platforms because of its ability to continuously gratify the needs of Internet users (Ryan *et al.*, 2014: 135). Yet these numbers have led to many researchers questioning the possibility that online social networking can become addictive (Griffiths, 2013). Lending credibility to this concern is research by van den Eijnden *et al.* (2016: 478) whose work has confirmed that most adolescent social media users portray some degree of addiction-like symptoms, such as problematic use (Banyai *et al.*, 2017). Similarly, Griffiths (2012: 519) argues that even though Facebook has become synonymous with social networking addiction among many researchers, it has become a tool that serves many different purposes to a variety of users, which suggests that problematic use is not directly linked to addiction-like symptoms (Griffiths, 2013). This is somewhat exemplified by users who use social media as means of employment, whereby large amounts of time are spent online to generate an income, and not necessarily from Internet addiction.

### **2.3 Fear of Missing Out (FOMO) and Cyberbullying**

Two common expressions of psychologically problematic behaviour through the use of social media is Fear of Missing Out (FOMO) and cyberbullying. The extensive use of social media has indexed the arrival of a new social anxiety, termed Fear of Missing Out (FOMO), in an effort to name the psychological state where users exhibit an anxiety because of the perception that users are leading more interesting and socially desirable lives (Alt, 2015: 111). Przybylski *et al.* (2013: 1841) associates the increased digital connectivity with arrival of FOMO, born from the sheer accessibility of social media on multiple digital devices (Blackwell *et al.*, 2017: 69; Buglass *et al.*, 2017: 69). The rise of new technologies with improved functionality is seen as a driving factor of increased social media use, which often poses a concern among parents of adolescents who are continuously engrossed in their devices (Oberst *et al.*, 2017: 51; Alt, 2015: 116). Studies have suggested that adolescents are vulnerable to developing mental health disorders, as they undergo remarkable physical, social, emotional, and cognitive growth during this development stage (Lemola *et al.* 2015: 406; Brindis and Ralph, 2011: 341). They are thus also more vulnerable to developing FOMO.

This phenomenon, more than a mere catchy acronym, poses pernicious effects as a consequence of increased connectivity, which may further expose users to other despondencies, such as cyberbullying. To illustrate this, Buglass *et al.* (2017:248) uncover the emergence of a “dark side” of social media and social networking that signals the vulnerability of adolescents. This “dark side” is a culmination of concerns such as cyberbullying and Internet addiction. Cyberbullying is conceptualised as online bullying where, “aggressive, hostile, or harmful acts is perpetrated by a bully through an unspecified type of electronic device” (Tokunaga, 2010: 270 cited in Bayraktar *et al.* (2015: 3193). According to Tokunaga (2010: 281), cyberbullying may lead to physical, psychological, social, and academic problems, which is not too dissimilar to face-to-face bullying. The main difference from face-to-face bullying is that cyberbullying occurs in a digital sphere where users can hide their identities, which may encourage an increase in the severity of intimidation. To this point, research by Bayraktar *et al.* (2015: 3193) suggest that studies conducted on traditional bullying shows a high degree of relevance to studies conducted on cyberbullying.

The typical practices of cyberbullying range from sending aggressive messages via a personal computer or smartphone, harassing individuals by posting deceptive messages on social media, and publishing embarrassing photographs of individuals without their consent (Hinduja and Patchin, 2013: 711). The dangers of cyberbullying are further enhanced by the

fact that an individual can be constantly attacked as the perpetrator is able to do so in his or her own time and, if done carefully, carries little risk of being caught (Tokunaga, 2010: 279). However, that the anonymity of users is encouraged on several social media platforms such as Whisper, Yik Yak, Wut, Popcorn Messaging, and Rumr, suggests that cyberbullying does not occur equally on all social media sites (Walker, 2017). In the case of the United States, according to the National Cyber Security Alliance (2016), the majority of adolescents connect on social media applications such as YouTube, Instagram, Snapchat, and Facebook where anonymity is not guaranteed (Cited in Byrne *et al.*, 2018: 40). To assist in remedying the issue of cyberbullying, parents should take an interest in their children's online behaviour by teaching them about the dangers of being online. Hinduja and Patchin (2013: 719) illustrate the importance of this by acknowledging that if adolescents were conscious of the consequences, of being punished, or even of being sanctioned, they would be less likely to engage in cyberbullying. That said, it is worth noting that victims of cyberbullying rarely confide in their parents due to fear of losing their online privileges (Tokunaga, 2010: 282). The same study deduced that young people would prefer to be victimised as opposed to abandoning their online activities (Tokunaga, 2010: 282). This illustrates an unedifying element of the online world, which is that its users are captivated to the point where there is minimal regard to any negative consequences that could potentially follow (Tokunaga, 2010).

#### **2.4 Social Networking, Problematic Mobile Phone Use (PMPU), and the PMPU Scale (PMPUS)**

The rapid development and widespread use of smartphones has produced a further risk factor known as Problematic Mobile Phone Use (PMPU) (Pamuk and Atli, 2016: 50; Tao *et al.*, 2017a: 1). PMPU, or smartphone addiction is defined as an inability to control the use of one's smartphone, which can negatively affect daily life (Tao *et al.*, 2017b: 103). PMPU among adolescents is a growing concern due to the vulnerability of developing poor mental health in that age group (Lemola *et al.*, 2015: 405). PMPU manifests itself through the excessive use of various smartphone applications that are common today. Sarwar and Soomro (2013: 219) support this theory by suggesting that these applications are notable in the social media realm. The presence of PMPU among adolescents is determined using a PMPU scale (PMPUS). The scale was developed by Bianchi and Phillips (2005: 41) and improved by Sar and Isiklar (2012: 264) and assists with diagnosing particular psychological conditions. Additionally, Pamuk and Atli (2016: 53) divide the PMPUS into four categories, namely "Deprivation", "Adverse Outcome", "Control Problem", and "Interaction Avoidance. The "Deprivation" sub

dimension measures how uneasy participants feel when their smartphone is not readily available to them. Secondly, the “Adverse Outcome” sub dimension captures the adverse effects of smartphone use in daily lives. Similar to “Deprivation”, “Control Problem” discerns the participants’ ability to control their smartphone use. Finally, “Interaction Avoidance” relates the tendency for individuals to prefer to communicate via their smartphone as opposed to engaging in face-to-face interaction. According to Pamuk and Atli (2016: 51), the PMPUS is an accurate and valid method in examining incidence of excessive mobile phone usage.

## 2.5 Health Concerns of Smartphones and Social Media

Social media use at night has been associated with sleep difficulties, such as trouble falling asleep and waking patterns (Punamaki *et al.*, 2007: 574; Vernon *et al.*, 2015: 386). This is explained, in part, by how sleep disruptions are exacerbated by the exposure of bright light from screens and a direct result of the suppression of melatonin; a sleep promoting hormone (Wood *et al.*, 2013: 240). Research, such as by Peixoto *et al.* (2009: 77), have confirmed that sleeping patterns are disrupted when adolescents are exposed to artificial or electric lighting. According to Hirshkowitz *et al.* (2015: 40), the recommended sleep required for adolescents is between eight to ten hours, which equals the average amount of time spent online in a study by Rideout (2015). The finding is astounding as it becomes very difficult to believe that eight to ten hours of sleep can be achieved when such a high percentage of the day is dedicated to online media. The concern expressed in this study is mirrored by Zimmerman (2008), where consternation is expressed at the fact that media use may be displacing an essential health component such as sleep.

A further component responsible for continued exposure to bright light is the use of smartphones specifically. According to a report, 17.7million of the adult population access social networking applications and the Internet via their smartphones (Mkwanda, 2015). Earlier studies have linked smartphones with negative health issues such tiredness, fatigue, and sleep disturbance (Coggon, 2006: 298; Rössli, 2008 cited in Samkange-Zeeb and Blettner, 2009: 1). In summation, there is a concern about the vulnerability of adolescents due to the addictive design and systematic use of smartphones and social media. It has been well documented that there is a growing dependency on social media among young people, which has been associated with a behavioural addiction, such as dysfunctional Internet behaviours and online gambling (Thadani and Cheung, 2011: 1; Kuss and Griffiths, 2011: 3529). Similarly,

a finding has reported that young people use an average of nine hours of online media per day, with an average amount of one hour of that time devoted to social media (Rideout, 2015 cited in Vernon *et al.*, 2017: 269). One of the reasons that has been offered to make sense of this is that social networking sites give young people a feeling of social connectedness and togetherness (Sapacz *et al.*, 2016: 154).

Feelings of togetherness are fostered by the abundance of options to access that feeling of being together in an online community. Smartphones offer text messaging apps, online gaming, and social networking which allow users a portal to the Internet 24 hours a day. Due to prolonged daily use, Lemola *et al.* (2015: 406) suggest that there may be a relationship between sleep difficulties and depressive symptoms in particular. The same study suggests that adolescents are particularly prone to developing poor mental health such as depression. This concern about how adolescents are prone to developing depression gathers some weight when one considers how research on adolescents who are deprived of sleep over a period of time have indicated higher levels of depressive symptoms (Frederiksen *et al.*, 2015: 556). Electronic media use at night has been highlighted as a problem for sleep difficulties with a pronounced increase of adolescent use in the last decade (Lemola *et al.*, 2015: 406). Social networking sites have been earmarked as the reason for this increase as it gives young people a feeling of social connectedness and togetherness (Sapacz *et al.*, 2016: 154). The finding refers to adolescents at a critical juncture where they are developing their social identity while also seeking acceptance from other young people (Lin *et al.*, 2016: 324).

Problematic electronic media can strain mental, emotional, and physiological arousal, thereby resulting in an increased heart rate, which results in a decrease in sleepiness (Lemola *et al.*, 2015: 407). A study by Van Zundert *et al.*, (2015: 558) determined that decreased sleep quality as well as increased levels of disturbances in sleep patterns results in negative effects the following day. These negative effects were confirmed in an experimental study that discovered increased self-reports of anxiety, tension, and fatigue (Lemola *et al.*, 2015: 408). A different study involving 390 adolescents deduced that these sleep difficulties are an occurrence of media use at night (Lemola *et al.*, 2015: 411). Van Zundert *et al.* (2015: 566) back up these effects by providing evidence to suggest that sleep difficulties may encourage depressive behaviour, especially amongst adolescents. Furthermore, Lemola *et al.* (2015: 416) also show that social networking via smartphones are related to increased electronic media use of adolescents at night, which in turn points to further findings of increased sleeping

difficulties. They argue that the absence of media use before sleep may contribute to a decreased likelihood of depression.

Turning from sleep to driving, a study conducted by Walsch *et al.* (2008: 1896) indicates that younger drivers are prone to the use of mobile phones or electronic media while driving. Social pressures are considered to be at play for this, as young drivers feel compelled to answer a phone call or text message when driving (Nemme and White, 2010: 1258). This finding is consistent with the previous research regarding social anxiety, where behavioural problems related to mobile phone use are as a result of, “pre-existing factors that likely make the user engage in such behaviour despite the consequences” (Bianchi and Phillips, 2005: 40). Without a doubt, the use of mobile phones or social media while driving increases the risk of being in an accident, which could also lead to the loss of life. Čubranić-Dobrodolac *et al.* (2013: 385) highlight this point from previous studies which have shown that higher accident risks are associated with drivers who use mobile phones while driving as opposed to drivers who do not. Moreover, White *et al.* (2004: 332) refer to their own research, which found that the performance of a driver using a mobile phone equates to that of a driver who has a blood-alcohol level of 80mg/100ml (maximum limit in the United Kingdom). The problematic use of electronic media has also been found to increase the risk of accidents among drivers. This effect was observed in a study by Patten *et al.* (2004), who indicate that the majority of road traffic incidents were caused by driver distractions (cited in Nemme and White, 2010: 1257). This finding was further evidenced in epidemiological studies that showed that 25% of road accidents are caused by driver distractions (Čubranić-Dobrodolac *et al.*, 2013: 381). Emphasising the use of social media while driving is noteworthy due to its prevalence and the potential harm it may cause. It is confirmed by the fact that road accidents are 23 times more likely to occur when mobile phones are used while driving (TextingThumbBands.com, 2015). This incident rate is not necessarily reduced when drivers are using a hands-free device while driving (Čubranić-Dobrodolac *et al.*, 2013: 381). This is because mobile devices reduce attention span, thereby resulting in drivers being unable to fully concentrate on more than one task at a time. To consider this in more detail, it was found that the use of Facebook slowed drivers’ response time by about 38% and was consequently considered more dangerous than drinking and driving (Hanlon, 2012). White *et al.* (2004: 324) add that distractions may instigate accidents, which are mainly because of the inability to maintain speed, poorer reaction times, decreased following distances, and strained situational awareness.



## 2.6 Summary

The review has discussed social media use among youth and observed some of the potential concerns, which include Fear of Missing Out (FOMO), cyberbullying, as well as Internet and social media addiction. Research has established that interactive digital technology, such as social media, has contributed to anxiety disorders that culminate from a desire to secure the luxurious lifestyles of others. Young people, in this regard, face a critical period in their mental and emotional development during adolescence and find themselves more prone to the negative effects of social media technologies. Building on this, studies have suggested that cyberbullying is similar to face-to-face bullying and may lead to physical and physiological issues if it is not addressed. It is important that parents educate their children with regards to online behaviour, which may reduce the risk of them becoming demoralised through bullying.

