

**THE MOBILE PHONE AS AN EXTENSION OF THE SELF: A STUDY AMONG
ADOLESCENTS IN A SECONDARY SCHOOL**

by

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submitted in accordance with the requirements for
the degree of

Doctor of Education

in the subject

Psychology of Education

at the

University of South Africa

Promoter: Professor H.E. Roets

February 2017

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to the people who have contributed to the completion of this study. Without their support and assistance, this study would not have been possible.

- Firstly, my husband Wessel, for his support, encouragement, motivation and many sacrifices made for the duration of my studies.
- The rest of my family and friends for their support during this time.
- My promoter, Prof. Elsabé Roets, for her professional guidance and expertise, patience, practical ideas and recommendations.
- The secondary school (staff and learners) that was used for this research, their support and co-operation made it so much easier.
- To the teachers and parents who were willing to take part in the research.
- Last but not least, all the learners who sacrificed precious time to participate in the research. The honesty, sincerity and enthusiasm with which they took part made every effort worthwhile.

DECLARATION

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Exact wording of the title of the thesis as appearing on the copies submitted for examination:

The mobile phone as an extension of the self: a study among adolescents in a secondary school

I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

DATE

SUMMARY

The mobile phone forms part of a teenager's life world and reality today and can be regarded as a tool with which they not only communicate, but also use them to gain access to the Internet, social media and social networking sites. The primary aim of this study was to determine if the mobile phone, with all its functionalities, has an impact on the development of the adolescent's identity formation, social development and communication skills as well as the sense of the self. Another objective of this study was to determine what the opinions and perceptions are of older generations with regard to mobile practices of the youth. A concurrent triangulation mixed method design was utilised for the purpose of the study. The quantitative and qualitative studies were conducted simultaneously and the data and results from each method were integrated and interpreted as a whole. The quantitative data gathering method was short self-structured questionnaires that were completed by learners (190), teachers (35) and parents (21) to provide a general overview of mobile usage among adolescents. A single-group pre-test post-test experimental design and individual interviews were conducted with eight volunteers. Lastly, 12 learners took part in a focus group interview as a confirmation technique for all the information that was gathered. The findings of the empirical investigation revealed that the mobile phone is used nowadays as a social tool, a planning tool and a convenience tool. The constant connectedness the mobile phone provides, strengthens the adolescents' self-esteem and self-confidence and contributes strongly to their self-worth. The mobile phone is used as a self-expressive personalised tool and forms part of the sense of the adolescent self. It was also found that adolescents build their relationships with others on a two-dimensional platform that involves online and offline communication and activities. A definite gap exists between older generations' perceptions and adolescents in connection with the ways that adolescents use their mobile phones nowadays. Parents and teachers have to accept the fact that technology forms part of today's youth and they should change their mind-sets with regard to this complicated and complex phenomenon.

KEY WORDS

Mobile phone, Smart phone, Internet, Social networking sites (SNS), Social media, Digital age, Computer mediated communication (CMC), Identity Formation, Social development, Sense of the self.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
DECLARATION	iii
SUMMARY	iv
KEY WORDS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	xi
CHAPTER 1 ORIENTATION TO THE STUDY	1
1.1 INTRODUCTION	2
1.2 BACKGROUND AND MOTIVATION	2
1.3 FORMULATION OF THE PROBLEM	7
1.3.1 Research question	7
1.3.2 Sub-research questions	8
1.3.3 Aims of the study	8
1.4 RESEARCH METHOD AND DESIGN	9
1.4.1 Research design	9
1.4.2 Research paradigm	9
1.4.3 Data collection techniques	9
1.4.4 Sampling techniques	10
1.4.5 Reliability and validity	11
1.4.6 Data analysis and interpretation	11
1.4.7 Demarcation of the study	11
1.4.8 Ethical considerations	12
1.4.9 Pilot study	12
1.5 CLARIFICATION OF CONCEPTS	13
1.6 CHAPTER DIVISION	14
1.7 SUMMARY	15

CHAPTER 2	THE MOBILE PHONE AND THE SELF.....	17
2.1	INTRODUCTION	18
2.2	YOUTH AND NEW MEDIA	18
2.2.1	Digital technology	23
2.2.1.1.	Brain development and digital technologies	23
2.2.2	Globalisation	26
2.2.3	Relevant theories on new media and technologies	27
2.3	THE INTERNET	30
2.3.1	Social media	33
2.3.2	Social networking sites (SNS)	34
2.4	ADOLESCENTS AND THEIR MOBILE PHONES	36
2.4.1	Identity formation	38
2.4.1.1	Social/Collective identity	40
2.4.2	Online interaction and communication	41
2.4.3	Online relationships and social development	44
2.4.4	Division between public and private	48
2.4.5	The self	49
2.4.5.1	Self-concept, self-esteem and self-confidence	50
2.4.5.2	Self-presentation and self-disclosure	51
2.5	THE USE OF THE LITERATURE STUDY AS A PLATFORM FOR THIS RESEARCH	52
2.6	CONCLUSION	53
CHAPTER 3	THE DEVELOPMENT OF THE SELF	55
3.1	INTRODUCTION	56
3.2	PERSONALITY	56
3.2.1	Personality theories	58
3.2.2	Units of analysis in personality psychology	60
3.2.3	The development of the personality	61
3.2.4	Temperament and development	62
3.3.	IDENTITY	63
3.3.1	Erik Erikson's model of identity development	64

3.3.2	Identity formation	65
3.3.2.1	Influences on identity formation	68
3.3.3	Personal versus social identity	69
3.4	THE SELF	71
3.4.1	Self-concept	74
3.4.2	Self-esteem	77
3.5	THE SELF AND SOCIAL DEVELOPMENT	80
3.5.1	Theories of social cognitive development	80
3.6	THE LINK OF THE LITERATURE STUDY TO THIS RESEARCH	83
3.7	CONCLUSION	84
 CHAPTER 4 THE RESEARCH DESIGN		85
4.1	INTRODUCTION	86
4.2	RESEARCH DESIGN	86
4.3	RESEARCH PARADIGMS	90
4.4	METHODOLOGY	91
4.4.1	Data gathering methods	91
4.4.2	Research instruments	91
4.4.2.1	Quantitative study: surveys	92
4.4.2.2	Quantitative study: single-group pre-test post-test design	95
4.4.2.3	Qualitative study: individual interviews and focus group	96
4.4.3	Sampling techniques	98
4.4.4	Data analysis	99
4.4.5	Validity and reliability	101
4.4.6	Demarcation of the study	102
4.4.7	Pilot study	102
4.5	ETHICAL CONSIDERATIONS	102
4.6	CONCLUSION	105
 CHAPTER 5 RESEARCH FINDINGS AND DISCUSSIONS		106
5.1	INTRODUCTION	107
5.2	QUESTIONNAIRES: PARENTS, TEACHERS AND LEARNERS	107
5.2.1	Data analysis	107

5.2.2	Results and discussion of the parent questionnaire	108
5.2.3	Results and discussion of the teacher questionnaire	112
5.2.4	Results and discussion of the learner questionnaire	120
5.3	INDIVIDUAL INTERVIEWS	128
5.3.1	Data analysis	129
5.3.2	Findings and discussion of the individual interviews	129
5.4	SINGLE-GROUP EXPERIMENT AND SELF-REPORTS	141
5.4.1	Data analysis	142
5.4.2	Results: experiment and self-reports	143
5.4.2.1	Participant 1	143
5.4.2.2	Participant 2	144
5.4.2.3	Participant 3	146
5.4.2.4	Participant 4	148
5.4.2.5	Participant 5	149
5.4.2.6	Participant 6	151
5.4.2.7	Participant 7	152
5.4.2.8	Participant 8	154
5.4.3	Discussion of the findings	155
5.4.3.1	Pre-test and post-test	155
5.4.3.2	Self-reports	157
5.5	FOCUS GROUP INTERVIEW	158
5.5.1	Data analysis	158
5.5.2	Findings and discussion	158
5.6	FINAL DISCUSSION	164
5.6.1	Link between the literature and empirical studies	164
5.6.2	Additional information	169
5.6.2.1	Self-reports completed during the intervention	169
5.6.2.2	Generation gap in perception	171
5.6.3	Link of the findings to the specific research questions	172
5.7	CONCLUSION	177

CHAPTER 6 CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS 178

6.1	INTRODUCTION	179
6.2	AIM OF THE INVESTIGATION	179
6.3	IMPLICATIONS OF THE FINDINGS OF THE STUDY	180
6.3.1	Expected findings	181
6.3.2	Unexpected findings	183
6.4	GUIDELINES FOR PARENTS AND TEACHERS	185
6.5	RECOMMENDATIONS FOR FUTURE RESEARCH	186
6.6	LIMITATIONS OF THE STUDY.....	187
6.7	CONTRIBUTIONS OF THE STUDY	188
6.8	CONCLUSION AND REFLECTION	188

REFERENCES	189
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ADDENDA

Addendum A	Parent questionnaire	205
Addendum B	Teacher questionnaire	208
Addendum C	Learner questionnaire	212
Addendum D	Pre-test/Post-test for single group experiment	214
Addendum E	Individual and focus group interview schedules	215
Addendum F	Ethical clearance	218

LIST OF TABLES

Table 2.1	Positive and negative influences of media by adolescents	21
Table 2.2	New media and digital technologies	24
Table 2.3	Two developmental trends in digital technology usage	25
Table 2.4	Theories that explain the impact of CMC	28
Table 2.5	Online activities of adolescents	33
Table 2.6	Benefits and risks of young people using social media	34
Table 2.7	Impact of SNS on teenagers	36
Table 2.8	The role of the mobile phone in the teenagers' identity formation ...	41
Table 2.9	Online interaction and communication	44
Table 2.10	Online relationships and social development	48

Table 3.1	Different viewpoints about personality	58
Table 3.2	Personality theories based on historical origin	59
Table 3.3	The four domains of personality	60
Table 3.4	Perspectives on the development of personality	61
Table 3.5	Marcia's stages of identity formation	65
Table 3.6	Percentages of adolescents and young adults in Marcia's identity formation stages	67
Table 3.7	Factors influencing identity formation	68
Table 3.8	The nature of social influence	71
Table 3.9	Two types of experiences of the self	72
Table 3.10	Development trends of the sense of the self	73
Table 3.11	Three components of the self-concept	75
Table 3.12	Developmental influences on self-esteem	78
Table 3.13	Transitions in adolescence that are linked to self-esteem	79
Table 3.14	Cognitive-developmental theory of Piaget	81
Table 3.15	Selman's stages of social perspective thinking	82
Table 4.1	Differentiating between research methods	87
Table 4.2	Advantages and disadvantages of quantitative and qualitative data	88
Table 4.3	Collection techniques for quantitative studies	92
Table 4.4	Different ways to collect qualitative data	92
Table 4.5	Multi-faceted data obtained through surveys	93
Table 4.6	The basic components of an experimental research study	95
Table 4.7	Types of interview questions	97
Table 4.8	Sampling techniques	98
Table 4.9	Strengths and weaknesses of sampling methods	99
Table 4.10	Ethical principles in the research process	103
Table 5.1	Results of parent questionnaire with regard to cell phone usage ...	109
Table 5.2	Responses of parent respondents on close-ended questions	111
Table 5.3	Biographical detail and teaching experience of teacher respondents ..	112
Table 5.4	Biographical detail of learner respondents	120
Table 5.5	Central tendency of learner respondents	121
Table 5.6	Steps for qualitative data analysis	129
Table 5.7	Information from individual interviews	130
Table 5.8	Results of self-report – participant 1	144

Table 5.9	Results of self-report – participant 2	146
Table 5.10	Results of self-report – participant 3	147
Table 5.11	Results of self-report – participant 4	149
Table 5.12	Results of self-report – participant 5	150
Table 5.13	Results of self-report – participant 6	152
Table 5.14	Results of self-report – participant 7	153
Table 5.15	Results of self-report – participant 8	155
Table 5.16	Correlation matrix for variables on the pre-test	156
Table 5.17	Findings of the self-reports	157

LIST OF FIGURES

Figure 2.1	Effective learning on the Internet	32
Figure 2.2	Moving between presence and absence online	43
Figure 3.1	Concepts related to personality	57
Figure 3.2	Views on personality development	59
Figure 3.3	Temperamental profiles	62
Figure 3.4	The true, ideal and ought self	76
Figure 3.5	The link of the literature study to this research	84
Figure 4.1	Four goals of psychological research	86
Figure 4.2	Advantages and disadvantages of a mixed method design	89
Figure 4.3	Steps in conducting mixed method designs	89
Figure 4.4	Differences between positivism and constructivism	90
Figure 4.5	Four issues when conducting surveys	93
Figure 4.6	Do's and don'ts of writing questionnaires	94
Figure 4.7	Single-group pre-test post-test design	96
Figure 4.8	Steps in analysing qualitative data	100
Figure 5.1	Steps to analyse and organise quantitative data	108
Figure 5.2	Mobile phone usage in the classroom	113
Figure 5.3	Attention distraction by cell phones in class	114
Figure 5.4	Percentages of responses on the impact of technology on adolescents' functioning	115
Figure 5.5	Percentages of responses based on the impact of the mobile phone on specific abilities	117
Figure 5.6	Ages of learner respondents	120

Figure 5.7	Number of learner respondents per Grade	121
Figure 5.8	Learners in possession of a mobile phone	122
Figure 5.9	Time spent on cell phones after school hours	122
Figure 5.10	Hours spent on cell phone according to Grades	123
Figure 5.11	Cell phone practices	123
Figure 5.12	Why mobile phones are used in terms of communication	124
Figure 5.13	Responses of learners regarding close-ended questions 11 -15	125
Figure 5.14	Responses of learners regarded close-ended questions 16 -20	126
Figure 5.15	Single-group pre-test post-test design	142
Figure 5.16	The relationship between descriptive and inferential statistics	143
Figure 5.17	Results of experiment: participant 1	144
Figure 5.18	Results of experiment: participant 2	145
Figure 5.19	Results of experiment: participant 3	147
Figure 5.20	Results of experiment: participant 4	148
Figure 5.21	Results of experiment: participant 5	150
Figure 5.22	Results of experiment: participant 6	151
Figure 5.23	Results of experiment: participant 7	153
Figure 5.24	Results of experiment: participant 8	154

CHAPTER 1

ORIENTATION TO THE STUDY

"My phone is an extension of me.