Studies on Internet addiction are more profound due to the omnipresence of the Internet, as well as the dependency of individuals on technology. The Internet offers many positives, but research suggests that problematic use does exist, and one has to be careful in overstepping the boundaries. The overstepping of boundaries, such as the extensive use of social media, has resulted in the disturbance of daily tasks. Smartphones have contributed to this hindrance as it provides continuous access to the online media realm. However, studies are divided as to whether the same addiction-like symptoms exist in excessive social media use that is more commonly found in Internet addiction, which is often accompanied by depression and sleep difficulties. Finally, social networking has also been associated with irresponsible driving. Studies indicate that mobile phone use while driving generates similar impairments associated with drinking and driving. This evidently leads to greater chances of road accidents and potentially the loss of life. The perspectives of this literature review have provided a backdrop for the discussion on the influences of social media use regarding the wellbeing of its users. The upcoming chapter, which builds on the literature review outlined in this chapter, provides an overview of relevant theoretical frameworks that underpin this study.

## CHAPTER THREE

### THEORETICAL FRAMEWORK

#### 3.1 Introduction

This chapter outlines the theoretical frameworks underpinning this study. Considering that smartphone usage has become an important aspect of people's daily routine, and is a fundamental means of communication among millions of individuals in both developing and developed economies (Rideout *et al.*, 2010: 18), the relationship between social media use and smartphones is well documented (BusinessTech, 2015; Buglass *et al.*, 2017: 248; Goldstruck, 2017; Griffiths, 2018). Due to improvements in social media technology, it is unsurprising that the smartphone has become the most fundamentally used tool to access Internet-driven applications (Demirci *et al.*, 2015: 85).

Due to an increase in the use of smartphones and social media over the past decade, research has focused on the problematic use of social media, commonly referred to as problematic social media use or social media addiction (Banyai *et al.*, 2017: 1; Worsely *et al.*, 2018: 88). In light of this, there are four main theoretical frameworks that underpin this study. These four frameworks are:

1. **Uses and Gratification Theory:** The Uses and Gratifications theory is linked to research on the effects of media, and is a framework that seeks to shed light on the reasons behind the particular media that is selected for the satisfaction of particular needs among individuals (McQuail, 2005).
2. **Media Dependency Theory:** The Media Dependency theory expands on the foundations of Uses and Gratification Theory by enabling an analysis of the relationship between individuals and the choice of media they wish to engage with in further detail.
3. **Problematic Internet Use (PIU):** The excessive use of social media or any internet driven activity may be characterised by Problematic Internet Use (PIU), which negatively impacts on one's social and emotional life (Nezgovorova *et al.*, 2018). Davis (2001) conceptualises this theory as a distinctive template of Internet-related cognitions and behaviours that negatively affect the outcomes of life (cited in Caplan, 2002: 556).
4. **Pathway Model of Problematic Mobile Phone Use:** The Pathway Model of Problematic Mobile Phone Use is one of few theoretical frameworks that exist to make sense of the various pathways which may lead to PIU. Evidence suggests that smartphones are the most frequently used digital platform when accessing media via the Internet (Goldstruck, 2017; Griffiths, 2018), which justifies the inclusion of the

pathway model of Problematic Mobile Phone Use (PMPU) to understand the potential concerns from PMPU and social media use more generally.

The four theories were selected for understanding the potential concerns that stem from problematic social media technology use. In the sections that follow, this chapter seeks to unpack each theory in further detail.

### 3.2 Uses and Gratification Theory

The Uses and Gratification theory was established to ascertain the reason individuals engage with particular forms of media over others. According to Whiting and Williams (2013: 363), this theory is relevant to social media due to its origins in communication literature. The theory, originally conceptualised before technological advancements and the presence of social media, can contribute to understanding motivations for social media use and the potential for addiction. The premise of the theory states that users search for media sources to satisfy their needs despite the availability of alternative choices that lead to similar gratification (Lariscy, *et al.*, 2011: 750-751; Gan and Li, 2018: 307). Ruggiero (2000: 28) suggests that Internet users often select online activities such as seeking information, social interaction, and entertainment to satisfy their needs. What makes the Uses and Gratification theory pertinent for the purposes of this study is its ability to determine whether a positive relationship exists between the chosen social media platform and the satisfaction gained when it is used. Social media technology provides users with access to an array of platforms to accommodate certain needs (Pulido *et al.*, 2018). Due to a variety of social media platforms, each created with a distinctive design, the Uses and Gratification theory helps to understand why users participate in social media interactions and explain their choice in certain platforms over others (Rice and Williams, 1995; Ruggiero, 2000; Gan and Li, 2018: 308; Wainner, 2018). For example, users who enjoy imagery might choose to engage with a platform such as Instagram or Pinterest. Alternatively, users who are text-driven might gravitate toward a platform such as Twitter or Facebook.

While this theory has not been entirely embraced as an important framework in research on social media, it is applicable due to the social media landscape and the potential motivations for use that it is able to make sense of. Lending credibility to its importance, Ruggiero (2000: 27) states that the Uses and Gratification theory has been an important theoretical framework for the analysis of new mass communication instruments such as radio, television, and the

Internet. This strengthens the case that the Uses and Gratification theory may be applied to examine the existence of problematic social media use and what having a choice does in driving social media addiction (Wainner, 2018). This is, of course, one of the factors that drive potential PIU that the Uses and Gratification Theory is able to address (Wainner, 2018; Hossain, 2019).

### 3.3 Media Dependency Theory

The Media Dependency theory was developed by Sandra Ball-Rokeach, a Professor in the USC Annenberg School for Communication and Journalism, and Melvin Defleur, a renowned mass communications scholar, in an attempt to systematically examine the relationship between individuals, media, and social systems (Ball-Rokeach and Defleur, 1976: 5; Ball-Rokeach, 1998 cited in Jakob, 2010: 590; Kim and Jung, 2016: 1460). Albeit that it built on Uses and Gratification theory, Media dependency theory was a profound departure from traditional communication theories that existed at the time in its treatment of users as playing an active role in communication. The central premise of this theoretical framework is thus that as individuals turn to Internet-based technologies more than to real-life, because of sheer ease of access, for their needs, a dependency naturally builds. Thus, the dependency for media is strengthened when gratification has been achieved, such as finding information that one is seeking.

As such, this theory outlines three main media needs. These needs are:

1. **To understand one's social environment:** This need signals a desire to understand how a society and all its surroundings may influence someone. The fulfilment of this desire takes the form of surveillance by reviewing content published by someone else and behaviours of fellow users without their knowledge, therefore gauging the social environment from a different perspective than real-life.
2. **To act in a way that is acceptable in a given environment:** This need refers to using social media in a way that allows an individual to feel that they are sufficiently engaged with the world and their network more specifically. For example, individuals gain a sense of importance when interactions are approved or shared on various platforms, which provides a feeling of satisfaction as users feel that they have posted something of significance.
3. **To extract oneself from a social environment when it becomes overwhelming:** This need can be thought of as seeking to use social media as a form of escapism from real-

life problems and provide a platform where individuals can solely observe without the need to interact or contribute to a conversation directly.

(Baran and Davis, 2011; Wainner, 2018: 10)

These three needs are understood to contribute towards media dependencies, which are generally habits that develop when acquired gratifications are achieved through repeated use, thereby leading to preoccupation with the relative platforms (LaRose and Eastin, 2002: 363). The continuous use of preferred social media progresses into a habitual behaviour that may be activated with limited or no control.

### **3.4 Problematic Internet Use (PIU)**

The number of Internet users has grown exponentially over the last two decades, which is expected to continue due to widespread cyber technologies and Internet applications (Spada, 2014: 4; Laconi *et al.*, 2017: 47; Kemp, 2019). This prevalence has raised concerns that users are vulnerable to developing addictive habits within the digital realm and that it may contribute to negative health effects (Nezgovorova *et al.*, 2018). These addictive habits may result in Internet addiction that is also referred to as Problematic Internet Use (Davis, 2001 cited in Caplan, 2002: 556; Spada, 2014: 4). While PIU is not considered to be a disorder, it does resemble behavioural addiction traits such as introversion found within the publicised Internet gaming disorder (Laconi *et al.*, 2017: 47; Wang *et al.*, 2019: 63). Despite the lack of understanding of PIU, a global body of knowledge highlights the potentiality of negative psychological effects caused by the Internet (Aboujaoude, 2010: 85; Spada, 2014: 4). This is mirrored by Beard and Wolf (2001) who suggest that PIU impacts social, psychological, and professional functioning (cited in Laconi *et al.*, 2017: 47). Symptoms of PIU in individuals include a compulsive urge to actively engage with online activities without the ability to control the screen time that is consumed (Spada, 2014: 5). In addition, withdrawal symptoms are experienced when screen time is disturbed or reduced. This problematic use inevitably encapsulates social media activities that may also prove harmful. Users who join groups and online communities could be pressured into activities classified as risky behaviour, such as taking pictures in dangerous positions or surroundings that may be life threatening (Nezgovorova *et al.*, 2018). Additionally, the health of problematic users may be compromised by actively engaging in daily posts, which could contribute to a sedentary lifestyle.

At its core, PIU is based on two fundamental features. These two features are:

1. **Excessive use:** The excessive use of social media technologies refers to the phenomenon whereby someone prefers to use social media in place of partaking in everyday activities, such as spending time with family and friends (Laconi *et al.*, 2017: 47).
2. **Preoccupation and uncontrollable Internet Use:** The uncontrollable use of social media technologies is regarded as the spending of substantial time on the Internet, which can result in the neglect of personal relationships, social activities and health (Spada, 2014: 5).

The presence of these two factors compromises health by the altering sleep patterns, which may result in depressive symptoms (Adams *et al.*, 2013: 99; Van Zundert *et al.*, 2015: 566). This study will assist in establishing whether personal variables, such as low self-esteem and difficulties in social skills, play a role PIU, which may possibly contribute to the prevention thereof.

### **3.5 Pathway Model of Problematic Mobile Phone Use**

Problematic Mobile Phone Use (PMPU) is defined by Billieux (2012: 299) as, “an inability to regulate one’s use of the mobile phone, which involves negative consequences in daily life.” The theoretical model selected for understanding the potential health concerns that stem from PMPU is Billieux *et al.*’s (2015a: 160) pathway model of Problematic Mobile Phone Use (PMPU). The pathway model of PMPU consists of three pathways that may lead to PMPU namely, an excessive reassurance pathway, an impulsive antisocial pathway, and an extraversion pathway. These pathways are activated through psychological characteristics of individuals and may lead to addiction-like symptoms (Billieux *et al.*, 2015a: 159). Disturbed sleeping patterns may occur as a result of these symptoms which could encourage depressive behaviour, especially among adolescents (Van Zundert *et al.*, 2015: 566).

#### **3.5.1 Excessive reassurance pathway**

This pathway is related to smartphone users whose PMPU is a result of the need to maintain relationships and to obtain reassurance from others. According to Billieux *et al.* (2015b: 466), the use of a smartphone is a mood regulator and is conceptualised as a reassurance strategy. Smartphone users who fail to have access to their devices often influence social anxiety (Sapacz *et al.*, 2016: 155). Research by Lee *et al.* (2014: 378) indicates that an increase in social

anxiety, as well as general anxiety, is associated with excessive smartphone use. Collectively, addiction-like symptoms may be the consequence of a need for reassurance that is promoted by increased anxiety and poor self-esteem (Billieux *et al.*, 2015a: 159; Sapacz *et al.*, 2016: 155).

### **3.5.2 Impulsive pathway**

This pathway is related to smartphone users whose PMPU is fueled by poor impulse control, which results in uncontrolled urges and deregulated use. Zimmerman (2000: 14) defines self-regulation as, “self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals.” The impulsive pathway may lead to various aspects of PMPU, namely addictive and antisocial behaviour (Billieux *et al.*, 2015a: 159), and Attention Deficit Hyperactivity Disorder (ADHD) symptoms, especially among adolescent users (Zheng *et al.*, 2014 cited in Billieux *et al.*, 2015a: 159). A study conducted by Billieux *et al.*, (2008: 1206) suggests that impulsivity traits such as urgency, lack of planning, and low self-control are related to risky patterns of use that are not associated to addictive behaviour just as using a smartphone while driving. The danger of such behaviour is emphasised by Čubranić-Dobrodolac *et al.* (2013: 381) who discovered that a quarter of road accidents are caused by driver distractions. Overall, antisocial symptoms that accounts for PMPU is mainly reflective of the prohibited usage of smartphones.

### **3.5.3 Extraversion pathway**

The extraversion pathway is significant to smartphone users with PMPU, who register dependence-like symptoms where excessive use emerges from a perpetual yearning to socially connect (Bianchi and Phillips, 2005: 40). A study by Igarashi *et al.* (2008: 2312) highlights that the relationship between dependency and a desire to socially connect with others is produced by an extraversion path, which corresponds to the excessive reassurance pathway described above.

Furthermore, the extraversion pathway is related to PMPU among smartphone users where individuals require a constant need for stimulation, displaying risky patterns of use (Billieux *et al.*, 2015a: 159). It is worth highlighting that PMPU among individuals may occur in more than one pathway simultaneously, thereby increasing any potential risks from dangerous smartphone use.

### **3.5.4 PMPU, Sleep Difficulties, and Psychological Health**

Billieux (2012:299) associates smartphone use with potentially disturbing behaviours despite some of its advantages. Concerns associated with smartphone use include uncontrolled or excessive use, which may negatively impact daily living. This inability to control the use of one’s smartphone is referred to PMPU (Billieux *et al.*, 2015a: 156; Tao *et al.*, 2017b: 103). The evidence of PMPU as a behavioural disorder lies in its ability to inspire new pathologies, such as “Nomophobia” (No-Mobile-Phobia) and “FOMO” (Fear Of Missing Out) (De-Sola Gutiérrez *et al.*, 2016: 2). The association between PMPU and sleep interference has been well documented, essentially among adolescent smartphone users (Bayatiani *et al.*, 2016: 9; Coggon, 2006: 298; De-Sola Gutiérrez *et al.*, 2016: 10; Kim *et al.*, 2016: 2; Lemola *et al.*, 2015: 406). De-Sola Gutiérrez *et al.* (2016: 10), define sleep difficulties as disrupted sleep, poor sleep quality and sleeplessness. Sleep is commonly recognised as a necessity for overall good health (Takahashi, 2012: 1). But, the ease with which social media can be accessed via a smartphone has contributed to sleep difficulties with Facebook being pinpointed as the most problematic application in this regard (De-Sola Gutiérrez *et al.*, 2016: 10). To consider problems such as sleep difficulties from the pathways model in more detail, it can be categorised in any of the three pathway models with social networking a significant driving factor, as shown in Figure 3.1.

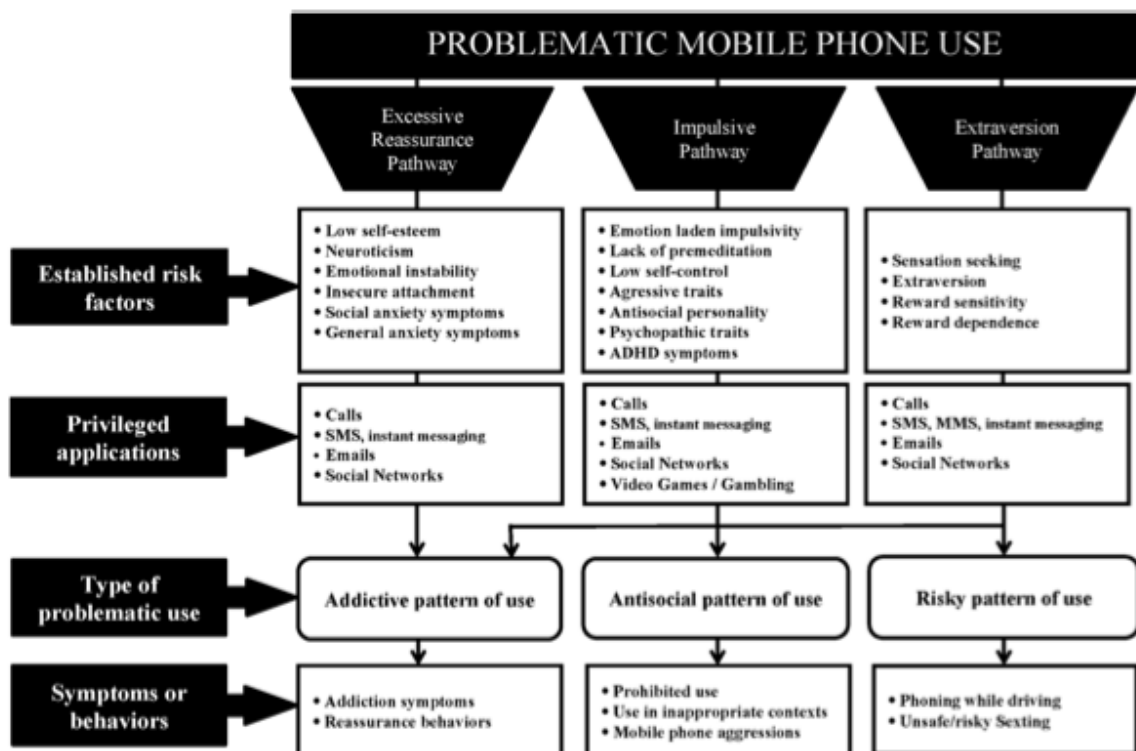


Figure 3.1: A pathway model of problematic mobile phone use (PMPU)



Source: Billieux *et al.* (2015a:160)

A further observed consequence of PMPU is a psychological disorder associated with depressive symptoms (Chen, 2004: 344; De-Sola Gutiérrez *et al.*, 2016: 11; Kim *et al.*, 2016: 2). Lemola *et al.* (2015: 406) confirms an association between sleep difficulties and depressive symptoms. According to Van Zundert *et al.* (2015: 566), the relationship between sleep difficulties and depressive behaviour is significant, especially among adolescents. The existence of depressive behaviour is attributed to negative mood states, which may occur from sleep deprivation (Adams *et al.*, 2013: 99). Due to the perceived relationship between sleep difficulties and depressive symptoms, psychological health may similarly be affected by any of the three pathway models. However, if psychological health were to be associated as an independent variable, it is clear, as evident in Figure 3.1, that it is directly related to the excessive reassurance and impulsive pathways.

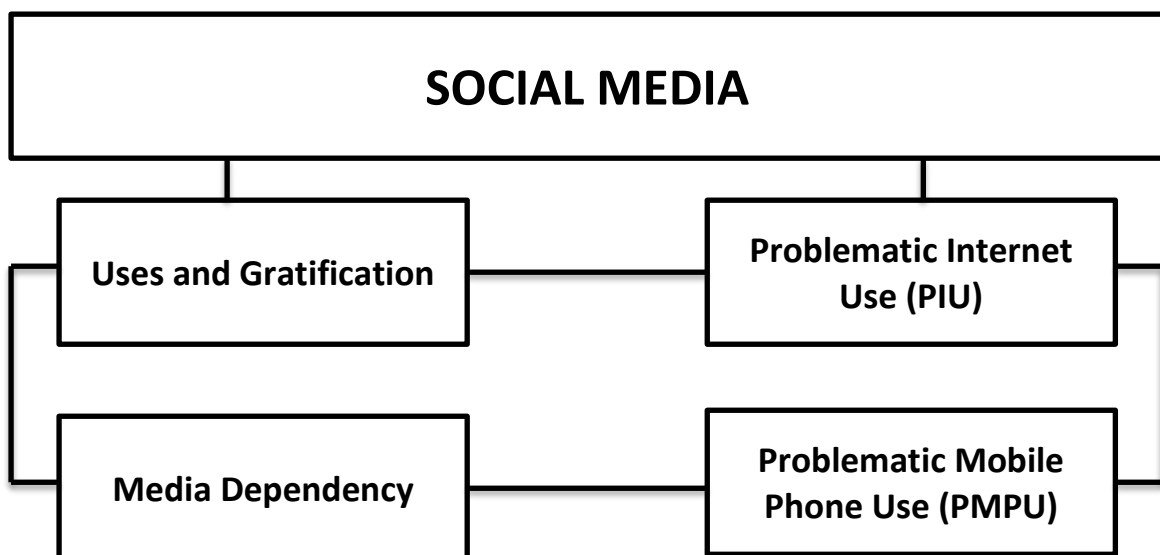


Figure 3.2: A summary of social media and its relevant theories

Source: Research data 2020

### 3.6 Summary

This chapter has discussed that the Uses and Gratification theory and Media Dependency theory are pertinent as a theoretical basis for Internet and media related studies. The development and evolution of digital media has attached itself as an essential part in the daily lives of society. The growth of social media and its frequent use has occasionally resulted in overdependency and may be a possible cause of addiction to it. The combination of the Uses and Gratification and Media Dependency theories shows that when users' needs for interaction is met, the resulting overuse may allow addictive behaviours to develop. These addictive behaviours may possibly raise fears for Problematic Internet Use (PIU), which could lead to negative consequences in daily life. In addition, the Pathway Model of PMPU provides an elaborate framework for describing key dimensions within PMPU. It further demonstrated that PMPU is a heterogeneous and multifaceted disorder that is explained by different pathways (Billieux *et al.*, 2015a: 160). These pathways that may lead to PMPU are being categorised as excessive reassurance pathway, an impulsive pathway, or an extraversion pathway. It was noted that PMPU might lead to psychological health deterrents such as depression, which may incidentally be a result of sleep interference.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY AND DESIGN**

#### **4.1 Introduction**

This chapter presents the research methodology and design and gives an outline of methods that were employed to achieve the objectives of the study. It also provides an overview of the population, and sampling technique for the selection of participants. It further describes the instruments that were used for data collection and aspects of the data analysis procedures that were followed to carry out this study. The ethical protocols that were followed in the process are also discussed. Finally, the researcher highlights the limitations of the study.

#### **4.2 Research Methodology**

This study is exploratory in nature as it seeks to provide a preliminary understanding of the impact of social media technologies on youth in Cape Town, namely mental health, which is relatively new in Information technology (IT) studies and has not been previously researched in great detail. By undertaking a broad-ranging exploratory methodological design, this study sought to obtain more in-depth details of how youth negotiate social and digital media technologies and the beliefs and motivations around youth and social networking. For this reason, the study aimed to investigate which social media platforms are being used and whether any negative effects exist from daily social media use.

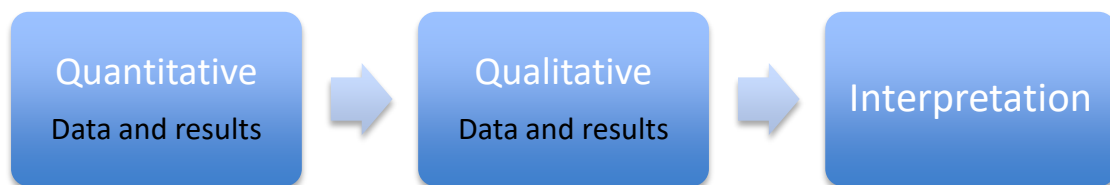
#### **4.3 Research Approach**

In research studies, there are three possible approaches that can be employed, namely quantitative, qualitative, and mixed methods (Creswell, 2003). For this study, a mixed methods research approach was adopted to explore the research problem. Mixed methods refer to the combination, or integration, of qualitative and quantitative techniques. Because this study used a combination of questionnaires and one-on-one interviews, which will be discussed later in the chapter, the research approach qualifies as mixed methods.

A mixed methods approach was used with the objective of generating more accurate and reliable results, as well as to extract intricate details of human behaviour that are difficult to convey solely with a quantitative approach (Austin and Sutton, 2014: 436; Castellan, 2010). Specifically, the quantitative approach was used to examine the research objectives related to the relationship between social media addiction, sleep difficulties, and depressive

symptoms. This proved beneficial when examining the potential relationship between the aforementioned sets of constructs. Conversely, it would have been challenging to solely make a qualitative evaluation of this study due to the need for a larger sample size as well as for the desire to maximize the objectivity of the findings (Williams, 2007: 67). The qualitative approach was thus applied to the study in an effort to augment the data extracted from the correlation analysis and further assist in achieving the remaining research objective.

As such, the chosen research design for the study incorporated the explanatory sequential method, as shown in Figure 4, which first involves quantitative methods before the implementation of the qualitative phase (Subedi, 2016: 570). The explanatory sequential design involves the sequential collection and analysis of data, where the findings are explained, which then inform the secondary phase (Mccrudden and Mctigue, 2019: 382). For example, the first two research objectives were completed using quantitative methods such as a questionnaire. The analysis of the data collected influenced the qualitative methods in the form of one-on-one interviews recorded which, in turn, produced the necessary findings to achieve the third and final research objective.



**Figure 4: Explanatory sequential design for the study**

*Source: Research data 2020*

## **4.4 Research Design**

### **4.4.1 Population and Sampling**

Sampling is a method that is used to gather data from a select number of people from a population who will be researched in a specific study. Populations are usually too large to work with directly and, therefore, samples are needed (Burns and Bush, 2012: 155). The advantages of using the sampling method is to make research of any type and size more manageable which will, in turn, result in more accurate research findings (Bhattacharjee, 2012: 23). Sampling can be divided into non-probability and probability sampling (Etikan *et al.*, 2016: 1). Probability sampling occurs when each person in the chosen population group is known and has an equal chance of being selected (Aaker *et al.*, 2007). Probability sampling

mirrors simple random sampling as each participant from the chosen population gains an equal chance of being selected. A simple random sampling technique was used in this research, as no participant was favoured ahead of the other, thereby indicating an equal probability of being selected.