It's an extension of who I am.

It's like a nice handbag.

It's a display of your personality."

- Niki Tapscott

1.1 INTRODUCTION

The mobile phone has become a current phenomenon in the life of the teenager and nowadays irrevocably forms part of the teenager's life world and reality. The mobile phone, with all its uses, can now be regarded as a gateway tool to all current social media, social networks and digital technology. Seeing that children and adolescents grow up with cell phones in their hands in this day and age, mobile phone usage can have a serious impact on the development and emotional well-being of adolescents. Donnerstein (2012:118) reports that studies by the Pew Internet and American Life Project (2009) revealed that 93 percent of youth aged 12 -17 are online sometime during the day and 71 percent have cell phones. Whether it is watching videos (57%), using social networking sites (65%) or playing video games (97%), children and adolescents have incorporated new technology into their daily lives, mainly by means of their mobile phones. These frequencies are also observed across 21 different countries within Europe. The EU Kids Online Project found that in 2005, on average 70 per cent of 6 – 17 year olds used the Internet. By 2008, it was 75 percent with the largest increase occurring among younger children (6 – 10 years) (Donnerstein 2012:118).

1.2 BACKGROUND AND MOTIVATION

The fact that adolescents grow up in a digital age where everything is computerised, makes them part of the Net Generation (Rosen 2007:2; Tapscott 2009:46). But for the adolescent of today it is not only about personal computers any more. We live in a world where everyone is connected to everyone else all the time, made easier due to the fast development of mobile technology. According to the International Telecommunication Union, the number of mobile phone subscriptions reached over 4 billion by the end of 2008 globally (Lasén 2011:84). Subscriptions took twenty years to reach 1 billion users, but only 40 months to reach 2 billion users and 24 months to reach 3 billion (Lasén 2011:85). We are now only a few clicks away from millions of other people and we spend our days living in this new ultra-connected way. Sometimes it seems as if everything we care about has moved to the digital 'room', which is a high-speed, interactive world (Chambers 2006:118; Powers 2010:1). The Internet's delivery speed is much faster, because high-speed broadband Internet access is common and one can now enter a world of knowledge from various places just by using one's mobile phone.

Furthermore, one can surf the Internet, capture GPS coordinates, take photos and send text messages. The notion is that parents are buying the phones because they regard them as a safety measure and a tool with which their children can call home in case of an emergency Tapscott (2009:46), but most adolescents use their mobile phones for much more than that, seeing that most smart phones provide quick and easy access to the Internet nowadays. Most children who have a mobile phone, also have a personal profile on social networking sites such as Facebook, WhatsApp and Twitter which enable them to monitor their friends' every move all the time (Tapscott 2009:3). In the light of this, children and adolescents see their phones as an indispensable social tool – it is like having a friend in their pocket (Goolsby 2009:2; Prell 2012:80; Tapscott 2009:46). Cumiskey (2011:17) supports this fact by stating that the mobile phone not only provides a sense of safety, but also allows the users to contact important others immediately and without end, making a companion readily available.

Another characteristic of the youngsters of today (the Net Generation), is that they appear to be especially naturally confident and comfortable using communication technologies (Holland & Harpin 2008:10; Lowrey 2004:87). Adolescents are furthermore enthusiastic Internet users and regularly use instant messaging (IM), blogs and social networking sites (SNS) to strengthen their online activities and online interactions (Guan & Subrahmanyam 2009:351). On top of that they have a variety of communication technologies at their disposal, helping them to rapidly and efficiently manage large amounts of social connections (Manago, Taylor & Greenfield 2012:369). According to Subrahmanyam and Greenfield (2008:4), teenagers use IM only to communicate with offline friends, but use SNS not only to keep contact with peers from offline lives, but also to keep in touch with friends they see rarely. IM can be regarded as good training for adolescents' social skills and is a relatively safe medium in which they can practise and improve their social abilities. Apart from that, IM also provides an excellent bridge across distance (Rosen 2007:2; Selfhout, Branje, Delsing, Ter Bogt & Meeus 2009:820; Valkenburg & Peter 2007:267; Ybarra, Alexander & Mitchell 2005:9). The question needs to be asked whether this type of technological interaction and communication inhibits or strengthens the adolescents' communication and social skills. Teenagers tend to get anxious without their mobile phones and in the UK they call it 'no-mo-phobia'. Teens never turn off their phones and even sleep with their phones beside them on their pillow, in case someone texts them after midnight (Tapscott 2008:47).

Rosen (2007:10) adds to this by declaring that mobile phones are lifelines for teenagers, but they are rarely just talking on the phone, because the phone has become more than just a communication tool: it has become a tool for keeping in touch and being part of a group which enhances the feeling of belonging (Phetla 2003:7). Wallis (2011:62) is of the opinion that mobile phones are used for expressive reasons, especially through chatting and sending chain text messages and jokes to reinforce connection with peers. Sugiyama (2011:271, 272) reckons that the mobile phone is both functional and symbolical. The more people incorporate them into their everyday lives, the more they start to perceive them even as part of their bodies, carrying a stronger significance for them in everyday life.

The above-mentioned attachments formed by adolescents to know others through their mobile phones, can lead to an overreliance on the mobile phone. Mobile usage can even fulfil certain psychological needs and may increase a user's self-confidence (Cumiskey 2011:17). This self-confidence may originate from the users' experience that they are no longer alone in their current surroundings and they might create an alternative psychological state where the users feel that the remote other has joined them in their current context (Cumiskey 2011:18). The more people are connected, the more they tend to depend on the world outside themselves to tell them how to think and live. There seems to be a conflict between the exterior, social self and the interior private one and the struggle to reconcile them is central to the human experience. Unfortunately the balance has tilted in one direction by means of digital technology and computer mediated communication (CMC), with the result that people do not turn inward as often or as easily as they used to do (Powers 2010:2,3).

We all know that adolescence involves numerous challenges and developmental changes and various aspects play a role in how an adolescent responds to these challenges. In different quantitative methodologies, the development approach has been useful to emphasize how human beings grow and develop. Such research suggests that the mobile phone plays an important part in how young people develop a sense of the self, within peer networks, through a process of identity formation, independence, relationship formation and meaning-making (Goggin & Crawford 2011:256). Goggin and Crawford (2011:257), furthermore, declare that mobile communication has a clear impact on the transition from child to adolescent and finally

to adulthood. Just as important is the fact that the mobile phone helps to open up a personal space for teens where they can explore different issues at hand with their peers and gain infinite knowledge by means of the Internet. Mobile technologies are used in a personalised way that have become part of the adolescent's everyday life (Chambers 2006:113). This personalisation involves making and keeping inscriptions, such as text and voice messages, images (videos and pictures), dates, call registers, songs, ring tones and recorded sounds. Mobile phones, and the use of social media and SNS, are therefore, involved in processes of individualisation, self-representation and self-recognition, especially through the differentiation, identification, isolation and fusion regarding other people and groups (Lasén 2011:96,97).

In addition to all the above, a few essential developmental aspects in adolescence need to be discussed. Firstly, the development of the personality plays an important role during adolescence and contributes to the adult person he will be. (Note that the term *he* is used throughout as a general gender reference and refers not only to males, but also females). Meyer (1997:12) defines personality as an organisation of physical, psychological and spiritual characteristics that is constantly changing. These characteristics will determine the behaviour of a person in interaction with a specific context. Saucier and Simonds (2006:109) point out that personality is an individual's patterns of thought, emotions and behaviour with psychological mechanisms behind those patterns. Möller (1993:3) postulates that the dimensions of personality are reflected in the question: *How am I?* Thus, personality refers to how you are in general and especially how others see you. According to Roberts and Wood (2006:13), four domains make up the core personality, namely personality traits (patterns of thoughts, feelings and behaviour), values (needs, interests, preferences and goals), abilities (what people can do) and narratives (stories to understand themselves and their environments).

Secondly, central to adolescence and the development of the view of the self, is identity formation. Self-conceptions and self-evaluations provide the framework for the identity formation process. Identity is a sense of *who* a person is, based on his history and his future. Membership in social groups, gender, race and ethnicity can form a fundamental element of a person's identity (Rosen & Patterson 2011:84). Two important aspects in the formation of identity is a personal identity ('I' am different from others) and a social

identity (the self is part of 'we'). Personal identity is a prerequisite for identifying with a social collective and social identity can have consequences for personal identity, therefore, the two are interdependent (Hoffner 2011:317). According to Erik Erikson, identity formation is the major developmental task of the adolescent and if this stage is resolved successfully, the adolescent will reach a mature identity and if not, there will be confusion about his role (Rosen & Patterson 2010:84). Erikson calls this conflict an identity crisis which reflects an adolescent's serious questioning of his essential personal characteristics, his view of himself, the concern about how others view him and the doubts about the meaning and purpose of his existence. Jaffe (1998:176) posits that the identity crisis will be resolved when three dimensions of adolescence, namely ego, personality and social skills, merge.

Lastly, the self can be defined as the sum total of everything a person can call his own and the sense of the self is based on the experiences of self-awareness and self-understanding (Garcia, Hart & Johnson-Ray 1997:368). A person must reach self-awareness before he can progress to self-understanding. As part of the sense of the self, the self-concept is how we view ourselves and who we think we are. It is like building a scheme that organise our impressions, feelings and beliefs about ourselves (Jaffe 1998:190). Self-esteem on the other hand is how we feel about who we think we are and is the evaluative component of self-concept. This evaluation involves both cognitive and emotional factors (Rosen & Patterson 2011:79). Carl Rogers considered positive self-esteem to be the core of a healthy personality. If a person likes himself, he will have positive feelings about others and about his life (Jaffe 1998:195). A crucial factor that contributes to the adolescent's sense of the self is his evaluation and comparisons to others. Adolescents will always compare themselves to their peers and by doing this, they become aware of their own weaknesses and strengths. Thus, feedback from peers plays a fundamental role in the development of the self for the adolescent and consequently, the social interaction with others is essential in the adolescent's development (Jaffe 1998:195).

It is clear from the above discussion that an adolescent cannot be transformed from a teenager into a mature adult without the development of personality, identity, a sense of the self and social interactions with peers. In the twenty-first century this stage of turbulence in a child's life is considerably more complicated than before, due to the fact

that adolescents now form part of a generation who grow up in a digital age where screens are the order of the day. This leads to the question of how, not if, digital technologies, especially mobile phones, influence, contribute to or impact on the holistic development of the adolescent self. Seeing that the mobile phone has become an intrinsic part of an adolescent's life world that is always in the palm of his hands, the feeling is that the impact of its usage on the adolescent's development is a serious and complicated phenomenon that needs to be investigated further. The fact that teenagers use their mobile phones to transform the Internet into a place where they can communicate, socialise, collaborate and experiment with different identities, proves that they currently use the power of this digital tool in almost all aspects of their lives. To adolescents, mobile phones open up all existing social media, social networks, gaming and other digital technology, which will, without question, influence their development and emotional well-being. Accordingly, the influence of digital technologies, especially the mobile phone and everything it entails, on the development of the adolescent's personality, identity, a sense of the self and social interactions, was the focus of this study. In the light of the fact that adolescence is a stage of crucial development, I felt that I needed to determine the impact of mobile phone usage on the development of the adolescent, and how it influences the path to adulthood. Another reason for investigating this phenomenon was that many older generations have a preconception with regard to mobile phone usage by the younger generations and often fail to understand the connections and attachments these youngsters have with their phones. I also found that there currently exists a serious and huge gap in research with regard to mobile technology and the effects thereof on South African adolescents. By studying this phenomenon, I felt that it could lead to a better understanding and make people more aware of how the mobile phone can influence or contribute to the holistic development of the adolescent. In addition, with this study, I intend to decrease the existing gap in literature and research, particularly in a South African context. The outcome of the study will benefit the participants, parents and teachers by providing knowledge and insight into a current and rather complicated topic.

1.3 FORMULATION OF THE PROBLEM

1.3.1 Research question

Based on the above information, the main research question is stated as follows:

What is the influence and impact of the mobile phone on the adolescent's development of the self?

1.3.2. Sub-research questions

In addition to the main research problem, the following sub-questions were also formulated to contribute to the study:

- *What is the role and function of the mobile phone in the life world of the adolescent?*
- *How do mobile phones open up the world of social media, social networking and digital technologies to the adolescents?*
- *What is the impact of the mobile phone on the adolescent's identity formation, social development and communication skills?*
- *In what way does the mobile phone enable the development of the sense of the self (self-confidence, self-esteem, self-knowledge and self-worth)?*

1.3.3 Aims of the study

A psycho-educational point of view was the point of departure of this study in order to achieve the following aims:

- a. Firstly to do a literature research on the adolescent's usage of mobile phones and how it influences the development of the self. Secondly, the literature research studied the process of the adolescent's development of the personality, identity, the self and social interactions.
- b. To do an empirical research to determine the extent to which the mobile phone contributes, influences and impacts the development of the holistic self and day to day functioning of the adolescent.

- c. To set recommendations, make suggestions and provide information for the participants, parents and teachers regarding mobile usage and all the aspects in the adolescent's reality that may be influenced by it.

1.4 RESEARCH METHOD AND DESIGN

1.4.1 Research design

I employed a quantitative and qualitative design to conduct this study, thus qualifying the study as a mixed method design. By including the contributions of both methods, the strengths of the one compensated for the weaknesses of the other (McMillan & Schumacher 2010:396). The use of a mixed method design ensured that the main research question and sub-questions were answered in an effective and comprehensive manner. I made use of a concurrent triangulation design; therefore the quantitative and qualitative data were collected simultaneously in order to integrate the information resulting from each method (McMillan & Schumacher 2010:397, 399). The nature of the study was descriptive and explained aspects with regard to the field of study to identify themes, ideas, perspectives and believes related to the topic.

1.4.2 Research paradigm

Due to the fact that I used both qualitative and quantitative methods in this study, the paradigm was a combination of the positivism and constructivist paradigms. The positivism paradigm led to determine the *what, how much, relationships, causes and effects as well as the numerical precisions* of the study. The constructivist paradigm focused on many different varieties by establishing the *why* and the *how* of the phenomenon and included the lived and subjective experience of the participants (McMillan & Schumacher 2010:6; Nestor and Schutt 2012:354).

1.4.3 Data collection techniques

The quantitative data gathering method for this study was short self-structured questionnaires, completed anonymously by learners, teachers and parents to provide a general overview of the usage of mobile phones in the lives of adolescents. The

questionnaires also investigated the respondents' opinions with regard to the impact of the mobile phone on the adolescent's view of the self. This part of the quantitative study was a descriptive design. I also employed a single-group pre-test post-test experimental design, where the participants completed a different questionnaire (also self-structured) than the one used in the survey while they are in possession of their mobile phones (pre-test). The intervention was to let them function without their mobile phones for four schooldays and during this time they completed the same questionnaire (post-test). Furthermore, the participants filled out a form that reflected their positive and negative experiences during the intervention period. The aim was to determine the impact of the mobile phone on certain aspects of the identity formation, social interactions and the self that included questions about self-concept, self-confidence, self-awareness and self-presentation.

The qualitative methods involved in-depth individual interviews with the participants who took part in the experiment as well as a focus group interview (other participants) to obtain a better understanding of the phenomenon of current mobile usage among adolescents. The focus group discussion was used as a confirmation technique of the information gathered in all the questionnaires and the individual interviews.

1.4.4 Sampling techniques

For the quantitative part of the study, where the survey was used, a sample was selected from a population (learners from a secondary school) by using non-probability sampling. There was, therefore, no random selection of participants. This type of sampling was used because the subjects were accessible and represented certain characteristics (McMillan & Schumacher 2010:136). I chose convenience sampling - one class, each from Grade 8 to 12 - that was easily accessible, to complete the survey anonymously. For the teachers' surveys and parents' surveys, purposeful sampling was employed by means of volunteers that could provide rich information. To complete the experiment (pre-test and post-test), more purposeful sampling was executed, because these subjects needed to be key informants who could also provide rich information. I used eight volunteers to take part in the experiment and I made use of the same sample for the individual interviews. For the focus group, other volunteers were used to verify,

confirm and strengthen all the information gathered in the survey, experiment and individual interviews.

1.4.5 Reliability and validity

To ensure the test validity, I described the validity of the tests and questionnaires that were used, in relation to the context in which the data were collected. This guaranteed that the tests measured what they were supposed to measure. In the qualitative study a combination of strategies was used to enhance the validity of the investigation, like multi-method strategies, verbatim accounts and mechanically recorded data. To ensure that all scores and results were reliable, I determined the internal consistency of the different questionnaires. For both research designs I took special care to ensure the credibility, transferability, dependability, conformability to ensure the trustworthiness of both studies.

1.4.6 Data analysis and interpretation

For the quantitative part of the study, descriptive and inferential statistics were applied to analyse and interpret the results of the surveys completed by the learners, teachers and parents, as well as the pre- and post-tests used in the experiment. The main objective was to summarise, organise, categorise and reduce the large numbers and to focus on the *what* with regard to the research problem and sub-questions. For the qualitative portion of the study I employed an inductive data analysis process by analysing the verbatim transcripts of the interviews. The following steps were followed during the inductive process: data preparation, data coding, forming categories and discovering patterns.

1.4.7 Demarcation of the study

The study made use of learners from Grade 8 to 12, parents and the teachers from one secondary school, regardless of gender and race. The study can, therefore, be regarded as a case study, seeing that only one school was the focus of the research.

1.4.8 Ethical considerations

The following ethical measures were considered and applied for this study (McMillan & Schumacher 2010:117-125):

- Full disclosure: I was open and honest with participants about all aspects of the study.
- The study was based on voluntary participation and the participants were not compelled or forced to participate.
- I informed each participant and their parents what the research was about; the signing of an assent form was used for the participants, in which they declared that they understood the research and were willing to participate. The parents of the participants signed a consent form in which they granted permission that their children may participate in the study.
- No harm or risk was put to the participants and the research did not result in any physical or mental discomfort, harm or injury to the participants.
- I made sure that the privacy of the participants were protected at all times, which included anonymity, confidentiality and the appropriate confidential storing of data.
- The research reflected scientific integrity and the methods of investigation were sound at all times.
- Ethical clearance for this study was obtained from UNISA's College of Education Research Ethics Review Committee.

1.4.9 Pilot study

After I had developed set of possible items for the questionnaires, I conducted a pilot study by asking some thoughtful individuals to read and respond to the questions. They were asked to report about the clarity and wording of the questions and space was provided for them to write comments about the items and the questionnaire as a whole and then the items were revised.

The research design will be discussed in full in Chapter 4.

1.5 CLARIFICATION OF CONCEPTS

For the purpose of this research, the following key terms, concepts and variables need to be clarified:

Psycho-educational

Woolfolk (2010:10) states that educational psychology is a discipline that has its own theories, research problems and techniques with regard to teaching and learning processes. Educational psychology includes the study of child and adolescent development.

Mobile phone

According to the website www.techopedia.com, a mobile phone is a wireless handheld device that allows users to make calls and send text messages, among other features. It is also known as a cellular phone or a cell phone.

Smart phone

The website www.techopedia.com describes a smart phone is a mobile phone with highly advanced features like a high-resolution touch screen display, Wi-Fi connectivity, Web browsing capabilities and the ability to accept sophisticated applications.

Internet

The Internet is like a network of computers allowing the transmission of data for multiple purposes through a global address system (Wood & Smith 2001:42).

Social Networking

Social networking refers to socialising with friends as well as strangers on the Internet or mobile websites (Symington 2010:3).

Social Media

Widely accessible electronic tools used by anyone to publish and access information, participate, communicate and collaborate with anyone, anywhere, anytime (Jue, Marr & Kassotakis 2010:4).

Adolescence

Santrock (2001:17) defines an adolescent as a person experiencing a transition from childhood to early adulthood and involves biological, cognitive and socio-emotional changes. Adolescence begins approximately between 10 to 13 years and ends between the ages of 18 and 22.

Digital age

An era in which children grow up and assimilate technology in such a way that they came to view technology as another part of their environment (Tapscott 2009:18).

The Net Generation

The Net Generation refers to an entire generation that grew up in a digital age (Tapscott 2009:16).

Mobile telecommunication

The communication between people through the use of mobile phones.

1.6 CHAPTER DIVISION

Chapter 1: Orientation to the study

This chapter included an introduction to the study as a whole and the formulation of the main research problem and sub-questions, the aims of the investigation and a brief outline of the research methods and design. Key concepts and terms as well as ethical considerations were also presented.

Chapter 2: Literature review: The mobile phone and the self

Chapter 2 contained a literature study on all the aspects of the usage of mobile phones, especially by teenagers. Emphasis fell on new media, digital technologies and mobile phones and their impact on the development of the identity, social and communication skills and the self of the adolescent.

Chapter 3: Literature review: The development of the adolescent self

In this chapter the focus fell on the development of the adolescent self with emphasis on personality and identity development, the sense of the self and social development.

Chapter 4: Research design and method

A complete description of the methodology of the empirical study was put forward in this chapter and included the following: the aim and objectives of the investigation, the research design and method, the sampling techniques, data collection techniques and the method of data analysis.

Chapter 5: Empirical research findings and discussions

Chapter 5 contained the findings, analysis and discussions of the empirical research (quantitative and qualitative studies). A final interpretation with regard to the literature and empirical studies was put forward as well as a discussion of how the research attempted to answer the sub-questions of the study.

Chapter 6: Synopsis of the study

This chapter presented a synopsis of the study and included a brief overview of the aims of the research. The expected and unexpected findings were discussed, as well as the implications, limitations and contributions of the study. Guidelines were provided especially for parents and educators.

1.7 SUMMARY

Chapter one served as an introduction and orientation to the study. It contained a short literature review to provide background information and a motivation for the need to do research on the topic of mobile phones. The research problem was put forward, as well as sub-questions that needed to be investigated. The research method, ethical considerations and chapter division were discussed as well. In Chapter 2 a literature

study of the adolescent's mobile usage and the impact thereof on the development of the self, was presented.

CHAPTER 2

THE MOBILE PHONE AND THE SELF

*"...the cellular telephone, merely the first wave
of an imminent invasion of portable
digital communications tools to come,
will undoubtedly lead to fundamental transformations
in individuals' perceptions of self and the world
and consequently the way they collectively construct that world."*

-Townsend

2.1 INTRODUCTION

In this chapter, the important role that new media plays in the life world of adolescents was explored with emphasis on identity, personality, sense of the self as well as social development. Specific attention was given to the role of the mobile phone, seeing that the mobile phone had been transformed into a media content delivery tool, as well as a social tool in the life worlds of adolescents. It was made clear in this chapter that the mobile phone opens up numerous other communication technologies through the Internet, social media and social network sites. Furthermore, the influence of the mobile phone on the development of the adolescent self was investigated and discussed.

2.2 YOUTH AND NEW MEDIA

Children in the twenty-first century develop in front of a screen. Once mainly television based, screen media had changed into digital, interactive and pervasive experiences for the user. Media continues to advance rapidly, and the youngsters of today adapt to new media with tremendous speed. As digital devices become smaller and better integrated, mobile phones serve as an ever-present link to peers and families as well as other online activities. Music, television programmes, and movies are downloaded. As youth walk down the street or drive in their cars, they are connected to others. At home in a digital world, they communicate with others, explore who they are, and play with each other in spaces that are not confined to the here and now.