Participants of the study were recruited within the Cape Town area. The research subjects consisted of young individuals that ranged between the ages of 18–34 years. This year range was intentionally chosen as it is a period where young people are at their most vulnerable to developing poor mental health, including depression (Lemola *et al.*, 2015: 408). In South Africa, people between the ages of 15–34 are regarded as youth, where it is estimated that the youth represent 36% of the population (Lehohla, 2016). As part of the recruitment process, a letter was distributed to the participants pertaining to information on the study aims and procedures. These individuals were then contacted to establish whether they would be interested in participating. Youth who agreed to participate determined the sampling size for the study. The sample size refers to the number of people chosen from the sampling frame who will take part in the data collection process.

#### **4.4.2 Participants**

In total, 205 youth representatives aged 18–34 years completed the questionnaires under the supervision of the researcher, where four questionnaires were deemed unusable due to the ineligibility of certain criteria, such as age requirements, and incomplete feedback. Among the 205 participants, 101 (49%) self-identified as men and 100 (49%) self-identified as women. A majority indicated to having active social media accounts (99%), while the other 1% acknowledged that they sporadically use social media. At the conclusion of the quantitative phase, youth who exhibited higher levels of social media use were invited to engage in one-on-one interviews. In total, 11 youth representatives shared in-depth experiences during the respective interviews. Among the 11 participants, 6 (55%) self-identified as women and 5 (45%) self-identified as men.

#### **4.4.3 Data Collection Methods**

In this study, a quantitative approach was used to fulfil the initial research objectives by using an empirical assessment, which involved the collection of data and information through means of a self-administered questionnaire. The self-administered questionnaire covered questions on social media addiction and health, including sleep, social media consumption

before going to sleep, and depressive symptoms. The structure of the questionnaire included open-ended questions, multiple-choice questions, as well as scale-based questions. Participants had a better understanding of the question, which contributed to fewer participants failing to answer due to its structure (Bailey, 1987: 118).

The survey method used was closely associated with descriptive research and consisted of large samples (Bhattacharjee, 2012: 73). Descriptive studies, as Hopkins (2000) highlights, is an ideal approach to collect data from selected participants because subjects can be observed without intervening. Questionnaires were also used due to their increased speed of data collection, low cost requirements, as well as ability to obtain higher levels of objectivity. In addition, a valid and reliable social media addiction scale (SMAS-SF) was expended to examine the existence of social media addictions (Sahin, 2018: 179). Thus, the consumption of various social networking sites was also investigated, such as Facebook, Instagram, Twitter, and general Internet use. Lemola *et al.* (2015: 406), for instance, suggests that there may be a relationship between sleep difficulties and depressive symptoms. In light of this, the questionnaire also sought to gather information on sleep duration and sleep difficulties from the Insomnia Severity Index (ISI) (Bastien, Vallieres, and Morin, 2001: 299; Lemola *et al.*, 2015: 410). This study also sought to assess depressive symptoms using five elements from the Center of Epidemiological Studies Depression Scale (CES-D), such as “feeling depressed”, “feeling fearful”, “feeling sad”, “feeling everything one does is an effort”, and “that one enjoyed life” (Radloff, 1977; Lemola *et al.*, 2015: 411).

For the qualitative component, semi-structured in-depth individual interviews were conducted with 11 participants with the objective of obtaining more in-depth details as to how social and digital media technologies affect youth. Semi-structured interviews also permit flexibility in the way the researcher asks questions to the participants in Cape Town, thereby allowing the researcher an opportunity to rephrase a question or follow up on a participant’s response, for example (Struwig and Stead, 2001). All questions were written in advance, which included probes. Questions were written in detail to be used verbatim during interviews, and the sequence of questions was also pre-decided and consistent across interviews. This was helpful in gathering precise data into the beliefs and motivations around youth and social networking.

Based on the information received from responses, the appropriate analytical techniques, such as correlation and regression models, were used to examine the relationship between sleep disturbance, social media use, and depression. Overall, 65 questions were posed and answered, which included the various items within the interviews and Likert-type scales, where Sullivan and Artino (2013: 541) define a typical Likert scale to rate the degree at which respondents agree or disagree with a particular statement.

#### *4.4.3.1 Social Media Addiction Scale (SMAS-SF)*

The social media addiction scale (SMAS-SF), validated by Sahin (2018: 172), was used to examine the presence of social media addiction among youth. According to Büyüköztürk *et al.* (2016), the SMAS-SF is a reliable method in examining incidence of social media addiction. This scale consists of 29 items with a five-point Likert-type scale, where higher values of the scores indicate a higher incidence of social media addiction (cited in Sahin, 2018).

#### *4.4.3.2 Sleep difficulties Scale*

The examination for sleep difficulties was conducted with four items from the Insomnia Severity Index with its reliability and validity established in previous studies (Gerber *et al.*, 2010: 895). These items were evaluated on a five-point Likert scale (0 = not at all/very satisfied and 4 = very much/very dissatisfied). Higher values of the scale represent a higher occurrence of sleep difficulties. This scale was used to assess difficulties falling asleep and maintaining sleep, as well as satisfaction with current sleep patterns, and feeling rested after awakening (Lemola *et al.*, 2015: 410). Supplementary questions were included in the survey to negate the impact of other lifestyle choices, which may or may not contribute to sleep complications. Examples of such questions related to whether the participants led a sedentary life, as it is associated with negative effects (Schwartz, 2008: 165). This ensured that any potential discovery of sleep difficulties could be accurately associated to the problematic use of social media technologies.

#### *4.4.3.3 Depressive symptoms Scale*

Depressive symptoms were measured against five items taken from the Center of Epidemiological Studies Depression Scale, which included “feeling depressed”, “feeling everything one does is an effort”, “feeling fearful”, “feeling sad”, and “that one enjoyed life” (Lemola *et al.*, 2015: 411). These depressive symptoms were answered on a four-point Likert scale ranging from 0 (occurred never or rarely) to 3 (occurred most of the time or always).

This was used to determine how frequently the symptoms were experienced, where higher scores reveal higher levels of depressive symptoms.

#### *4.4.3.4 In-depth interviews*

The youth that completed the questionnaire data set were approached to participate in one-on-one interviews to gain deeper insights into the susceptibility of addictive use of social media technologies. The researcher briefed the selected participants about the interview and informed them that their participation was voluntary. Of the youth who had agreed to be interviewed, 11 were randomly selected from the group who exhibited higher incidences of social media addiction.

The participants were requested to acknowledge and sign the informed consent form, which stated that they understood the dynamics of the study and that participation was voluntary. Similarly, a consent form was presented to the participants asking for permission to have the interviews recorded. The researcher chose to practice transparency in the study and therefore distributed a guideline for interviews to the youth. The guideline was circulated with the purpose of enhancing preparation for the interviews, as well as encouraging informative feedback.

The participants were digitally interviewed, via Zoom, in a relaxed environment with minimal chance of disturbances. The interviews were semi-structured to enhance flexibility while also gathering in-depth information from participants understanding (De Vos *et al.*, 2002). A total of three weeks was needed to interview the participants with one interview scheduled per day. However, the interviews were ultimately conducted according to availability. Each interview was conducted in English and recorded. This contributed to the accuracy of information received, which would have been challenging for the researcher to capture if written notes were taken. In addition, this was useful as the researcher was able to focus on what was being conveyed and expressed, thereby allowing for follow-up questions to be established when necessary.

#### **4.4.4 Data Analysis**

At the conclusion of the quantitative data collection phase, the first action involved the capturing and organisation of the data from the questionnaire. Second, establishing categories from the data represented in the questionnaire, which included feedback from the



SMAS-SF, ISI, and CES-D scales. Third, once the relevant data was assessed, it was converted into numerical variables and loaded into the statistical software package known as STATA to examine the relationships between the three scales. The regression equation to examine the effect of social media addiction on sleep difficulties is specified in equations 1 and 2 as:

$$sd_i = \beta_0 + \beta_1 sma_i + \beta_2 X_i + \epsilon_i \quad (1)$$

$$sd_i = \beta_0 + \beta_1 virt_i + \beta_2 vircom_i + \beta_3 virpr_i + \beta_4 virinf_i + \beta_5 X_i + \epsilon_i \quad (2)$$

Where  $i$  denotes respondents;  $sd$  and  $sma$  denotes sleep difficulties and social media addiction, respectively;  $virt$ ;  $vircom$ ;  $virpr$  and  $virinf$  denotes Virtual Tolerance, Virtual Communication, Virtual Problem, and Virtual Information, respectively. Finally,  $X$  is a vector of control variables made up of age, gender, and sleep hours.

The regression equation to examine the effect of social media addiction on depressive symptoms are specified in equations 3 and 4 as:

$$ds_i = \alpha_0 + \alpha_1 sma_i + \alpha_2 X_i + \epsilon_i \quad (3)$$

$$ds_i = \alpha_0 + \alpha_1 virt_i + \alpha_2 vircom_i + \alpha_3 virpr_i + \alpha_4 virinf_i + \alpha_5 X_i + \epsilon_i \quad (4)$$

Where  $ds$  denotes depressive symptoms and all other variables are defined as above.

Fourth, the four regression equations estimated using the ordinary least squares (OLS) estimation technique in STATA to identify the signs and significance of the coefficients  $\beta$  and  $\alpha$  and strength of the relationship between excessive social media use, sleep difficulties, and depressive symptoms. In summation, the first two objectives were achieved using quantitative data analysis, which Emory and Cooper (1991: 89) summarise as an implementation of creating summaries, finding trends and relationships, and making use of statistical techniques as an interpretation to achieve the research objectives. The first objective uses descriptive statistics where emerging patterns were highlighted. The second objective was achieved through correlation statistics, which assisted in describing the relationships between the listed variables.

The thematic content analysis was used to analyse the qualitative interview data. This included transcribing the recorded data on to a word processing package, namely Microsoft

Word. It was then critically recited to obtain a better understanding of the data. Second, codes were created from each paragraph and grouped together to establish themes. Third, the themes were reviewed and considered in relation to concepts defined in the literature. Fourth, the similarities and differences between the individual interviews were identified, which were then grouped in tables. Finally, the researcher read through the transcripts again and confirmed them with a colleague to oversee that there were no compromises to the validity of the data.

#### **4.5 Ethical Considerations**

The study was conducted in a manner that endeavoured to avoid infringing on the privacy of participants. The anonymity of participants is paramount and was preserved throughout the study, particularly during the data collection and analysis stages. This was to ensure that any data provided could not be traced back to them in any form of dissemination (Crow and Wiles, 2008). A letter was issued to all participants indicating that their identity would be protected during all phases of the research process. Additionally, informed consent was deployed to all participants before the data collection process. This is the process of providing sufficient information that explains all the information and implications during the study, which allows the individual to make an informed decision about whether to participate (Drazen *et al.*, 2017: 856). At the completion of the data collection phase, the importance of informed consent was reiterated. Ethical issues such as the way data will be used, how research data will be stored and accessed, and how confidentiality will be maintained, became an essential reminder for the researcher (Oliver, 2010: 66). According to Gregory (2003: 38), the decision on whether to participate in research should be voluntary and free of unwarranted pressures. Upholding individuals' rights to confidentiality and privacy is essential. Participants were assigned aliases, specifically a number, to conceal their identity.

Permission was obtained from the Cape Peninsula University of Technology to conduct the study involving human participants. The relevant ethics committee granted the necessary permission to ensure the protection of the participants. During the informed consent process, it highlighted that participants were free to withdraw from the study at any time.

#### **4.6 Limitations of the Study**

This study focuses almost entirely on the mental well-being of a relatively large sample of youth and excludes the investigation into physical illnesses, such as cancer. However, the sample should be sufficient to serve as motivation for longer-term research that focuses on a wider variety of possible health implications in a larger sample. Moreover, limited knowledge within the medical field creates certain drawbacks in the pursuance of research regarding physical complications in human beings. Further limitations include non-compliance from youth. For this reason, an incentivised approach was used in the quest to obtain co-operation among respondents, as well as reliable and valid feedback.

#### **4.7 Summary**

This chapter discussed the research methodology, sampling procedure, data collection instruments, and strategies employed to ensure that ethical standards were maintained throughout. A mixed methods strategy was chosen for the study, which necessitated a combination of quantitative and qualitative techniques that addressed the research objectives more accurately. The researcher applied a quantitative, descriptive survey design in the form of a questionnaire that facilitated the data collection from a sample of 205 participants.

Additionally, a qualitative approach was used in the form of 11 in-depth interviews to assist in gaining a better understanding of the responses received in the questionnaire. The sample represented men and women; the vast majority of who have active social media accounts. Participation in the study required informed consent from participants, as well as institutions and workplaces where participants were employed. Furthermore, the researcher ensured the maintenance of ethical standards throughout this study by illustrating the aforementioned. The following chapter will focus on the presentation and discussion of the data collected during both the quantitative and qualitative phases of the study.

## CHAPTER FIVE

### DATA ANALYSIS

#### 5.1 Introduction

The purpose of this study was to explore the impact of social media technologies on youth in Cape Town. As such, this chapter discusses the findings from the data analysis of 201 completed questionnaires and 11 in-depth interviews with young social media users in Cape Town. Data analysis usually involves decreasing the collected data to a size that can be managed. This is done by creating summaries, finding trends and relationships, as well as making use of statistical techniques for interpretation to carry out the research objectives (Emory and Cooper, 1991: 89).

A total of 201 youth participants, between 31 October 2019 and 15 March 2020, completed questionnaires in the northern and southern suburbs of Cape Town. The first dataset included the use of closed-ended questions that gave the participants a greater understanding of the concepts, thereby resulting in fewer participants failing to answer appropriately (Bailey, 1987: 118). The data from the questionnaires was statistically analysed by the researcher using the appropriate analytical tools. At the conclusion of the collection phase, the data was captured and stored in Microsoft Excel using the various categories represented in the questionnaire. The captured data was then converted into numerical variables and inserted in a statistical software program known as STATA. In the second dataset, the researcher analysed the data into generative themes, which are described individually later in this chapter. The researcher describes how the themes overlap. The findings are then discussed according to the sections of the questionnaire while highlighting the three objectives of the study. The objective of these results was to ascertain the strength of the correlation between social media addiction, sleep difficulties, and depressive symptoms. Additionally, the results in the second dataset will provide factors that lead to the addictive use of social media technologies.

The five sections of the questionnaire included biographical data, general digital preferences, and fitness habits. Secondly, it comprised frequently used social media applications. Finally, the questionnaire tested for social media addiction, sleep difficulties, and depressive symptoms.

#### 5.2 Biographical Data, General Digital Preferences and Fitness Habits

This section of the questionnaire covered the participants' age, gender, social media preferences, fitness habits, and sleep consumption. The information gathered was not central to the study, but it offered context to the findings, as well as an indication of other lifestyle factors that may or may not influence the results.

### 5.2.1 Participants' Ages

The participants were asked to indicate their current ages. This was in accordance with the relevant age group of the study. Table 5.1 depicts the participants' ages.

**Table 5.1: Participants' ages at the time of completing the questionnaires**

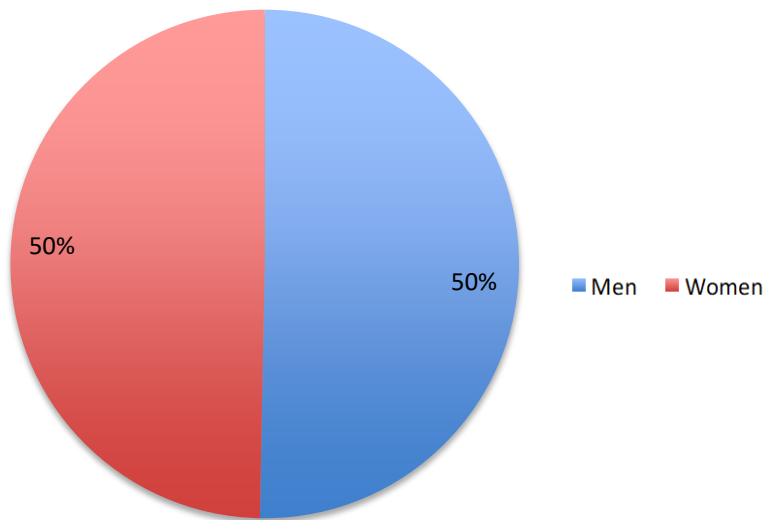
Age Group	Frequency	Percentage
18-23 years	82	40.79
24-29 years	73	36.31
30-34 years	38	22.88
<b>Total</b>	<b>201</b>	<b>100.00</b>

Source: Research data 2020

The participants' ages ranged between 18–34 years, with a majority of 82 (40.79%) representing the ages of between 18–23 years. This study focused on the social media use of youth, as it is a period when young people are often vulnerable to developing poor mental health, including depression (Lemola *et al.*, 2015: 405).

### 5.2.2 Gender of Participants

Figure 5.1 represents the gender distribution of the participants of the survey. Among the 201 participants, 101 (50.3%) self-identified as men and 100 (49.7%) self-identified as women. The almost equal split between men and women was to ensure that the research results could be generalised across these two gender groups in the Cape Town area.

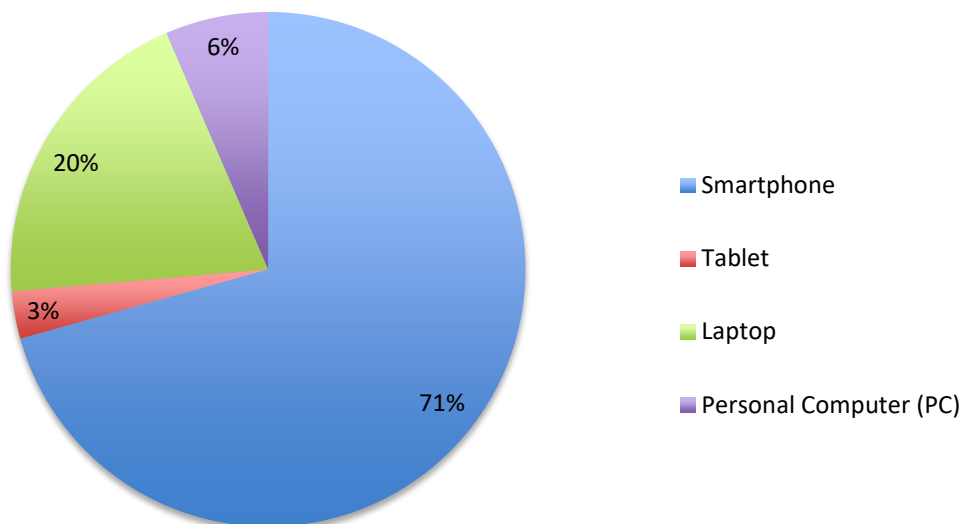


**Figure 5.1: Gender of participants**

Source: Research data 2020

**5.2.3 Digital Preference of Participants**

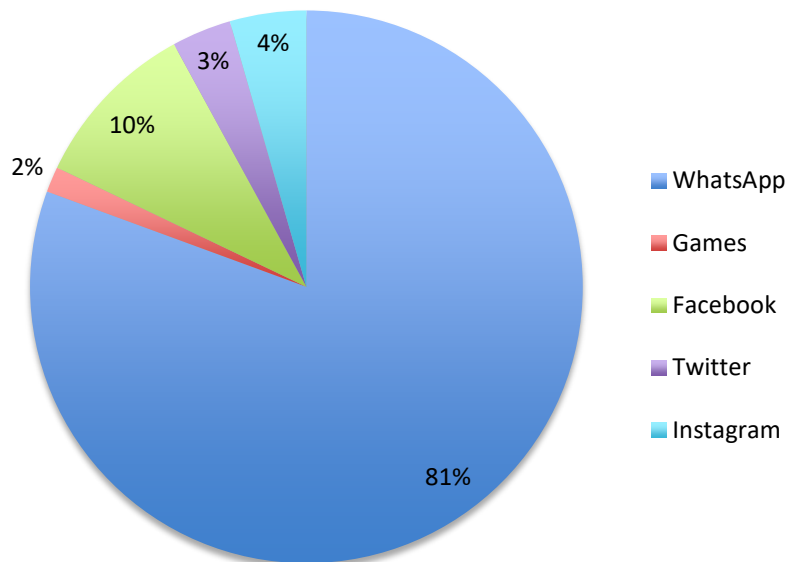
Of the participants, 142 (71%) indicated that owning a Smartphone would be their ideal choice of digital communication. This was followed by Laptops, whereby 40 (20%) acknowledged it as their preference. Owning a Personal Computer (PC) was the preferred choice for 13 (6.46%) participants, while 6 (2.98%) favoured a Tablet. Figure 5.2 illustrates the digital preference of the participants.



**Figure 5.2: Preferred choices of digital communication**

Source: Research data 2020

Additionally, the participants were instructed to reveal which application on their social media profile was a non-negotiable requirement. Figure 5.3 represents the favoured applications among the sample group. The most popular application among the participants is the ubiquitous instant messaging application WhatsApp. This was demonstrated by 162 (81%) participants.



**Figure 5.3: Most popular social media applications**

Source: Research data 2020

#### 5.2.4 Fitness Habits

According to Hargens *et al.* (2013: 30), regular physical activity has the potential to alleviate most sleep disorders and improve overall wellbeing. The participants were probed for insights into their physical activity and sport participation. Of the sample group, 65 (32%) indicated that they are involved in performance enhancing sport activities, while 136 (68%) acknowledged no affiliation to any sport. Furthermore, the researcher queried the participants' weekly exercise regimes. They were assessed according to a frequency scale of "once per week", "one to three times per week", "more than three times per week", and "not at all". In total, 154 (77%) of participants are intent on engaging in physical exercise at least once per week, while 47 (23%) said to lead a fairly sedentary lifestyle. Table 5.2 characterises the active lifestyle of the sample group.

**Table 5.2: Fitness habits**

Regular exercise per week	Percentage (%)	Sport Activities	Percentage (%)
Once	16%	No	68%
One to three days	28%	Yes	32%
More than three days	32%		
None	23%		

Source: Research data 2020

### 5.3 Frequently Used Social Media Applications

This section of the questionnaire determined how frequently the sample group used social media applications during the day and before going to sleep. The list of applications included “Facebook”, “WhatsApp”, “YouTube”, “Twitter”, and “Instagram”. Table 5.3 represents the frequency of applications used before going to sleep.

**Table 5.3: Frequently used applications before going to sleep**

	Never	Rarely	Occasionally	Most of the time	Always
<b>Facebook</b>	33.33%	16.41%	17.91%	19.40%	12.93%
<b>WhatsApp</b>	2.98%	5.97%	13.93%	38.30%	38.81%
<b>YouTube</b>	22.88%	19.40%	21.39%	16.91%	11.94%
<b>Twitter</b>	66.67%	9.45%	9.45%	9.95%	2.98%
<b>Instagram</b>	36.82%	9.45%	21.89%	22.89%	8.46%

Source: Research data 2020

Table 5.4 emulates these statistics by representing the frequency of applications used during the day. Following the results, WhatsApp emerged with the highest percentage (38.81%), out of all five applications, as an application that is “always” used before bed. Additionally, this instant messaging application continues to dominate the results as the most frequently used application during the day; 99 (49.25%) of participants verify this outcome. The results provide some clarity for any potential occurrence of social media addiction among the participants.



**Table 5.4: Frequently used applications during the day**

	Never	Rarely	Occasionally	Most of the time	Always
Facebook	26.87%	20.40%	24.39%	14.42%	15.42%
WhatsApp	0.99%	3.48%	14.43%	31.84%	49.25%
YouTube	19.91%	21.89%	35.32%	13.43%	9.45%
Twitter	66.17%	10.48%	9.45%	10.48%	2.99%
Instagram	36.32%	10.95%	2.34%	19.40%	9.95%

Source: Research data 2020

## 5.4 Social Media Addiction

This section consisted of the Social Media Addiction Scale (SMAS-SF) acknowledged by Sahin (2018: 179), which was used to test for social media addiction. The SMAS-SF consisted of 29 items with a 5-point Likert-type scale. The options for the scale were “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, and “strongly agree”. On a scale of 1–5, “strongly disagree” was linked to 1, while “strongly agree” was linked to 5 points. Higher mean values of the scores indicate a higher incidence of social media addiction. It ranges between a minimum of 29 and a maximum amount of 145, thereby representing a 116-point range. On this scale, values above the median value of 58 reflect a high incidence of social media addiction and vice versa. In addition, the SMAS-SF was structured according to four sub dimensions, namely “Virtual Tolerance”, “Virtual Communication”, “Virtual Problem”, and “Virtual Information”. The “Virtual Tolerance” sub dimension measures the extent to which participants are consumed with social media applications in their daily lives. Secondly, the “Virtual Communication” sub dimension captures the lack of self-presentational skills inciting users to communicate via social media applications as opposed to face-to-face interaction. Thirdly, “Virtual Problem” discerns the participants’ ability to control their social media use. Finally, “Virtual Information” evaluates whether the participants are compulsive social media users due to the speed, accessibility, and intensity of the information that appears online.

Table 5.5 indicates the mean scores of the various sub dimensions, as well as the overall social media addiction classification. A mean value of 69.54 suggests a high incidence of social media addiction among the sample group. The driving factor for social media addiction seems to stem from the “Virtual Communication” sub dimension, which is mostly prevalent among youth aged 18–23 years.

**Table 5.5: Social media addiction scores of participants**

Age Group (in years)	VIRT	VIRCOM	VIRPR	VIRINF	SMA
18-23	14.35	21.44	19.26	18.60	73.65
24-29	13.15	20.37	17.99	16.63	68.03
30-34	12.17	19.33	16.57	16.61	64.67
<b>Average</b>	<b>13.41</b>	<b>20.57</b>	<b>18.12</b>	<b>17.43</b>	<b>69.54</b>

Note: SMA=.Social Media Addiction; VIRT= Virtual Tolerance; VIRCOM= Virtual Communication; VIRPR= Virtual Problem; VIRINF= Virtual Information.