Young people of today are called the Net Generation and they differ significantly from previous generations, because they have been exposed to digital technology in various forms since their birth (Jones & Cross 2009:10). There is a lot of speculation about the kind of society today's children will grow up to live as adults. Speculation includes terms like 'digital generation', children in the 'information age', 'computer nerds', the 'digital divide' and many more. Youngsters use laptops, instant messaging (IM) and cell phones to connect to people they know in their community, but also all around the globe. They now live in complex, media-saturated environments filled with televisions, DVD players, digital video recorders, computers, the Internet, video games, CD players, iPods and mobile phones (Beyers 2009:218). Childhood is now characterised by early and frequent media use, preparing youth for life-long relationships with communication

technologies (Scantlin 2011:51). The term *digital divide* has now become a word commonly used, referring to the gap that exists between people who have access to digital media and those who do not (Creeber & Martin 2009:123).

Children and adolescents now no longer use only one medium to the exclusion of others, but rather often engage in multi-tasking in which they carry out different activities simultaneously. For instance, children can listen to music, surf the Internet, and contact friends via instant messaging (IM), all while doing their homework. Today's youngsters can do almost anything while texting and therefore multi-tasking has become a significant feature of their lifestyle and their learning. The Net Generation claims that multi-tasking helps them to get everything done due to the fact that they don't feel that they are wasting any time doing nothing (Barnes, Marateo & Ferris 2007:3). Different media is related to different activities, however, and nowadays with the creation of smart phones, all media are incorporated into that one device: communicating, viewing, reading, listening and playing.

The way young people use media, structures their ideas on how they make sense of the world. They use media to reaffirm their local identities as members of specific communities, nations, transnational or ethnic groups. This specific use of media can have a significant impact on their understanding of the world beyond their immediate circumstances and can expand their world far beyond that which is familiar to them (De Block & Buckingham 2007:viii). Many statistics exist that send a sense of panic about the impact of media technologies on youth. It is a known fact that today's youngsters are confronted with a media environment that is very different from what their parents and grandparents faced. Children can now enter virtual worlds and arcades even in their bedrooms. The new media is so interactive that children become participants in their quest for knowledge, information, action, and storytelling.

The integrated media is such a strong force in children's daily lives that they clearly play fundamental roles in their education, communication, entertainment and leisure as well as influence their daily routines. What is more, is that most children spend at least a third to a half of their waking hours with some form of media (Livingstone 2002:1; Strasburger & Wilson 2002:4-8). It was found by Roberts (2005) in Scantlin (2011:62) that youth between the ages 8 – 18 years spend approximately 6.5 hours per day with

media. How children spend their time can influence several developmental outcomes, but can also provide opportunities for learning (Livingstone 2002:1).

Why focus on the impact of new technologies on children and young people? They are at the point of their lives where they construct identities, form new social groupings and negotiate alternatives to given cultural meanings; in all of these the media play a central part (Livingstone 2002:1,2). During the adolescent years, teens assert their independence and are given more freedom of choice by their parents in both non-media and media-related activities. They are more likely to have media in their bedrooms and engage in media activities with less adult supervision.

Theories of developmental psychology can help us explain how children make sense of media content and how their understanding of the media changes with age. These developmental theories can be organised into three main categories: acquired behaviours (learned behaviour), cognition (attention, learning, memory etc.) and personality and emotions (Scheibe 2007:61). Other developmental approaches include neurobiology theories (emphasising brain functioning and responses) and ecological theories (the multiple and interactive environments in which a child develops and functions). Because media are such a pervasive aspect of children's daily lives, it is not surprising that there are serious health concerns surrounding this topic. The obesity epidemic that currently influences many youngsters and their families in Western cultures can be partly explained by media use, particularly exposure to advertising (Scheibe 2007:61).

Research has shown that digital technologies can have both short-term and long-term effects on children. The overall conclusion of the research is that media are a powerful tool and a powerful teacher. Media's power lies in the content, which is crucial. New digital technologies, like a mobile device, give children and adolescents access to just about any form of content they can find. With very little effort they are able to view almost any form of violence, advertising or sexual behaviour, which have the potential of producing negative effects. Optimists foresee new opportunities for creativity, community participation, self-expression, play and the huge expansion of available knowledge. Pessimists see the end of childhood, innocence, traditional values and authority. Warburton (2012:9) feels that exposure to pro-social, age-appropriate and

helpful media can have a very positive impact on child development, and exposure to anti-social, violent, frightening and age-inappropriate media can have negative effects on children in both the short- and long-term (Warburton 2012:9). These positive and negative effects of media use by adolescents and children are summarised in Table 2.1 (Warburton 2012:10-18):

Table 2.1 Positive and negative impact of media use by adolescents

POSITIVE IMPACT	NEGATIVE IMPACT
<p>Pro-social and helping behaviour Pro-social content on television leads to more helping behaviour.</p>	<p>Links with poor general health Physical aggression, cigarette smoking and alcohol use. Poorer quality of life and quality of family relationships.</p>
<p>Education Educational television should be age-dependant. Improved scores on vocabulary tests. Enhanced achievement in reading and mathematics.</p>	<p>Sleep deficits Delayed bedtime and shorter total sleep time.</p>
<p>Spatial cognition and fine motor skills Improvements due to video game playing.</p>	<p>Less time undertaking healthy activities Hours spent engaging with media is less time for physical activities, which can affect health.</p>
<p>Pain management Television, video games and music distract or soothe children during painful procedures.</p>	<p>Addiction Video game addiction is a growing problem.</p>
<p>Social networks Some types of media can be central to an identity. Positive self-identity can have a positive impact on a healthy development.</p>	<p>Mental health problems High consumption associated with unhappiness, problems in social adjustment, post-traumatic stress disorder and anxiety- and depression-related disorders.</p>
	<p>Attention deficit and education problems Television and video game exposure are linked with attention deficits in children. Links between levels of media consumption and poorer school performance.</p>

POSITIVE IMPACT	NEGATIVE IMPACT
	<p>Unhealthy lifestyle choices Media exposure is linked to substance use. Links between levels of media use and obesity.</p>
	<p>Fear anxiety and phobias Exposure to frightening media must be age appropriate.</p>
	<p>Susceptibility to persuasion by advertising Children and adolescents are vulnerable to the influences of advertising.</p>
	<p>Detriment to family relationships Time spent with media is linked to poorer attachment to parents.</p>
	<p>Prejudice and misogyny Some media contain prejudiced, stereotyped or misogynistic content.</p>
	<p>Premature sexualisation of children Media are key mediums by which children learn about sex. Age-inappropriate sexual content in media leads to early sexual activity.</p>

Education is mentioned in the table above and Barnes et al. (2007:1) support the idea that educational institutions have to meet the needs of the Net Generation's students. The fact that this generation is education-oriented and accustomed to the use of technology, led to the development of distinct ways of thinking, communicating and learning. They will prefer more active, engaging learning experiences, more varied communication and will become bored with traditional learning methods (Barnes et al. 2007:20; Jones & Cross 2009:10).

2.2.1 Digital Technology

In addition to, and in line with new media, is a digital mania. This mania has swept the world in the last decade and is here to stay. As mentioned above, teenagers have been plunged into the technology and digital revolution and are often called *screenagers*. The rise in screens has revolutionised the way the youngsters communicate, displacing hours that might previously have been spent communicating face-to-face with all the

positive benefits that socialising and genuine friendship bring. Schlote and Linke (2009:99) believe that our everyday lives and encounters that are more and more infiltrated and interwoven with digital media, involve very little physical presence. Laptops, mobiles and tablets play an integral part in how our society functions and most of our communication, socialising and entertainment involve a screen of some sort (Downshire & Grew 2010:139). According to Donnerstein, (2012:117), the Internet is *ubiquitous*, which means that it is always on and can easily be accessed, thus leading to high levels of exposure. Participation is private and anonymous, which allows for the searching of materials that a child or adolescent would normally not seek out with traditional media.

2.2.1.1 Brain development and digital technologies

By the time Net Generation children reach their twenties, the typical Net Gener will have spent over 20,000 hours on the Internet and over 10,000 hours playing video games. The above immersion takes place at a time when their brains are particularly sensitive to outside influences – adolescence and the teenage years. Studies show that although brain volume is largely unchanged after age six, the brain continues to undergo structural remodelling throughout the adolescent years and into early adult life. Norman Doidge in Tapscott (2009:99) states that a human's brain changes and grows throughout a person's life as it responds to environmental influences. The continual and intense use of a particular brain region can lead it to respond like a muscle, increasing its size and presumably its efficiency. The brain regions associated with attention, evaluation of rewards, emotional intelligence, impulse control, and goal-directed behaviour all change significantly between age 12 and 24 (Tapscott 2009:100). If one looks at the amount of time children and adolescents are exposed to digital technologies, one cannot deny the fact that it has to have a serious impact on their brain development, seeing that digital technologies all involve attention, evaluation of rewards and impulse control.

Kutcher and Matthew in Tapscott (2009:29, 30) describe how time spent with digital technologies may be changing the physical structure and functioning of young people and children's developing brains. Although there is much controversy, early evidence suggests that the digital immersion has a positive impact on how youngsters perceive

things. Today's youngsters process information and behave differently from the previous generations, because they have developed brains that are functionally different than those of their parents, for instance, they are quicker to process fast-moving images. The Net Generation is also quicker at switching tasks and quicker to find what they are looking for on the Internet. The Net Generation seems to be incredibly flexible, adaptable and multi-media savvy. They may read fewer works of literature, but they devote a lot of time to reading and writing online. They gather information from around the globe with tremendous speed (Tapscott 2009:98). Green and Bavelier in Tapscott (2009:102) studied adolescent video gamers and came to the conclusion that video gaming can alter visual attentional processing, they are better at monitoring a cluttered world, they can more quickly identify a target briefly presented in a field of clutter and lastly, they are better at processing a rapid stream of visual information. Conclusively, one can say that digital technology equips the Net Geners with the mental skills, such as scanning and quick mental switching, so that they will be able to deal with today's overflow of information in the digital environment in which they live. Table 2.2 exhibits a short summary of all the above information:

Table 2.2 New media and digital technologies

NEW MEDIA	DIGITAL TECHNOLOGIES
<ul style="list-style-type: none"> • Digital divide between generations • Multi-tasking among adolescents • Expanding the adolescent's world • Influencing brain functioning • Multiple and interactive environment • Positive and negative effects of media use on adolescents 	<ul style="list-style-type: none"> • Youth = <i>Screenagers</i> • Revolutionise communication • Little physical presence • High levels of exposure • Changes in brain development • Impact on visual perceptions • Fast processing of visual information • Quick at switching tasks • More flexible and adaptable

Strasburger and Wilson (2002:28-30) add to this by identifying two cognitive developmental trends among children and adolescents that can be linked to their contact and exposure to digital technologies. Due to the great variety of media, the youth are engaged in, they are able to absorb and assimilate a lot of complex information based on previous schemas they have formed through the earlier use of

technology. Table 2.3 explains clearly that adolescents' cognitive processing has become faster than that of previous generations due to digital technologies:

Table 2.3 Two developmental trends in digital technology usage

	DESCRIPTION	LINK TO TECHNOLOGY
Domain-specific knowledge	Increased knowledge across different domains. <i>Schemas</i> are formed that help to assimilate and anticipate new information. They integrate and combine information in more complex ways, forming elaborate connections to what they know.	Each form of media has its own audio-visual techniques and codes. Spending time with certain technologies can enhance cognitive thinking. The interpretations of media content will be richer and more complex due to the schemas that become more elaborate and differentiated.
Processing Capacity	Younger children cannot consider multiple pieces of information in working memory. Later they can quickly classify new information into existing schemas. They become more efficient information processors.	Media messages that are complex present a cognitive challenge to younger children. Adolescents' processing is more routinised and they can simultaneously comprehend content and cognitively and physically respond to the message.

In addition to the above views, De Block and Buckingham (2007:142) feel that media production can provide a form of empowerment and can potentially enable children to depict their own experiences and to speak on their own behalf. Therefore youngsters nowadays have numerous opportunities to represent themselves in their own right through digital technologies and new media. This way of representing themselves is sometimes a difficult concept to understand by previous generations, because previous generations have not grown up with the technology today's youth have access to and they find it difficult to comprehend that children now need a technological tool to strengthen their self-awareness, self-understanding as well as their social interactions.

2.2.2 Globalisation

An important aspect in how young people can relate to the self and others is that they can now connect with each other over time and across space, seeing that there are no time and space boundaries in digital communication technologies (Elliot & Urry 2010:45). Having no boundaries in digital communication leads to a complete adjustment of time and space between people and places, among organisations, nations and cultures and can be described by the word *globalisation*. Black (2009:37) supports this idea by stating that globalisation has sped up the movement of people, ideas and information across national and regional borders. The Net Generation has become the first real global generation, seeing that they have a continuous, easy and effortless connection with others worldwide (Elliot & Urry 2010:90) and they, themselves, understand that going online is a means of connecting to a global context, which encourages a kind of global identity (FisherKeller 2007:231). Children use media like the mobile phone, e-mail and the Internet, as well as videos and photographs, to communicate and share experiences with friends and relatives who are scattered around the world (Elliot & Urry 2010:90; FisherKeller 2007:231).

De Block and Buckingham (2007:2) ask the question, based on the globalisation of the youth through social media, if modern media are creating a homogenised global childhood in which national cultures and traditions will eventually disappear? The authors also want to know if children are fostering the development of new local or transnational identities in which they expand the range of cultural options. The media children experience, are a mixture of the national, regional and global and can serve to maintain national allegiances as well as offering a view of the world that reconnects children with another history or opens a window to a whole new world (De Block & Buckingham 2007:4). Globalisation thus entails new means and patterns of communication and new forms of movement, which can be physical or imaginative. It is generally accepted that globalisation and increased communication possibilities are inseparable and might have tremendous consequences in terms of our awareness of the world beyond our immediate national boundaries.

2.2.3 Relevant theories on new media and technologies

The traditional theory as to why people are drawn to media, is the Gratification Theory, which suggests that individuals use media to meet their psychological needs, such as the need for information, entertainment, social interaction and mastery as well as control. Video games, for instance, can be very absorbing, reducing the level of worrying thoughts and unpleasant feelings in the conscious mind replacing them with an immersion into the virtual world. The immediate feedback that games provide can be an important source of dopamine release in the brain (Raacke & Bonds-Raacke 2008:170). Accordingly, the Gratification Theory explores how people obtain positive emotional responses leading to a fulfilment of personal desires. The following seven major forms of Internet gratification have been identified (Rosen 2007:159):

1. *Virtual community* – finding people online who are interesting, developing online romantic interests, meeting new friends, and interacting with a whole world of potential friends.
2. *Information seeking* – gaining information about products, news, sports, community and health.
3. *Aesthetic experience* – discovering and enjoying multi-media aspects of online life, navigating interesting Web pages, and immersing oneself in graphics and new features.
4. *Monetary compensation* – purchasing products, finding bargains, saving money.
5. *Diversion* – having fun, feeling relaxed, entertained and excited.
6. *Personal status* – getting up to date on technology, improving personal prospects.
7. *Relationship maintenance* – getting in touch with friends (new and old), getting through to someone who is hard to reach by other means.

Operant conditioning can also be linked to media use and the Gratification Theory. Behaviour and consequences are the key components of operant conditioning and rest on the principle that following a behaviour with a positive consequence increases the behaviour (positive reinforcement) while a negative consequence (punishment) decreases the behaviour. Based on these concepts Internet behaviour can be viewed

as a sequence of mostly positive reinforcement of pleasurable behaviours. Spending time online brings positive consequences such as new friendships, fun games, and interesting Web sites, which increase the desire to be online more (Rosen 2007:161).

Bandura's Social Learning Theory was originally grounded in traditional behavioural theories stressing behaviours that children could and would imitate from observing role models in their social environment. Bandura emphasised the importance of cognition, including the roles of individual choice, personality and interpretation in determining a person's modelled behaviours. His approach is known as the Social Cognitive Theory. Before television and movies, children's role models were limited to people they saw in their everyday lives, now television and other audio-visual media provide a wide range of exciting and intriguing role models for children and teens, including real people, characters, cartoon characters and superheroes (Scheibe 2007:64). Sherman (2001:55) identifies four prominent theories that attempt to explain the implications of electronic communication (Computer Mediated Communication – CMC) as reflected in Table 2.4 below:

Table 2.4 Theories that explain the impact of CMC

THEORY	DESCRIPTION
<p>SOCIAL PRESENCE THEORY (Anderson & Emmers-Sommers 2006:154; Buote, Wood & Pratt 2009:561; Chan & Cheng 2004:306; Kang 2007:475; Wood & Smith 2001:72).</p>	<p>More channels provide greater “social presence”. Online chat – low social presence. Video conference – high social presence.</p>
<p>MEDIA RICHNESS MODEL (Anderson & Emmers-Sommers 2006:154; Kaplan & Haenlein 2010:61; Whitty 2008:4)</p>	<p>Rich media provide non-ambiguous communication. Face-to-face communication – richest CMC – lowest.</p>

THEORY	DESCRIPTION
REDUCED SOCIAL CUES MODEL Anderson & Emmers-Sommers 2006:154)	Social context cues define the nature of a social situation. In CMC – absent. People become less concerned with the feelings, opinions and evaluations of others.
SOCIAL INFORMATION PROCESSING THEORY (Anderson & Emmers-Sommers 2006:154)	People form impressions of each other on the basis of what information is available. Impressions take longer to form in CMC.

Another theory that can be applied to media use, is the Hyperpersonal Communication Model which states that CMC is characterised by reduced visual, auditory and contextual cues, resulting in the fact that users become less concerned about how others perceive them and thus have fewer inhibitions in disclosing intimate information (Anderson & Emmer-Sommers 2006:154; Ando, Tkahira & Sakamoto 2007:995; Rosen 2007:44; Valkenburg & Peter 2009:2; Whitty 2008:56). Interpersonal perceptions in hyperpersonal communication are not accurate assessments, but rather positive exaggerations based on selective self-presentation by the target person and faulty inferences by the perceiver. Utz (2000) in Sherman (2001:56) states the following: ‘In CMC, users have the opportunity for selective self-presentation. They have time to think about how to present themselves and choose the positive aspects.’ CMC can be more social and intimate or hyperpersonal as opposed to face-to-face communication.

The Social Identity Theory suggests that the self and behaviour are socially constructed when salient group memberships become incorporated into a person's identity. By monitoring group processes, people form evaluations about their role within the group and their place in the group hierarchy. When people feel valued as a group member, they incorporate shared intra-group characteristics into their self-concept so that they conform to group standards with in-group norms that subsequently become the reference point for beliefs, attitudes, and behaviours. Internalisation of perceived norms influences behaviour in contexts removed from the group presence, particularly when the group is highly salient or if the approval of others is important to the person's sense of self-worth (Walsh, White, Cox & Young 2010:335).

The Social Identity De-individuation (SIDE) theory offers a useful framework for examining the relevance of social identity to online interactions and the social perceptions that develop during CMC. The SIDE theory states that, when one is a part of a group, the behaviour is more influenced by a collective social identity and expectations of a group rather than a more individual sense of identity and norms (Ando et al. 2007:995; Baker & Whitty 2008:40; Cumiskey 2011:20). Classic studies of de-individuation – the feeling of being absorbed into a group – have been a core study of social psychology. The absorption into a group can result in an individual's lack of self-awareness. The public use of the mobile phone provides a powerful avenue through which users experience the absorption into a group resulting in effects of de-individuation.

2.3 THE INTERNET

One cannot discuss new media and digital technologies without referring to the Internet (also called the Net). The Internet is a group of computer networks linked around the world (Bell 2009:3; Zaczek 2004:1) and consists of the following components that have the ability to deliver an enormous array of information (Strasburger & Wilson 2002:304):

- E-mail for electronic communication, which is a very popular form of communication in society. It has the ability to send voice, video, and other forms of attachments around the world in an almost instantaneous manner.
- Bulletin board systems for posting information on almost any topic.
- Chat rooms that can be used for real-time conversations. For many adolescents it is the global equivalent of a 'free' conference call.
- The World Wide Web that combines visuals, sound, text together to allow linkages across many sites that are related to a particular topic.

Greenfield and Yan (2006:393) describe the Internet as a gigantic, invisible universe, which includes thousands of networks, millions of computers and billions of users across the world. Recent analysis indicates that adolescents spend more of their time on the Internet and less time with television and this time is spent more in activities such as games, chat rooms, e-mail and Web surfing than on school related activities

(Strasburger & Wilson 2002:306). A concern is that the Internet is a medium in which youth are currently not only heavier users than their parents are, but also are more sophisticated in its applications. In addition the Internet is a medium over which parents don't have much control, apply few rules for use and provide minimal supervision. According to Strasburger and Wilson (2002:307), the following concerns exist about the Internet:

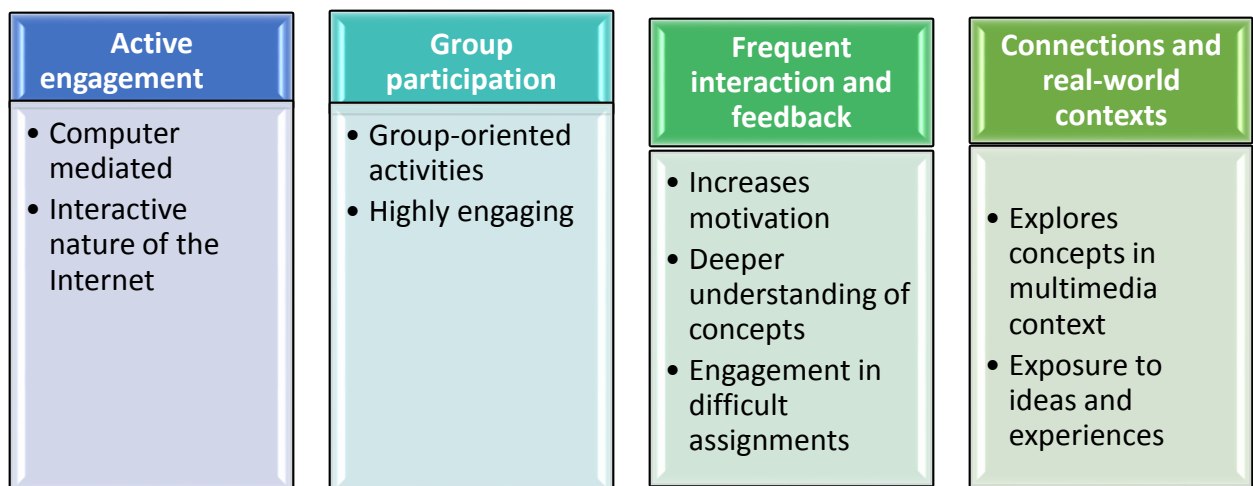
- Of the 1,000 most-visited sites, 10 percent are adult sex oriented.
- 44 percent of teens have seen an adult site.
- 25 percent of teens have visited a site promoting hate groups.
- 12 percent have found a site where they receive information about how to buy a gun.
- Many child-oriented sites have advertisements and children are more susceptible to ads than adults.
- Violent pornography has increased over the years in both newsgroups and Web sites and access to this has become easier.

Even if parents are aware of the above data, much of online activities of adolescents are done alone, in an anonymous context, and without parental supervision. The interactive nature of the Internet can lead to more arousal and more cognitive activity. The easy access to materials, which should be extremely limited, is now readily obtainable with the power of search engines (Strasburger & Wilson 2002:315). A study conducted by Beranuy, Oberst, Carbonell and Chamarro (2009:1182) indicated that psychological distress is related to the maladaptive use of both the Internet and the mobile phone. A reason for this can be that the teen is exposed to content that he is not psychologically or emotionally ready to absorb and process.

The popularity and sophistication of the Internet are due to the increase in powerful search engines like Google. There is almost nothing on the Web that cannot be found by one of these search engines. The Web and other Internet components are extremely informative and useful and we want our children to have access to it and be knowledgeable about. The Internet is educational and almost indispensable in today's society. The downside to the Internet should not be seen as a barrier to the teaching of

children, but should be seen as a very powerful information and instruction technology that we must continue to develop (Strasburger & Wilson 2002:306). Based on the above, the immense benefit of the Internet cannot be overlooked, because it can be beneficial as an educational teacher and a tool for positive development and can be regarded as the greatest teaching tool we have ever encountered. The impact of the Internet on children and adolescents will be to enrich their lives in immeasurable ways. Schools nowadays have a dilemma in that they must support children to engage in productive and creative social learning through web technologies, but at the same time protecting them from harm (Sharples, Graber, Harrison & Logan 2009:70). Figure 2.1 exhibits four fundamental characteristics that should be present when learning is most effective and points out how the Internet can contribute to effective learning (Strasburger & Wilson 2002:320):

Figure 2.1 Effective learning on the Internet



Most adolescents use the Internet mainly for schoolwork, entertainment and to communicate with others (Bell 2009:31; Blais, Craig, Pepler & Connolly 2008:522). The usage of the cell phone is especially useful in this regard. Mobile Internet refers to access to the Internet via a cellular mobile device. Dual-mode devices allow cell phones to access Wi-Fi networks. This function now makes up a high proportion of all mobile devices and is now used widely where Wi-Fi networks are available. Mobile broadband has become the most common way for the mobile network to be used to access the Internet (Goggin 2011:117). Internet usage starts early; most teens have logged on by the seventh grade and the frequency with which they use the Internet tends to increase

with age throughout adolescence. Half of teen Internet users say they go online at least once every day (Stern & Willis 2007:211). The range of activities in which young people engage online is diverse and can be organised into three main categories as depicted in Table 2.5 below (Stern & Willis 2007:213-216):

Table 2.5 Online activities of adolescents

ACTIVITY	DESCRIPTION
COMMUNICATION	Primarily social reasons. IM – communication tool most frequently used.
INFORMATION SEEKING	World Wide Web. Rapid research. Twenty-four availability. Browse anonymously.
CREATING CONTENT	Publish own creative work. Large online audience. Healthy self-reflection, identity experimentation and self-disclosure.