Source: Research data 2020

### 5.5 Sleep Difficulties and Social Media Addiction

This section consisted of an examination of sleep difficulties, which was assessed with a five-point Likert scale from the Insomnia Severity Index. Four items were used to conduct the assessment namely, “difficulties falling asleep”, “maintaining asleep”, “satisfaction with current sleep patterns”, and “feeling rested after awakening” (Lemola *et al.*, 2015: 410). The Likert scale measured the four items against five points namely, “not at all”, “rarely”, “occasionally”, “most of the time”, and “always”. “Not at all” was linked to 1 point, while “always” accompanied a rating of 5 points. Simultaneously, the items of “satisfaction with current sleep patterns” and “feeling rested after awakening” were coded in reverse with “always” reflecting a score of 1 point, while “not at all” produced a score of 5 points. Higher mean score values represent a higher occurrence of sleep difficulties.

Table 5.6 indicates the mean scores among the sample group. The results demonstrate that there is a case for sleep difficulties among the participants, while suggesting a higher incidence among participants aged 18–23 years. This is similar to the results of social media addiction in Table 5.5, which highlights that participants aged 18–23 years as having a positive occurrence.

**Table 5.6: Sleep difficulties**

Age Group	Sleep Difficulties
-----------	--------------------

<b>(in years)</b>	
18-23	10.8902
24-29	10.3562
30-34	10.8478
<b>Average</b>	<b>10.6866</b>

Source: Research data 2020

Table 5.7 presents the results of the regression analysis on the effect of social media addiction and its sub dimensions on sleep difficulties among the sample surveyed. The results in Model 1 show a positive, but insignificant, effect of social media addiction on sleep difficulties. In Model 2, the sub dimensions “Virtual Information”, “Virtual Tolerance” and “Virtual Problem” are found to have a positive effect on sleep difficulties. However, the effects are all observed to be too insignificant to suggest that social media addiction has an effect on sleep difficulties. On the control variables, the researcher observed a relationship between gender and sleep difficulties at a 5% level of significance in both Models 1 and 2, which indicates that male respondents were more likely to experience lower levels of sleep difficulties compared with women. In addition, the positive effect of sleep hours at 5% significance in both models indicates that longer sleeping hours result in sleep difficulties. Lastly, the negative effect of age is observed to be insignificant across both models.

**Table 5.7: Correlation between sleep difficulties and social media addiction**

Dependent variable: Sleep Difficulties						
Model 1				Model 2		
	Coef.	Std. Err.	t	Coef.	Std. Err.	t
<b>Constant</b>	8.374***	1.784	4.69	7.655***	1.806	4.24
<b>SMA</b>	0.019	0.013	1.52			
<b>VIRT</b>				0.108	0.073	1.49
<b>VIRCOM</b>				-0.086	0.058	-1.48
<b>VIRPR</b>				0.028	0.061	0.47
<b>VIRINF</b>				0.094	0.061	1.54
<b>Age</b>	-0.012	0.050	-0.25	-0.004	0.049	-0.07
<b>Gender (Men)</b>	-1.145**	0.459	-2.49	-1.041**	0.466	-2.24
<b>Sleep hours</b>	0.945**	0.371	2.55	0.923**	0.370	2.5
F(4, 194)	3.74			3		
Prob > F	0.0059			0.0052		
R-squared	0.0716			0.0991		
Adj R-squared	0.0524			0.0661		
Root MSE	3.2237			3.2004		
Observations	199			199		

Note: SMA= Social Media Addiction; VIRT= Virtual Tolerance; VIRCOM= Virtual Communication; VIRPR= Virtual Problem; VIRINF= Virtual Information. Age= Age of respondents in years; Gender= 0 for women and 1 otherwise  
 \*\*\*, \*\* and \* denotes significance at 1%, 5% and 10% respectively.

Source: Research data 2020

### 5.6 Depressive Symptoms and Social Media Addiction

The final section is comprised of the examination for depressive symptoms which were determined using five items from the Center of Epidemiological Studies Depression Scale (Lemola *et al.*, 2015: 411). The items included questions such as “feeling depressed”, “feeling everything one does is an effort”, “feeling fearful”, “feeling sad”, “feeling a lack of motivation”, and “that one enjoyed life”. This was measured on a four-point Likert scale with categories consisting of “never”, “rarely”, “most of the time”, and “always”. The category of “never” was linked to 1 point, while “always” accompanied a rating of 4 points. Concurrently, the item of “enjoying life” was coded in reverse with “always” reflecting a score of 1 point, while “never” produced a score of 4 points. This resulted in higher scale mean scores

indicating higher levels of depressive symptoms. Table 5.8 indicates the mean scores among the sample group and displays that there is a suggestion of depressive symptoms among the participants.

**Table 5.8: Depressive symptoms**

<b>Age Group</b>	<b>Depressive Symptoms</b>
18-23	12.061
24-29	11.507
30-34	11.673
<b>Average</b>	<b>11.771</b>

*Source: Research data 2020*

The results of the effect of social media addiction (SMA) and its sub dimensions on depressive symptoms are presented in Table 5.9. From Model 1, we observe a positive effect of SMA on depressive symptoms at 1% significance. In Model 2, the sub dimension of “Virtual Problem” is positively related to depressive symptoms at 5% level of significance. “Control Communication” and “Virtual Information are also found to be positively related to depressive symptoms but insignificant. The negative effect of age on depressive symptoms is insignificant in Models 1 and 2. Similar to sleep difficulties, the relationship between negative effects on sleep and gender can be observed at 10% and 5% significance in Models 1 and 2 respectively, which indicates men have lower levels of depressive symptoms.

**Table 5.9: Correlation between depressive symptoms and social media addiction**

Dependent variable: Depressive Symptoms						
Model 1				Model 2		
	Coef.	Std. Err.	t	Coef.	Std. Err.	t
Constant	7.452***	1.320	5.65	7.870***	1.343	5.86
SMA	0.058***	0.009	6.18			
VIRT				0.084	0.054	1.56
VIRCOM				0.041	0.043	0.95
VIRPR				0.111**	0.045	2.47
VIRINF				-0.022	0.045	-0.49
Age	-0.004	0.037	-0.11	-0.006	0.037	-0.15
Gender (Men)	-0.661*	0.340	-1.95	-0.717**	0.346	-2.07
Sleep hours	0.357	0.274	1.3	0.405	0.275	1.47
F(4, 194)	11.71			7.25		
Prob > F	0			0		
R-squared	0.1945			0.21		
Adj R-squared	0.1779			0.1811		
Root MSE	2.3845			2.3798		
Observations	199			199		

SMA= Social Media Addiction; VIRT= Virtual Tolerance; VIRCOM= Virtual Communication; VIRPR= Virtual Problem; VIRINF= Virtual Information. Age= Age of respondents in years; Gender= 0 for women and 1 otherwise \*\*\*, \*\* and \* denotes significance at 1%, 5% and 10% respectively.

Source: Research data 2020

### 5.7 Qualitative Results

This study used qualitative methods such as one-on-one in-depth interviews, to gather information about social media use tendencies from youth participants. Qualitative methods are regarded as being more flexible, because it allows more freedom of interaction between the researcher and the participant. Qualitative methods commonly ask more open-ended questions, which are often worded in slightly different ways for each study participant. These open-ended questions allow participants to be more descriptive by answering questions in their own words rather than choosing a simple “yes or no” answer (Cohen *et al.*, 2007: 231). The researcher could then respond immediately to the answers provided and ask follow-up questions, which are tailored to information provided by the participant. In using qualitative

methods, the relationship between the researcher and the study participant is likely to be less formal than in quantitative research.

The one-on-one interviews were conducted remotely using digital communication software, which was done due to national social distancing restrictions in light of COVID-19. The various age group categories of youth who participated in the questionnaires were invited to provide input in the interviews. The majority of the 18–23-year age group were actively approached due to the higher percentage of social media addiction that was captured in the quantitative dataset. In total, 11 participants were interviewed of which seven of the participants were considered part of the group aged 18–23 years. The interview form consisted of 13 questions, which were answered through the aforementioned communication channels.

Youth responded to the following questions:

1. Is your social media use deeply integrated into your daily life? If yes, how so? If no, expand.
2. What was the purpose of using social media when you first started?
3. What does social media give you? Explain.
4. Do you get a "buzz" from social media? Explain.
5. How do you feel when you cannot use social media?
6. Have you found yourself in trouble because of social media use?
7. Have you tried to cut-back on your use of social media? How did that go?
8. How do you feel when you see photographs of groups of friends in activities that you should be a part of? For example, if you were not invited.
9. How do you feel when seeing photos of friends? Are you in those photo's? If not, how do you feel?
10. How do you feel when something you post online receives very few likes or comments?
11. How do you feel when you see friends enjoying the finer things in life that are beyond your level of affordability? For example, wealth, latest trends, or gadgets.
12. Have you been bullied online? If yes, do you want to share more about it?
13. Would you say that you are dependent on social media?

### **5.7.1 Profile of the Interviewees**

At the conclusion of the primary data collection in the form of the questionnaires, participants were invited to share in-depth experiences of using social media. The data collected contributed to identifying which factors potentially lead to addictive use of social media technologies.

**Table 5.10: Age range of participants**

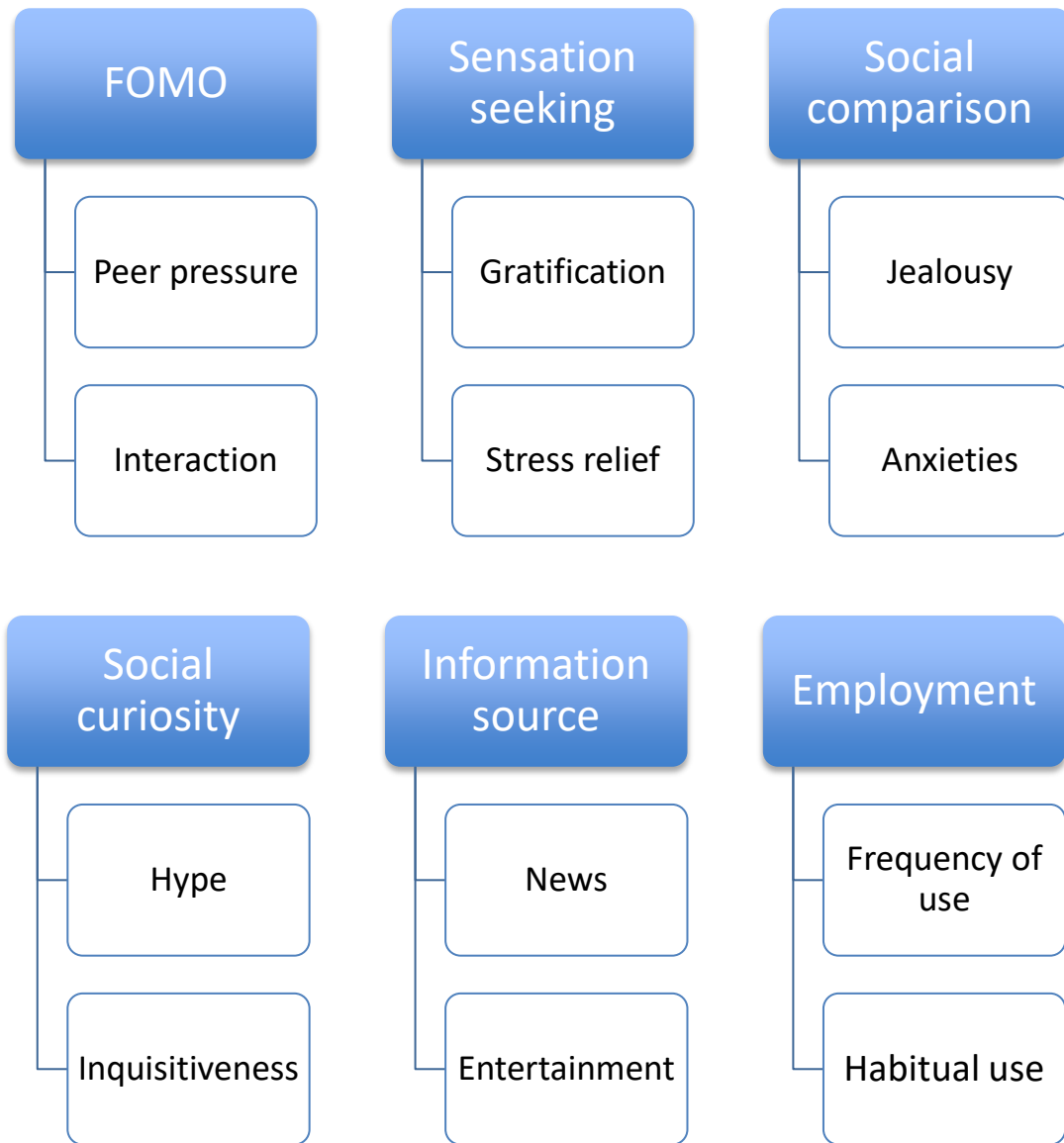
Age Group	Number of Respondents	Percentage (%)
18-23	7	64
24-29	2	18
30-34	2	18
<b>Total Number of Respondents</b>	<b>11</b>	<b>100</b>

*Source: Research data 2020*

## 5.8 Thematic Analysis

During the data analysis, the researcher assembled the feedback and social media related issues of the participants. Further, the data were organised and coded into different groups according to what was best suited in exploring the relevant research objective. After the analysis, FOMO, sensation seeking, social comparison, social curiosity, employment, and information source were identified as the major themes that may explain social media addiction, as shown in Figure 5.4.





**Figure 5.4 Qualitative Themes and Subthemes**

Source: Research data 2020

**5.8.1 Fear of Missing Out (FOMO)**

The most common theme that was extracted from the feedback was FOMO, which according to the body of literature, is a concern among social media adversaries. This concern is one of the prime topics discussed when the topic of social media addiction is insinuated (Przybylski *et al.*, 2013: 1841). In commenting about how they feel when social media is absent from their daily lives, respondents with the most noticeable cases stated that:

*“I feel like I am missing out. That is the reason why I am on social media daily.”* **Respondent**

**3**

*“I feel a bit lost as I am not being updated with what I would like to know.”*

**- Respondent 5**

*“There are times when I do become agitated due to not being able to access social media for a while. These feelings usually arise during the annual football transfer window, where social media platforms are bombarded with a plethora of news articles updating fans on the latest transfer activity in the market. I do not feel anxious, but there is a feeling of missing out when I am not able to access the platform.” - Respondent 7*

*“When I cannot use I feel a sense of boredom and that there is something I am going to miss out on. I feel as though I now have to face reality and there is no escaping.”*

**- Respondent 11**

When probed about whether they have tried to curb their use of social media, a couple of youth participants responded as follows.

*“I tried it for a few days, but I was unsuccessful. I enjoy using social media and I cannot go without it.”- Respondent 3*

*“There was a stage in my life where I tried to cut back on social media. By doing so, I tried to narrow down how much time I spend on social media at once. Unfortunately, it did not last long as what I thought it would.”- Respondent 11*

**In summary**

Unsurprisingly, most of the respondents claimed to suffer from some of the anxieties related to FOMO with regards to social media use. This may be a result of feeling excluded and neglected by close acquaintances. It is worth suggesting that less time should be spent viewing or sharing real-time updates of one’s life. This could prove difficult as the responses suggest that participants experience difficulties when trying to avoid social media for long periods. It is a further example that social media is designed to keep users constantly connected.

**5.8.2 Sensation Seeking**

Sensation seeking is a personality trait that is defined as the need for a variety of sensations and experiences, while freely risking ones physical and social well-being to achieve such sensations (Zuckerman, 1994; Lopez-Bonilla and Lopez-Bonilla, 2010: 177; Cladellas *et al.*, 2017: 117). In addition to this theme being established from the transcripts, the researcher frequently observed this trait among the youth being interviewed. It was established that one of the reasons as to why youth used social media was for the gratification it provided. This occurred in spite of participants acknowledging that negative consequences exist. The psychological state is created whereby users feel there is a need for Internet communication to be able to perform simple daily activities (Longstreet and Brooks, 2017: 74).

The researcher was able to extract knowledge of what social media gives its users.

*“It allows me to pass time and serves as a distraction from stress from varsity or any other problems.”- Respondent 4*

*“Social media gives me a feeling of release; it helps me break away from reality. When I am on social media it distracts me from everything happening around me, and sort of calms me.” - Respondent 11*

### **In summary**

The researcher further deduced that it was primarily through peer pressure from various friendship circles, which motivated these youth to explore social media as a means to feeling accepted. This may be a result of young people being easily influenced by others and will engage in activities regardless of any potential ill effects.

### **5.8.3 Social Comparison**

A Facebook study defines social comparison as the characteristic where individuals, suffering from anxiety and mood changes, seek to present themselves as idealised versions (Seidman, 2013: 402; Appel *et al.*, 2016). Through social media, users display their accomplishments and material possessions to boast among friends and acquaintances. This eccentric behaviour may cause jealousies to arise, which according to studies, can inadvertently lead to unhappiness and depression. One respondent perfectly summarises this concern:

*“It motivates me to want to work harder to afford a luxury life as well. Something that excites one person does not mean it will excite me to the same extent. When I see my friends with the latest gadgets or living luxury lives, it only pushes me to do better in my career so that I can also live a luxurious lifestyle.” - Respondent 1*

*“I think we as human beings all inherently possess a degree of covetousness. Viewing images of people enjoying the finer things in life does evoke feelings of wanting more than you can afford. Hence, I feel social media plays a big role in influencing people to be more impulsive when making purchases or embarking on expensive vacations.” - Respondent 7*

On a slightly positive note, social comparison may potentially uplift more mature users who view posts of pretentious friends. This is highlighted by the following comments:

*“Sometimes I wish I had the finer things in life that is presented. Seeing those things motivates me to push to a certain goal where you will be able to attain those things. Therefore, social media is very motivating to a certain extent as well.” - Respondent 9*

### **In summary**

Consistent with related studies, idiosyncrasies such as social comparison is a pertinent factor that may lead youth to unhealthy social media use.

### **5.8.4 Social Curiosity**

A common occurrence in this study was the theme of social curiosity. Choi *et al.* (2013: 2669) argue that curiosity is a significant motivator for individuals' general use of social networking. A few candid individuals in the following responses portrayed this commonality:

*“At first I started social media because of the hype and always hearing about it, so I decided to check it out for myself and was kind of amazed by it. The fact that people could share photos and videos with all of their friends on one platform.”- Respondent 4*

*“The purpose of social media when I first started was to see if it was for me; just out of curiosity.”- Respondent 5*

*“When I first started to use social media, my main purpose was to just see how it worked because everyone has been doing it. Opening Instagram, Facebook accounts, and so on. So*

*it was more the fact that I was curious to see how it worked. Friends were also the influence that lead on the use of social media and also the fact that there's new technology every day and one cannot stay on place and not adapt to what is out there.”- Respondent 9*

It was observed that social curiosity ties in with the abovementioned social comparison where the youth respondents, on more than one occasion, showed a desire to check up on the lives of others. It is the opinion of the researcher that following through with this desire ignited a dopamine surge among the youth. In addition to body language, a few respondents summarised this observation as follows:

*“There are times I feel overwhelmingly good when using certain social media platforms.”  
- Respondent 1*

*“I receive a buzz by being able to engage with fellow users and stay in touch with the latest updates.”- Respondent 10*

*“Sometimes you see things on social media that makes you feel a certain way. For example, seeing advertisements of an upcoming festival makes me feel excited and hyped up; knowing there is a possibility I could be attending it, etc.”- Respondent 11*

### **In summary**

The occurrence may be an inference of earlier studies that suggest algorithmic designs within the mainframe of social media platforms prompt users to stay incessantly connected with others (Busby, 2018).

### **5.8.5 Information Source**

During the interview process, it became clear that the youth use social media to access a large degree of their daily news. Accordingly, 65% of Internet users receive breaking news from various social media platforms Martin (2018). A few of the respondents lucidly emphasised this routine in the following feedback:

*“Social media allows me to stay in contact and as a student it helps me receive and stay up to date with any news, updates, or events at the university. It keeps me informed with what is happening around the world.”- Respondent 4*

*“I frequently use Twitter daily to stay up to date with the latest sporting, commercial and political news. It is integrated into my daily life due to the frequency with which I visit the platform and the information that I seek to obtain.”- Respondent 7*

*“Social media is deeply integrated into my life as it is not only a means of passing by time, but it is a source of news. Whether it be for football, music, games, or anything. I use it on a daily basis as it provides me with information on my interests.”*

**- Respondent 11**

### **In summary**

During the discussions with youth participants, the researcher discovered that every respondent used social media platforms as a source of news. This could be touted as slightly irresponsible due to the pernicious influences of mass media and the ever-present fake news phenomenon. It is critical that users acquire the skills to discern between fake and real news.

### **5.8.6 Employment**

The ubiquity of social media has diverged into the working industry, and many individuals can now make a living by specialising in these platforms. A third of the respondents indicated they were employed within the social media stratosphere. This is an acknowledgment that certain users are engrossed in social media for the most part of a 24- hour day due to the combination of work and pleasure. Feedback is highlighted by the following responses:

*“As an SEO intern, I am forced to integrate social media in my everyday life, as I have to keep up with everything that is going on the different social media platforms. I also personally use social media to keep up with what my friends are up to and especially in this pandemic to entertain myself and keep myself busy.”- Respondent 1*

*“I use social media every day for myself and for my job. I am a social media ambassador, so social media is basically my entire life.”- Respondent 2*

*“Social media has many purposes for me. In the skill that I am learning, it forces me to constantly be on social media platforms to keep me up to date with certain things pertaining to what I do because it plays a huge role in the decisions I make. It is also deeply*

*integrated into my daily life due to the fact that one is always on one's phone just scrolling at things that could be at no importance to you.”- Respondent 9*

### **In summary**

Upon reflection, the youth who use social media for employment purposes appear to show less of the above-mentioned behavioural traits, showed in 5.8.1 to 5.8.5, when using these platforms. As a final note, the researcher ascertained that respondents were cognisant of potential hidden dangers of erratic social media use. Amid a degree of trepidation, the respondents admit to a need of restraint by placing certain restrictions on their digital habits.

### **5.9 Summary**

This chapter discussed the data and analysis of the data included in the literature review. The aim of this study was to examine the strength and direction of the observed relationship between social media addiction, sleep difficulties, and depressive symptoms. Additionally, through qualitative analysis, this section highlighted factors that may influence the addictive use of social media technologies. The key findings of the study were summarised in each section. The following chapter concludes the study by discussing the most significant findings in relation to the research objectives.

## CHAPTER SIX

### DISCUSSION OF FINDINGS

#### 6.1 Introduction

In the previous chapter, data were analysed to identify and explore the formulated research questions of the study. This included how the youth make use of social media technologies. Secondly, it revealed the correlation between social media addiction, sleep difficulties, and depressive symptoms among youth. Finally, the analysis determined some potential factors that could lead to addictive use of social media technologies. The purpose of this chapter is to summarise the output from the quantitative and qualitative analysis of the data. This study emanated from the perceived notion that excessive social media use may be detrimental to the well-being of youth (King *et al.*, 2011: 1111; Brown, 2018). To recapitulate, data were obtained from self-administered questionnaires and one-on-one interviews that were completed by 201 and 11 youth members in Cape Town respectively. The first two research sub-questions were approached using quantitative methods and sought to address which social media technologies were frequently used and, further, to ascertain the correlation of social media use and any related negative effects. The third research sub-question was explored using qualitative methods and was used to determine the factors that may lead to frequent social media use. The third research question assisted in understanding why users are readily connected to social media and helps to promote the importance of the first two aforementioned research questions. The key findings relate to the research questions that guided the study, and are presented as follows: Preferred social media platforms/technologies; Social Media Addiction (SMA); Relationship between SMA and sleep difficulties; Relationship between SMA and depressive symptoms; and Factors that may be associated with SMA.

#### 6.2 Social Media Technologies

The study's findings reveal that instant messaging applications, particularly WhatsApp, is the most used and preferred social networking platform. This substantiates the study by Jasso-Medrano and Lopez-Rosales (2018: 185) where similar results were uncovered. Unsurprisingly, it was further revealed that smartphones were unequivocally the most desired form of digital technology possessed among youth. Particularly, instant messaging applications in conjunction with smartphones (Dogruer *et al.*, 2011: 2642), which provide users with a platform that enables them to connect and interact with individuals in a virtual



environment. These sites connect people on a social and emotional level where they can support each other, while also growing acquainted to other individuals where common interests are shared (Eyadat & Eyadat, 2010 cited in Dogruer *et al.*, 2011: 2642).

It must further be mentioned that smartphone use on its own may possess its own set of disadvantages where frequent use could be labeled as Problematic Mobile Phone Use (PMPU). PMPU is defined by Billieux (2012: 299) as excessive mobile phone use that leads to negative consequences in daily life. Problematic use of smartphones is not particularly new; earlier studies have provided evidence of PMPU in countries such as Korea and Tunisia (Halayem *et al.*, 2010 cited in Tao *et al.*, 2017a: 1; Lee *et al.*, 2007: 957). Furthermore, the findings are consistent with evidence from the literature that justifies the growing concern of smartphones and problematic use (Bianchi and Phillips, 2005: 41; Roberts *et al.*, 2015: 16; Sapacz *et al.*, 2016: 158).

### 6.3 Social Media Addiction

The study provided evidence to suggest a high prevalence of social media addiction among the sample. Table 5.5 clearly showed that the youth sampled demonstrate high levels of social media addiction. This finding is alarming as social media addiction has extensively been associated with harmful and potentially disturbing behaviours that were highlighted in the literature review (Billieux *et al.*, 2015a: 160; Lemola *et al.*, 2015: 405; Samaha and Hawi, 2016: 321; Sapacz *et al.*, 2016: 155). The sub-dimension of the social media addiction scale that is prevalent among the study sample is “Virtual Communication”, which captures the lack of self-presentational skills where users prefer to communicate via social media applications as opposed to face-to-face interaction. The prevalence of social media addiction is further illustrated in Table 5.3 and Table 5.4, which highlighted the frequent use of instant messaging applications. This mirrors the study by Sapacz *et al.* (2016: 154) where they provide evidence that social networking gives adolescents a feeling of connectedness and togetherness. Furthermore, it should be noted that this study does not discourage social networking, but rather advocates more face-to-face engagement in the social realm. Social media addiction stems from Internet addiction, which according to an earlier study, is known PIU (Davis, 2001: 187). Consistent with similar research, Internet addiction is very prone among young Internet users (Kuss *et al.*, 2013: 960; Hsieh *et al.*, 2016: 209).