Dowdell, Burgess and Flores (2011:28) support the above findings by declaring that the majority of today's youth use the Internet as a medium for social interaction, research, sharing ideas and photography, artistic creation, schoolwork, journaling or blogging.

2.3.1 Social media

Social media is media for social interaction, using highly accessible publishing techniques. Social media uses web-based technologies to turn communication into interactive dialogues. Social media can take many different forms, including Internet forums, weblogs, social blogs, micro blogging, wikis, podcasts, pictures, video, rating and social bookmarking. Each of these tools uses a special kind of social technology, which is a communication platform that makes connections possible (Jue et al. 2010:5). The term social media, therefore, refers to the many electronic tools that are widely accessible allowing anyone to publish and access information. According to Jue et al. (2010:4) 'Social media is about participation'. The participation in social media can include simply viewing information that was previously hidden from view, but most often

it takes the form of communicating, collaborating and connecting with anyone, anywhere, anytime and is therefore infinite in its potential. Social media is mainly about the interactions between people and the potential to share more and learn more. O’Keeffe and Clarke-Pearson (2011:801) put forward the following benefits and risks of children and adolescents using social media:

Table 2.6 Benefits and risks of young people using social media

BENEFITS	RISKS
<p>Socialisation and communication Staying connected to family and friends Making new friends Sharing pictures Exchanging ideas</p>	<p>Cyberbullying and online harassment Communication of false, embarrassing and hostile information</p>
<p>Enhanced learning opportunities Connect with others on homework and group projects. Gathering outside of class Collaborate and exchange ideas</p>	<p>Sexting Sending and receiving sexually explicit messages, photographs or images Images become distributed rapidly</p>
<p>Accessing health information Online information about health concerns Increased medication adherence Better disease understanding</p>	<p>Facebook depression Time spend can lead to social isolation Risky Internet sites</p>

Social media has changed the way we communicate: newspapers are available online, television programmes are now available on the Web and radio programmes can be downloaded and played on mobile devices, but the Internet has also given rise to social media enabling relationships and collaboration. Various reports show that year after year, the use of global social media tools has increased fourfold and greater.

2.3.2 Social networking sites (SNS)

A social network service is an online service, platform or site that focuses on the building and reflecting of social networks or social relations among people. A social networking site (SNS) essentially consists of a representation of each user (often a profile), his or her social links, and a variety of additional services. Most SNS are web- based and

provide means for users to interact over the Internet. Users connect by designing personal information profiles and inviting others to have access to their profiles. Profiles can include the following: photos, videos, audio files and blogs and messages can be sent to friends and one site can be linked to friends' sites (Fontes & O'Mahony 2008:1; Guo 2009:620; Kaplan & Haenlein 2010:63; Litt & Stock 2011:709; Raacke & Bonds-Raacke 2008:169). SNS provide younger users with opportunities to express themselves and interact with their peers helping them to develop their identities, refine their abilities and interact with each other in healthy ways (Hwang, Cheong & Feeley 2009:1105). By 2010 there had been an explosion of SNS, serving a wide variety of interests. Individuals have exchanged their safe spaces in the physical world to online SNS such as Facebook (Bates 2009:18).

SNS are a phenomenal way to spread information. When you put a photo on your personal profile page, you don't have to e-mail friends or call them to tell them about it. The news about your photo is instantly transmitted to the news feed on your friends' Facebook profile pages. The communication is thus instant and automatic. Facebook as an SNS allows users to enter 'friend' relationships with one another, meaning that a user can have many friends online, but most of them are not always close relationships and can be regarded as acquaintances only (Lewis, Kaufman, Gonzalez, Wimmer & Cristakis 2008:331). Friends can spread news to outsiders too. If you have 20 friends and they find something interesting, they might tell other people who are their friends. News can, therefore, spread like a wildfire (Tapscott 2009:56). The interaction on SNS is often intertwined with people's offline experiences and many SNS are used to keep contact with people with whom they already share an offline connection (Ploderer, Howard & Thomas 2008:333).

Social networking sites (SNS) are now widely used on the Internet and are considered by many to be the Internet's central identity. There are an enormous amount of big and small, commercial and not-for-profit, public, private and governmental social networking systems. Well known SNS's include Cyworld, Friendster, MySpace, LinkedIn and Facebook (Goggin 2011:117). SNS, like MySpace, Facebook and WhatsApp play a key role in the social worlds of teenagers and they regard it as a space where they can build confidence and practise talking to people. SNS provide a space where teens can test out identities, rehearse gender and sexualities and where they can easily, freely

and safely talk to their friends (Holland & Harpin 2008:130; Hwang et al. 2009:1105). Using SNS is not as class bound as real-life embodied encounters; the space is never empty and always embodies a meaning that is both practical and social. SNS offer opportunities for young people to extend their horizons as social actors (Holland & Harpin 2008:132; Pujazon-Zazik & Park 2010:80). Lenhart, Madden, Smith, Purcell, Zickuhr and Rainie (2011:32) explain the experiences of teenagers, with regard to the impact of SNS, as depicted in Table 2.7 below:

Table 2.7 Impact of SNS on teenagers

EXPERIENCES	PERCENTAGE
Made you feel good about yourself	65%
Felt closer to another person	58%
Resulted in face-to-face arguments or confrontations	25%
Ended friendship with someone	22%
Feeling nervous about going to school the next day	13%
Caused problem with parents	13%
Resulted in physical fights	8%
Trouble in school	6%

It is evident from the above figures that SNS can enhance a teenager's self-esteem and self-confidence. The feeling of closeness to others was also high in the use of SNS.

2.4 ADOLESCENTS AND THEIR MOBILE PHONES

As seen from all the discussions above, the mobile phone is one of the most rapidly growing new technologies in the world. In 2001, mobile phone subscriptions were less than a billion worldwide with the majority of the subscriptions from the developed countries. At the end of 2010, cell phone subscriptions had reached five billion worldwide with subscriptions from developing countries outnumbering that of the developed countries (Cole-Lewis 2010:56; Hakoama & Hakoyama 2011:2;). The mobile phone now forms a fundamental part of the globalised and localised telecommunications of the twenty-first century (Yates & Lockley 2008:74). Since the introduction of mobile phones over 20 years ago, they have become highly prevalent

with youth in particular, because they have adopted mobile phones as an integral part of their daily lives. In the light of the above-mentioned discussions, it is evident that mobile phones are nowadays used by adolescents to communicate with others by calling and sending text messages and also for additional functions such as downloading music, taking pictures and accessing the Internet. These additional functions have moved mobile phones from being telecommunication tools to mobile computers and important social tools, incorporating multiple media that lead to new relations between people and among groups. While people of various ages find cell phones convenient and useful, younger generations tend to use them more and be more dependent on them.

Today's teenagers like to share information. They want to be connected with friends and family the whole time and they mostly use mobile phones to do it. Their mobile phones are not just useful communication devices; they are vital connections to friends. Mobile phones have become quite popular in a short time among the younger generations. A study in Norway reported that almost 100 percent of 16-year-olds owned a cell phone in 2001 while less than 20 percent of 16-year-olds owned cell phones in 1997. For cell phone users, this possession has become as important as wallets (Hakoama & Hakoyama 2011:2). A study on Australian adolescents revealed that cell phones play an integral part in their lives. Some of the participants reported a very strong attachment to their cell phones; they felt as though their cell phones were part of them. In another study, it was clear that cell phones are a fundamental tool with which children maintain and manage their relationships and to reinforce peer ties (Hakoama & Hakoyama 2011:2). Adolescents' tendency to value a sense of belonging to their peer groups and their perceptions that cell phones are social-relationship-maintaining tools, are likely to influence their decision to acquire a cell phone (Hakoama & Hakoyama 2011:5).

Mobile phones make a companion readily available in an often frightening and alienating world and adolescents' attachments to their phones indicate that a mobile phone is an essential tool in maintaining ties to known others. These type of attachments to the mobile phone can lead to an overreliance on the phone as a site for reassurance and as an antidote to a whole host of psychological needs (Cumiskey 2011:17). The psychological experience of having a known other on the phone may increase a user's

self-confidence, but also decrease their self-awareness as it relates to their current physical environment. The increased self-confidence might be due to the fact that the user does not feel alone in his current surroundings.

2.4.1 Identity formation

According to Erik Erikson's model of identity formation, during adolescence, we move into a psychosocial crisis between our personal identity and role confusion. During Erikson's psychosocial adolescent crisis, the teen must turn to his friends to develop his values and beliefs (Rosen 2007:64; Santrock 2001:17; Subrahmanyam & Geenfield 2008:80). Identity formation is, therefore, an important development task of adolescence and can be defined as the process of integrating one's characteristics and experiences, to form a stable and unique sense of the self. By using the Internet via their mobile phones, it offers a safe place and many opportunities where adolescents can anonymously experiment with different identities (Blais et al. 2008:523; Lemma 2010:692; Ling & Campbell 2011:1; Pujazon-Zazik & Park 2010:78; Valkenburg & Peter 2008:208; Williams & Merten 2008:256). This view is supported by Brown and Bobkowski (2011:96) and Shouten (2007:22) who believe that newer media can provide several opportunities for interaction driven by and supporting identity exploration. 'Some types of media can be central to identity and can help to develop a positive self-identity that can have a positive impact on healthy development' (Warburton 2012:11).

Based on the above, mobile phones have become integrated into many young people's self-identity. At the heart of the online communication explosion is the desire to construct a valued representation of oneself, which affirms and is affirmed by one's peers online (Livingstone & Brake 2010:76). Additionally, young people personalise their mobile phones with unique ringtones and screen savers and believe mobile phones symbolise their growing independence from their parents and their individuality. Thus, the adoption of mobile phones as a form of self-expressive identity, suggests that the mobile phone and mobile phone behaviour have become a materialistic representation of the self (Walsh et al. 2010:334). In a research conducted by Walsh and her colleagues, they found that the strength of self-identity might be due to the fact that in-group norm and need to belong were associated with self-identification as a mobile user. Participants who reported that mobile phone use was common within their friendship

group and who sought strong relationships with others, were more likely to identify strongly as a mobile phone user than participants whose friends did not use a mobile phone as commonly. These findings are consistent with identity theories, which state that socially reinforced behaviours that produce a positive outcome are likely to become well established in a person's self-identity. Thus, the strength of self-identity is a predictor of both the frequency of mobile phone use and mobile phone involvement among young people and suggests that mobile phone usage has become an intrinsic part of some young people's identity formation (Walsh et al. 2010:339).

Erikson's theory also suggests that during adolescence, teenagers get to try on different identities. As mentioned above, a virtual world provides the perfect venue for trying out different identities. Dr. Sherry Turkle introduced the concept of being 'behind the screen' as a metaphor to explain why the computer seems to be freeing for many people. As the adolescent struggles with his identity, he feels that having a computer screen (or mobile phone) between him and the world, makes it easier to try different identities (Rosen 2007:69; Van Kokswijk 2007:43). Tactical self-presentation refers to the tailoring of one's performance with one's audience in mind and referencing the performance to particular goals, agendas and scripts (White & White 2008:155), which can result in people appearing to be different people online in different situations and in different contexts. There is, however, always the possibility that the performance will be rejected by the audience. Multiple selves can readily be presented online to different audiences. Challenges arise when the cues available in face-to-face interactions are not available in online communication and the usual supports that assist with interpretation and impression management are absent. In face-to-face encounters, public personae are conveyed through dress, tone of voice, gestures etc. With mediated relationships, these features are not available and one relies on text supported by images or photos. The use of a specific writing style and language, as well as emotional icons and symbols, replaces the cues that are provided visually and through tone and voice in a real life situation (White & White 2008:156).

Supporting the above view, one can say that Carl Roger's idea of the *true self* is often confirmed in online spaces, because they offer a safer space to disclose the core aspects of the self (Whitty 2008:6). Psychologists who study how we present ourselves both online and offline, have discovered that we use virtual worlds to explore our various

selves. It was found that those who are shy or suffer from low self-esteem found it easier to make friends online and easier to be honest on SNS and they consequently felt more positive about themselves both online and offline. Many of them felt more free and uninhibited online and that this spilled over into their school life (Rosen 2007:73).

2.4.1.1 Social/Collective identity

The mobile phone and in particular social networking sites (SNS), provide a variety of vehicles to establish a sense of community that can lead to a social or collective identity. Chat rooms, discussion groups and bulletin boards are all available on most SNS. These communities do not depend on space and time, because the online world is wide open. Interacting with groups of people online as opposed to in-person, is a qualitatively different activity from both individual online friendships and real-world groups. Being part of a group requires the teenager to learn how to cooperate, take different perspectives, gain social support and develop a sense of intimacy. In addition, being part of a group allows a sense of identity and a frame of reference for future individual behaviour in a group environment, such as a college or a workplace. The Internet fosters group interaction and regardless of the format, online discussion groups have always produced group cohesion (Rosen 2007:49). Many adolescents are involved in discussion groups and they experience homophily, which is the tendency of individuals to associate and bond with others with similar interests and ideas. The more we share in common with someone, the more likely it is that we will get emotional and social support for our opinions and discussions on certain topics. Research has shown that sharing interests among individuals leads to an increased sense of belonging and self-validation (Rosen 2007:51). Table 2.8 below concludes the findings with regard to the role of the mobile phone in the adolescent's identity formation:

Table 2.8 The role of the mobile phone in teenagers' identity formation

<p>IDENTITY FORMATION</p> <ul style="list-style-type: none">• Experiment with different identities in virtual space• Feel safe behind a screen• Can construct a valued presentation of oneself• Presentation = affirmed or confirmed by others• Personalisation of mobile phones• Self-expressive identity tool• Can explore various selves in virtual worlds
<p>SOCIAL/COLLECTIVE IDENTITY</p> <ul style="list-style-type: none">• SNS provide a sense of community• Teach cooperation• Provide different perceptions• Strengthens social support• Creates a sense of intimacy

2.4.2 Online interaction and communication

Online communication and interaction is better known as computer-mediated communication (CMC). With the introduction of mobile communication, social systems have become less location-based and more people-based. People can stay in touch on the move, maintaining a 'nomadic intimacy'. The social world has become a system of networked communities which are held together not by place, but by 'symbolic processes' such as trust building. Communication boundaries have become much more flexible, because while people are physically in one place playing one role, they can be forced into another role, in the same physical space by a mobile call from someone from another context (Foucault, Zhu, Huang, Atrash & Contractor 2009:2; Truch 2004:3; Underwood, Rosen, More, Ehrenreich & Gentsch 2012:295). When mobile users are on the phone, they are simultaneously in two spaces: the space they physically occupy, and the virtual space of the conversation (the conversational space).

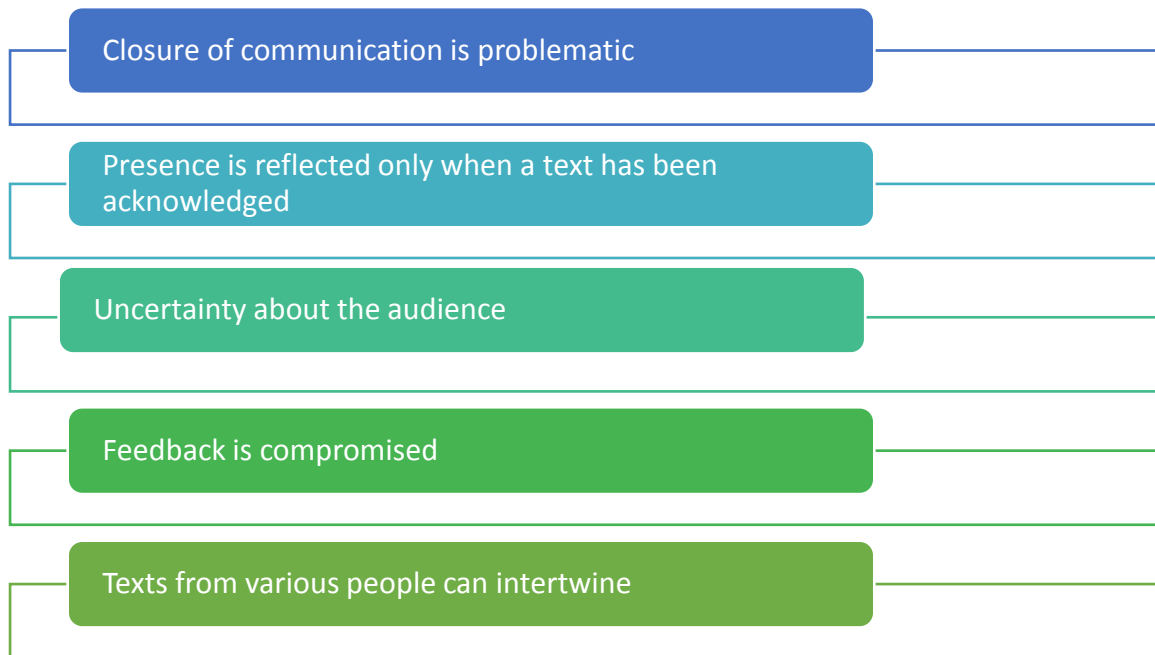
As mentioned before, communication in cyberspace is mostly text-based and does not provide visual and auditory cues that are available in face-to-face interaction and can be seen as a limitation that makes it very difficult to develop complete and accurate perceptions of the personalities and characters of other people. Early research has shown that users rated computer-mediated communication (CMC) as cold, impersonal

and unsociable, but more recent work has revealed that under certain conditions CMC is capable of fostering well-developed impressions among people who interact online and of supporting strong, positive relationships among users (Sherman 2001:54).

Why is instant messaging (IM) so much more popular with teens than other forms of mediated communication? Research indicated that it is relatively easy to use, it is inexpensive, it allows for multi-tasking and it is efficient in the sense that teens can correspond with multiple people at the same time. IM is casual; formal spelling and grammar are unnecessary and some young people feel less constrained in their communication style and content. IM also provides an excellent bridge across distance (Selfhout et al. 2009:820) and appears to enhance many teens' network of relationships. Because IMing is so easy, teens find themselves talking more to friends and peers than they would otherwise have time to in and out of school. Communication can also be less awkward online: on IM there are no gaping silences or nervous giggles, and when either party have had enough of the conversation, they can simply stop IMing or sign off quickly (Fontes & O'Mahony 2008:2; Jacobson 2008:223; Pujazon-Zazik & Park 2010:78; Stern & Willis 2007:213). These possibilities help teens to feel more in control of their social interaction which can be a welcome feeling during adolescence, when building and managing social relationships. Qualitative interviews with girls done by Shayla Thiel revealed that IM provides a free or safe space in which they could experiment with using different language styles like word choice and tone, allowing them to break norms that they can find restrictive in other settings such as school. The girls in Thiel's study described the ways in which IM can elevate users' social status by allowing them to control their self-presentation. For example, engaging in numerous, simultaneous online conversations on IM, conveys to others that a girl is popular and well-liked (Stern & Willis 2007:214).

Being online is continually suspended between presence and absence and the term *asence* has been used to denote these two states. Marshall (2008:200-202) provides the following examples that support the idea of *asence* as seen in Figure 2.2:

Figure 2.2 Moving between presence and absence online



According to the above, the distinction between presence and absence online is compromised through online communication and can easily lead to ambiguity and misinterpretations of messages sent that can lead to anxiety by the users. People can feel helpless or insecure if they do not receive acknowledgement of their messages. *Absence* is generally uncomfortable, and people work to reduce it.

Downshire and Grew (2010:140) add to this by stating that when a child feels insecure or anxious, he may find comfort by withdrawing to solitary screen-based activities, reducing face-to-face communication. The irony is that the reduced human interaction that results from this further reduces feelings of security, trust and safety and a negative cycle can develop. The less secure a child feels, the more they turn to technology (mostly their mobile phones) for a social fix and the more they do this, the less experience they have of real communication. Therefore it can be said that screen-based communication carries a big potential for provoking anxiety among adolescents. In Table 2.9 online interaction and communication can be summarised as follows:

Table 2.9 Online interaction and communication

CMC	<ul style="list-style-type: none"> • Maintains a nomadic intimacy • Networked communities are formed • Boundaries are flexible • Occupy two spaces at once
TEXTING	<ul style="list-style-type: none"> • Communication = text-based • Difficult to form accurate perceptions • IM = most popular • Talk more to each other than in real life, because it's easier • Easy to stop communicating or to sign off • Feel more in control
PRESENCE VS. ABSENCE	<ul style="list-style-type: none"> • Suspended between presence and absence online • Problematic communication • Ambiguity of message • Misunderstandings
ANXIETY	<ul style="list-style-type: none"> • Withdraw to screen-based activities • Reduced face-to-face communication • Reduce feelings of security • More anxiety

2.4.3 Online relationships and social development

Generally, communication and relationships are closely interwoven. Communication is the basis of relationships and also indicates the type of relationship. Researchers studying interpersonal communication and interpersonal relationships barely take the media into account and therefore overlook that today's world of interpersonal relationships is already a world of media as well. Diverse types of relationships are indicated by the usage of different kinds of media or in the particular usage of a medium. Matsuda (2005) in Höflich and Linke (2011:107) points out that the mobile phone serves mainly for communication among people who already know each other. The mobile phone is also a relationship medium wherein specific cultural distinctions can play a significant role (Mesch & Talmud 2006:29).

A key development task for adolescents is relationship formation with others. From social experiences, a sense of the self emerges and develops over time and individual

needs are fulfilled. As previously mentioned, the mobile phone has become a social tool for the adolescent today and has opened an entirely new domain for interpersonal communication. It seems likely that young people are turning to online interactions and relationships in part to satisfy their social and interpersonal needs (Hoffner 2011:311). Hoffner (2011:310) states that the Internet offers young people many alternative ways to interact with individuals who are already part of their face-to-face social networks, as well as opportunities to develop new relationships with unknown people from any background and geographical area. The many communication options available online offer youth a broad array of venues for social interaction and relationship development.

In correlation with the above, young people report that a major aspect of their online relationships involves keeping in contact with people whom they already know offline, primarily through IM, but they also use the Internet to meet and interact with people whom they have never encountered face-to-face. Two studies compared the qualities of online and face-to-face relationships among young people. Subrahmanyam et al. (2001) in Hoffner (2011:315) found in one study, children and teens (aged 10 – 19) felt less close to online friends than they did to friends in their face-to-face network. Mesch and Talmud (2006) in Hoffner (2011:315) and Boase and Wellman (2006:713) found in the other study that teens (aged 13 – 18) perceived online friends as less intimate and supportive than face-to-face friends, perhaps because their online relationships were of shorter duration and involved less diverse shared activities. Through mobile phones, many relationships move between the virtual and the physical world quite frequently (Tong, Van der Heide, Langwell & Walther 2008:537).

Tapscott (2009:193) calls these communication networks and the relationships adolescents foster *N-Fluence networks*. For the Net Generation influence really lies in these networks of friends and acquaintances. Dunbar (1992) in Tapscott (2009:193) suggested that the natural size of a group is about 150 which is the number of people most humans can maintain a stable relationship with-in a group or groups through personal contact. Dunbar developed this theory long before social networks became a reality. Now, an SNS like Facebook is the new form of social bonding and allow young people to easily maintain a stable circle of 700 friends. The Net Geners use communication networks that are larger, more complex and more efficient than those that were possible when their parents were young. Geography and time zones no

longer get in the way and they can contact other people far more quickly and easily than before. This new interconnectedness means that the *N-Fluencers* have a much larger number of friends they can influence due to the fact that they can reach more people in fewer steps and spread the word like a wildfire.

According to Wolak, Mitchell and Finkelhor (2003) in Hoffner (2011:316), the Internet may also serve as a social compensation function for some adolescents. Using a national sample the researchers found that young people who had difficulties with parents or were highly troubled were more likely than their peers to have close online relationships. The researchers argued that these young people might have sought online relationships to obtain companionship or support that they were lacking in other contexts. Gross (2002) in Hoffner (2011:316) similarly found that adolescents who were lonely and anxious turned to IM for social interaction mostly with people they did not know well, whereas those who were more socially integrated communicated primarily with friends from their face-to-face networks. Thus, adolescents who already had social difficulties did not use online interactions to enhance social connections and intimacy with others. This outcome is consistent with the rich-get-richer hypothesis, which contends that extraverts and those with more social support are better able to utilise online opportunities for social involvement according to Kraut et al. (2002) in Hoffner (2011:316). Peter, Valkenburg and Schouten (2005) in Hoffner (2011:316) suggested that neither the rich-get-richer hypothesis nor the social compensation hypotheses alone could adequately explain the process of online relationship formation. In a study of young people, they found that both introversion/extraversion and motivation for online communication influenced online self-disclosure and friendship formation. Specifically, extending the rich-get-richer hypothesis, extraverted adolescents self-disclosed and communicated more online, which facilitated the formation of friendships. However, introverted adolescents who were motivated to communicate online to compensate for limited social skills also self-disclosed more and formed online friendships, consistent with the compensation hypothesis.