#### 6.4 Social Media Addiction and Sleep Difficulties

The next step sought to examine the relationship between social media addiction and sleep difficulties amongst youth. As was seen in Table 5.7, the overall results revealed that social media addiction had a positive effect on difficulties experienced during sleep episodes. For example, participants aged 18–23 years experienced an increased existence of difficulties during sleep episodes. This is not too dissimilar from the findings in the social media addiction assessment that indicate a higher existence in the 18–23 year bracket. The findings are congruent with earlier studies that indicate that unhealthy use of social media is a trigger for sleep disturbance and sleep interference amongst youth (Coggon, 2006: 298; Lemola *et al.*, 2015: 406). In addition, earlier research suggests that a reduction in sleep quality may result in adverse effects being felt the following day (Van Zundert *et al.*, 2015: 558). The pessimism around the discovery of social media and sleep difficulties among youth is disconcerting as it may negatively affect academic performance in this age group specifically. Moreover, the subsequent results are an emulation of the initial examined literature where it was established that a relationship between social networking and sleep difficulties exist (Bayatiani *et al.*, 2016: 9; Coggon, 2006: 298; Kim *et al.*, 2016: 2; Lemola *et al.*, 2015: 406). However, regardless of the positive effect that social networking has on sleep difficulties, it should be noted that the general findings are not statistically significant to cause an apprehension towards social media use.

#### 6.5 Social Media Addiction and Depressive Symptoms

The final step in the regression analysis sought to provide further insights about the relationship between social media addiction and depressive symptoms amongst youth. Parallel to earlier studies, it was discovered that a positive relationship exists between social networking and depressive symptoms (Samaha and Hawi, 2016: 324). Referring to Table 5.9, there was significant evidence to suggest that higher levels of social media use result in depressive behaviour. The root of this problem may have stemmed from the excessive reassurance pathway as previously discussed in the theoretical framework chapter. The pathway illustrated high levels of anxiety, which was a result of social networking that originated from a fear of being disconnected.

## 6.6 Factors that may be Associated to Addictive use of Social Media Technologies

The findings of the qualitative analysis component concluded by highlighting the factors that may be associated to social media addiction amongst youth. These factors included some ideas, which were often declared sensationalistic or anecdotal by the public (Prendergast, 2020). The study identified that the major causes for social media addiction include various factors such as FOMO, sensation seeking, social comparison, social curiosity, employment, and information source. According to Blackwell *et al.* (2017: 69), FOMO is a relevant concern as it may interfere with daily life due to several anxieties. Secondly, sensation seeking is a psychological state that is created whereby users feel there is a need for Internet communication to be able to perform simple daily activities in spite of acknowledging that negative consequences exist (Longstreet and Brooks, 2017: 74). Thirdly, social comparison is generated through personal sharing on social media where individuals display material possessions and accomplishments. Research suggests that users frequently engage in this activity with a boastful mindset, which may indirectly lead to unhappiness, jealousy tendencies, and depression (Hou *et al.*, 2019). Fourth, social curiosity is the circumstance of the ubiquitous hype around social media technologies and people's constant need to stay connected with others. Penultimately, social media, as an information source, has been well documented and it was established, as of 2018, that 2.5 billion users receive breaking news from these platforms as opposed to traditional media outlets (Martin, 2018). The overall concern with this finding is that fake news and disinformation is on the rise and continues to infiltrate the daily lives of its consumers. Finally, many employment opportunities are being created within the social media realm and is very important as a marketing tool in business. Individuals who are employed in these positions are consistently engaged in these platforms without an easy escape. However, findings from this study suggest that youth who use social media for employment purposes appear to show less of the above-mentioned behavioural traits when using these platforms.

## 6.7 Summary

In this chapter, the study results and a discussion of the findings have been presented. Findings from this study have been found to be consistent with the findings of several related studies on social media use, sleep difficulties, and depressive symptoms. The following chapter will conclude the study by offering a summary of the findings, as well as discuss the implications of the findings for future research.

## CHAPTER SEVEN

### CONCLUSION

#### 7.1 Introduction

The purpose of this study was to explore the impact of social media technologies on the youth in Cape Town. This chapter summarises the key findings regarding the three research questions namely:

1. How do the youth of Cape Town make use of social media platforms and technologies?
2. What is the correlation between social media use and the health issues associated to its use?
3. What factors promote the addictive use of social media technologies amongst Cape Town youth?

In addition, the implications that resulted from this study are discussed.

#### 7.2 Summary and Conclusion

The central problem addressed in this study is whether social media use may lead to adverse effects on psychological health of youth. The study surveyed 205 youth individuals in Cape Town to assess whether social media addiction exists among the sample group. In doing so, each participant was examined in accordance with the social media addictions scale (SMAD-SF), which was established in an earlier study (Sahin, 2018: 179). The findings indicated a strong presence of social media addiction among youth. The results provide evidence of tension and anxiety that users feel when their digital devices are out of reach. In line with the first objective, it highlights that the compulsive use of instant messaging applications and the need to stay connected in the digital realm has stimulated the incidence of social media addiction. In congruence with the results, earlier studies, as indicated in the literature review, have confirmed the prevalence of enhanced levels of social networking and should magnify the potential concerns that result from spending too much time on social media applications.

Following the assessment of social media addiction, the study examined the relationship between social media addiction and some of the associated concerns. One concern, as previously highlighted in the theoretical framework, involved sleep difficulties as overall

health is affected by the quality of sleep, especially among youth. Sleep difficulties were assessed with the use of the Insomnia Severity Index and the findings reported a minor incidence of this concern, although higher levels were prevalent amongst the younger age group. This was slightly inconsistent with earlier studies where a much higher prevalence of sleep difficulties had been pronounced. It should be noted that data received in the form of a survey could contain fabricated feedback, which may affect the nature of the results (Chesney and Penny, 2013: 1). A further cause for the inconsistency may be a direct result of a smaller sample size that was used for this study, which contrasts previous research. However, there is enough evidence to suggest that youth need to adopt a cautious approach with respect to their social media use and sleeping patterns.

The next step involved the examination of the relationship between social media addiction and depressive symptoms. Depressive symptoms were measured according to the Center of Epidemiological Studies Depression Scale and the outcome indicated that high levels of social media use might affect psychological health. The findings are consistent with the results from previous studies and young social media users should take cognisance of how their mental health could be negatively affected.

The final objective, which used qualitative thematic analysis, was set out to discover which factors may lead to addictive use of social media technologies amongst youth. It was discovered that there are six factors associated to excessive social media use; namely, FOMO, sensation seeking, social comparison, social curiosity, information source, and employment. While FOMO appeared as the most common in this study, all of these personality traits offer a strong indication of what may lead young social media users to elevated levels of social networking, and will further enhance the body of knowledge when further exploring the topic in future studies.

Conclusively, similar to conventional addictions, technologies such as smartphones with facilities such as viewing videos, browsing the Internet, and connecting to social networks could result in new addictions. Social media can offer more than a mindless escapism; it is a real reflection of one's physical reality in a virtual space. The results of this study suggest that social and psychological health may be affected by the excessive use of social media technologies. Until now, most researchers agree that more research on digital technologies should be conducted, especially in long-term use among young individuals. It is recommended

that youth receive the necessary education regarding sleep hygiene and social media use, as improving sleep quality may be a significant factor in the prevention of psychological health disorders.

### **7.3 Recommendations**

This may serve to educate young people on the potential risks and make the user more mindful about the time spent on their digital devices. It will be beneficial to establish healthy boundaries regarding time spent on digital devices. It may also provide the basis for future research into the impact of social media technologies and health implications of its users. Technology has exponential benefits when used correctly and a balanced lifestyle should be adopted to avoid an overdependence of digital devices.

Parents should offer clear advice about online behaviour and provide their children with the necessary tools on how to negotiate social media platforms. This includes sharing information about incidences of cyberbullying and FOMO to prevent young people experiencing the negative aspects of online media. Ultimately, social media is significant for young people today as they build peer connections online, which has the potential to support overall well-being. Further research on the relationship between social media use and psychological health should be conducted, using a larger sample size than this study. Supplementary to a quantitative approach, qualitative methods such as in-depth interviews proved useful in determining motivations and explanations for some of the findings. A more comprehensive study will further elucidate the risk factors associated with excessive social networking, which will undoubtedly benefit all social media users.

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## APPENDIX

### Questionnaire for quantitative data collection

<b>Name:</b>		<b>Age:</b>	
<b>Email:</b>		<b>Gender:</b>	
<b>Suburb:</b>	<i>(Rondebosch, Pinelands, Bellville, Durbanville etc)</i>		

**SECTION A** *(Please circle number of your choice)*

**Do you currently have active social media accounts?**

1. Yes
2. No

**Select your most active social media account?**

1. WhatsApp
2. Games
3. Facebook
4. Twitter
5. Other. *(Please specify)*.....

**How regularly do you exercise?**

1. Once per week
2. One to three times per week
3. More than three times per week
4. Never

**Do you play a particular sport?**

1. Yes
2. No

**Do you have access to Internet/Wi-Fi during the day and at home?**

1. Yes
2. No

**If you could have ONE choice of an electronic device, what would it be?**

1. Smartphone
2. Tablet
3. Laptop
4. Personal Computer (PC)

**On average, how many hours of sleep are you achieving every night?**

1. 8 hours +
2. 6-7 hours
3. 4-5 hours
4. Less than 4 hours

**SECTION B** (please mark choices with an X)

**Do you have difficulties with falling asleep?**

	Not at all	Rarely	Occasionally	Most of the time	Always
Difficulties falling asleep?					
Difficulties maintaining sleep?					
Satisfied with current sleep patterns?					
Do you feel rested after awakening?					

**Social media use before bed or while in bed: How often do you use each of these applications?**

	Never	Rarely	Occasionally	Most of the time	Always
Facebook					
WhatsApp					
You Tube					
Twitter					
Instagram					
<b>Other:</b>					
<b>Other:</b>					

**Social media use during the day: How often do you use each of these applications?**

	Never	Rarely	Occasionally	Most of the time	Always
Facebook					
WhatsApp					
You Tube					
Twitter					
Instagram					
<b>Other:</b>					

Other:					
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How do you generally feel on a daily basis?

	Never	Rarely	Most of the time	Always
Feeling depressed				
Feeling as though everything you do is an effort				
Feeling fearful				
Feeling sad				
Feeling of a lack of motivation				
Enjoying life				

**SECTION C**

<b>EXPLANATION:</b> Different states related to social media use on the internet are given below. You are asked to read each expression carefully and put (X) for the expression you deem the most correct for you. Do not skip any item and mark each state please.		<b>1. Strongly disagree</b> <b>2. Disagree</b> <b>3. Neither agree nor disagree</b> <b>4. Agree</b> <b>5. Strongly agree</b>				
1	I am eager to go on social media.	1	2	3	4	5
2	I look for internet connectivity everywhere so as to go on social media.	1	2	3	4	5
3	Going on social media is the first thing I do when I wake up in the morning.	1	2	3	4	5
4	I see social media as an escape from the real world.	1	2	3	4	5
5	A life without social media becomes meaningless for me.	1	2	3	4	5
6	I prefer to use social media even there are somebody around me.	1	2	3	4	5
7	I prefer the friendships on social media to the friendships in the real life.	1	2	3	4	5
8	I express myself better to the people with whom I get in contact on social media.	1	2	3	4	5
9	I am as I want to seem on social media.	1	2	3	4	5
10	I usually prefer to communicate with people via social media.	1	2	3	4	5
11	Even my family frown upon, I cannot give up using social media.	1	2	3	4	5
12	I want to spend time on social media when I am alone.	1	2	3	4	5
13	I prefer virtual communication on social media to going out.	1	2	3	4	5
14	Social media activities lay hold on my everyday life.	1	2	3	4	5
15	I pass over my homework because I spend much time on social media.	1	2	3	4	5

16	I feel bad if I am obliged to decrease the time I spend on social media.	1	2	3	4	5
17	I feel unhappy when I am not on social media.	1	2	3	4	5
18	Being on social media excites me.	1	2	3	4	5
19	I use social media so frequently that I fall afoul of my family.	1	2	3	4	5
20	The mysterious world of social media always captivates me.	1	2	3	4	5
21	I do not even notice that I am hungry and thirsty when I am on social media.	1	2	3	4	5
22	I notice that my productivity has diminished due to social media.	1	2	3	4	5
23	I have physical problems because of social media use.	1	2	3	4	5
24	I use social media even when walking on the road in order to be instantly informed about developments.	1	2	3	4	5
25	I like using social media to keep informed about what happens.	1	2	3	4	5
26	I surf on social media to keep informed about what social media groups share.	1	2	3	4	5
27	I spend more time on social media to see some special announcements (e.g. birthdays).	1	2	3	4	5
28	Keeping informed about the things related to my courses (e.g. homework, activities) makes me always stay on social media.	1	2	3	4	5
29	I am always active on social media to be instantly informed about what my kith and kin share.	1	2	3	4	5