In Rosen (2007:57), Danah Boyd states that it is important to determine which teens are making which friends online and how significant those friendships are. To become involved in online gaming and meet someone to play a game, does not make that person a 'friend'. Teens are looking for support and validation, but they are primarily interested

in enriching their offline connections. A negative aspect of online friendships, according to Boyd, is that adolescents invest a lot of energy into connecting with someone online but often that does not build a relationship.

The impact of friendship on mental health is that people who have more friends are more confident, more altruistic, and less aggressive, more involved and better adjusted in school, and earn better grades. How does this translate from real-life friends to online friends? Rosen's (2007:47) research on MySpace (an SNS) demonstrated that teens with more MySpace friends experienced less depression, were more self-confident, and found it easier to be more honest online, but they were also more likely to be addicted to the Internet. There is an ongoing debate among psychologists about the impact of online interaction on the psychological well-being of adolescents. On the one hand, online interaction can have positive consequences with regard to increased social support, enabling easier connections with friends and enhancing the formation of new relationships. On the other hand, concern is growing regarding excessive Internet use, due to the need for online interaction and its potentially harmful effects on the psychosocial well-being of youngsters (Van den Eijnden, Meerker, Vermulst, Spijkerman & Engels 2008:655). Rideout, Foehr and Roberts (2010:17) found in their research that young people's personal contentedness in online communication is largely positive. Most respondents say they have lots of friends, get along well with their parents, and are happy at school. To conclude:

Table 2.10 Online relationships and social development

<p>MOBILE PHONE = SOCIAL TOOL</p> <ul style="list-style-type: none">• New domain for interpersonal relationships• Broad array of venues for social interaction and relationship development• Online communication strengthens offline friendships and connections• No background and geographical boundaries
<p>N-FLUENCE NETWORKS</p> <ul style="list-style-type: none">• Enormous numbers of online friends to influence• SNS provide social bonding• Quick and easy connections to strengthen social interaction
<p>SOCIAL COMPENSATION</p> <ul style="list-style-type: none">• Seek social compensation online where it lacks in other contexts• Extroverts: more online to facilitate friendships• Introverts: more online to compensate for limited social skills• More online friends: more confident, less depression, easier connections, enhancement of friendship formation• Excessive use can lead to addiction and decreasing of real life social skills

2.4.4 Division between public and private

The main risk to adolescents being online today, are risks from each other, risks of improper use of technology, lack of privacy, sharing too much information, or posting false information about themselves or others putting their privacy at risk. A 'digital footprint' refers to the evidence that is left behind when Internet users visit various Web sites. One of the greatest threats to young people on social media is to their digital footprint and future reputations. Adolescents who lack an awareness of privacy issues often post inappropriate messages, pictures and videos without understanding that 'what goes online, stays online' (O'Keeffe & Clark-Pearson 2011:802).

Tapscott (2009:40) believes that the young are sharing intimate details about themselves on the Internet and sometimes use lavishly illustrated pictures that might come back to haunt them once they are in the working environment. They are giving up their privacy, not only because of the social networks, but because they happily answer questions from the corporate world about their private lives. SNS such as

Facebook are used by young people to post scraps of information they have about themselves and others online for all their friends to see, from digital displays of affection to revealing pictures. According to Tapscott (2009:66), The Net Geners do not understand why privacy is important and do not yet understand the long-term consequences of sharing intimate information about themselves to the world. Material that should be private can be broadcasted by someone else without permission raising the important issue of the boundary between public and private experiences. Consequently, distinguishing between public and private is increasingly difficult for today's teenagers (Downshire & Grew 2010:144). For adolescents, privacy is when they have control over the space or audience they communicate with online. For many teenagers, SNS are the only large scale publics to which they have access without being under constant surveillance. Publics are critical for teenagers to grow up, test the social boundaries, and develop a sense of self that is situated in the broader world. Given the lack of access to other publics, it is not surprising that teens are turning to online spaces to have some form of public life. These spaces are also where they turn to have private encounters with a smaller group of friends (Rosen 2007:61).

Private and public spheres are far more interconnected for teens than for adults, seeing that teens are much more preoccupied with organising, managing and reorganising their public and private identities than adults. Teens create a necessary fluidity between the spheres where they can test out their style and identity in private as preparation for the public (Holland & Harpin 2008:128).

2.4.5 The self

In the modern and post-modern view, the self is a flexible and varied construction (Miller & Arnold 2001:74). Gergen (1996) in Miller and Arnold (2001:74) says: 'With this confluence of changing conditions, it becomes increasingly difficult to determine precisely what the contents of the psychological self may be'. It was found that as one grows from childhood to adolescence, the medial prefrontal cortex (mPFC) becomes more active in social situations and peaks around 15 years old. At this point, social situations carry a lot of emotional weight that can result in a self-conscious stress response. That is, in adolescence, thinking about one's self (self-evaluation) is a high priority (Eagleman 2015:16). Many approaches to the study of the relationship between

psychology and information technology suggest that technology will give rise to new ways of being: that life in cyberspace is different from what is called 'real life' (Miller & Arnold 2001:74). What is the electronic self? A study done by Holland and Harpin (2008:128) investigated the way people create, recreate and sustain the self they display online and how this connects with the off-line self. The respondents regularly posted and edited photographs of themselves and these photographs were carefully selected. They all felt reassured by comments left about their photographs.

It was mentioned before that people personalise their devices, and are in return personalised by them. The growing presence and use of mobile media generate new 'cartographies of personalisation' (Lasén 2011:96) and in this way, mobile phones are involved in processes of individualisation, self-representation and recognition. Mobile phone personalisation involves making and keeping a variety of inscriptions such as text and voice messages, images, numbers, dates, call registers, songs, ring tones and recorded sounds (Lasén 2011:97).

A number of internal and external factors, such as self and social influences may impact on young people's mobile phone behaviour. Mobile phones are reportedly a form of self-expressive identity with some users where they incorporate mobile phones into their sense of self. Social influences, in particular in-group norms, also have an impact on phone behaviour. Some young mobile phone users report that having a mobile phone, increases their sense of self-worth as they feel connected to others. Therefore, psychological motivations, such as self-esteem enhancement and the need to belong may also underlie young people's mobile phone behaviour (Walsh et al. 2010:334).

2.4.5.1 Self-concept, self-esteem and self-confidence

Adolescents are continually revising their sense of self, based on positive and negative online interactions. Young people's self-esteem is often related to their relationships with and feedback from friends and peers, particularly if their self-worth is contingent on approval from others. Online communication can make this self-evaluative process easier than face-to-face communication, by providing teens with the option of discontinuing negative communications that may reduce self-efficacy. For example, if someone makes a negative comment on a teen's SNS page, he or she can simply

ignore it, delete it, or even block the person from making further comments. With online communication the teen has the option simply to ignore negative feedback, knowing full well that just around the corner is someone IMing them with positive strokes and wanting to be their friend. A teen with many online friends will always have someone to provide positive feedback and hence, increase his or her self-evaluation. SNS afford many opportunities to foster self-efficacy through individual interactions over which the teen can exert control (Rosen 2007:48). Frequent mobile usage to socialise and communicate with others, can, therefore, create a certain level of self-awareness and self-understanding that can influence the self-concept of the adolescent.

As mobile phones are valued for providing connection to others, self-esteem may impact on young people's mobile phone behaviour. Some researchers have found that low self-esteem predicted problematic and excessive mobile phone use, but others found no relationship between self-esteem and the amount of mobile phone use. Thus, the relationship between self-esteem and mobile phone behaviour remains unclear. It may be that rather than directly influencing mobile phone behaviour, the effect of self-esteem on mobile phone use is mediated by one's need to belong (Walsh et al. 2010:335).

2.4.5.2 Self-presentation and self-disclosure

The Hyperpersonal theory focuses on intense sharing and self-disclosure when pursuing and developing online relationships. This can be due to the fact that cyberspace is a space somewhere in between fantasy and reality – a space where individuals feel more comfortable to reveal emotions, explore and play with identity and attraction. Cyberspace is also arguably a space where rejection is easy to cope with and there are less negative consequences to self-disclosing online. Hyperpersonal relating occurs online because people can be more strategic in this space (Baker & Whitty 2008:40). The authors have also found that individuals are often more open and honest online. Because of the lack of visual cues and easy validation of proclaimed identity, people who develop online relationships may reveal much about themselves in text.

New theories are currently being developed to explain how individuals present themselves in different places within cyberspace. The BAR theory (balance between

an attractive self and a real self) was devised by Whitty (2007) to explain presentation of the self on online dating sites. The theory states that most online daters believe that the best strategy for developing a successful profile is to create a balance between an attractive self and a real self. A successful profile, therefore, has to appear attractive enough to stand out and be chosen, but must also be one that individuals could live up to in their face-to-face contact (Baker & Whitty 2008:41).

Two aspects of online life are important in looking at how and why online teens feel more comfortable sharing their feelings: teens feel that they can be more honest online, and shy kids find it easier to share thoughts online behind the safety of the screen (Rosen 2007:95). Dr. Adam Joinson (Rosen 2007:44) coined the term 'disinhibition' and defines it as 'any behaviour that is characterised by an apparent reduction in concerns for self-presentation and the judgement of others'. Disinhibition is what you do or say online that you would not do or say offline or in person.

2.5 THE USE OF THE LITERATURE STUDY AS A PLATFORM FOR THIS RESEARCH

Based on the information that was discussed in this chapter, it is evident that the mobile phone plays an essential, but also a complicated role in the life world of the adolescent. The fact that the youth grow up in a digital age where technology develops faster than they do, contributes to the fact that they are media savvy and therefore comfortable with all digital technologies surrounding them. Most teenagers cannot imagine their worlds without a mobile phone and they carry their phones with them constantly. Furthermore, adolescents form strong attachments to their mobile devices, both physically and emotionally and I needed to find out to what extent they rely on their phones in their day to day functioning. Social media and SNS have made it easier to connect and keep in touch with others and the question arises as to how adolescents use social media and SNS for self-expression purposes and forming of relationships. The impact of technology on the development of the brain indicates that the youngsters' brains can develop differently than previous generations, resulting in a generation whose cognitive processes will be different. This can have a tremendous impact on formal education and it is fundamental that certain changes need to be made to accommodate the different ways in which the Net Generation thinks and perceives.

Another important aspect that came forth from the literature, was that the mobile phone has various functionalities today via easy access to the Internet and, thus, are used by adolescents for much more than just communication with others. The physical world of the teenager is expanded by means of mobile communication, because no boundaries between physical and virtual space exist and a person can be present in two contexts at once. The absence of geographical boundaries in virtual space enable youngsters to communicate with anyone anywhere, which makes the mobile phone a convenient communication tool. Seeing that identity formation is essential during adolescence, it was clear that virtual spaces, social media and other virtual spaces are used by teenagers to experiment with their identities. It is possible for teenagers to play multiple roles online, depending on the audience. Furthermore, teenagers personalise their mobile phones so that their phones become a materialistic representation of the self, especially with regard to the content.

Based on the literature study in Chapter 2, I needed to find out how the mobile phone influences the adolescent's development with specific reference to his identity formation (who am I by means of my phone), his social development (how do I act towards others when using my phone), his communication (to what extent the phone determines my communication and interactions with others) and lastly the impact on the sense of the self (how do I experience and perceive myself by means of my phone). It was clear from the literature study that all the above aspects that need to be investigated, are complicated further, because the Net Generation constantly moves between a virtual and physical world and has to function both in an online and offline context. How does the adolescent cope with that and how does it impact on his holistic development?

2.6 CONCLUSION

In conclusion, it is clear that the use of the mobile phone as a gateway tool to numerous online activities, is a very complex, diverse and challenging topic. The fact that mobile media play such a crucial role in the lives of adolescents, contributes to the idea that the mobile phone has become an integral part of their beings, physically, cognitively and emotionally. Mobile phone usage among adolescents might therefore have an impact on the sense of the self and how they form their different identities, seeing that mobile technology and media are fundamentally based on social interactions and relations

which are essential in this stage of development. In Chapter 3 the development of the adolescent self will be discussed as part of the literature study.

CHAPTER 3

THE DEVELOPMENT OF THE SELF

*"This process of the good life is not, I am convinced,
a life for the fainthearted.*

*It involves the stretching and growing of becoming
more and more of one's potentialities.*

It involves the courage to be.

It means launching oneself fully into the stream of life."

-Carl Rogers

3.1 INTRODUCTION

In order to discuss the research question with regard to the development of the adolescent self, this chapter put forward different views on personality development and personality theories, as well as how an adolescent's identity develops through the process of identity formation. Being a fundamental part of the self, self-concept, self-esteem, and self-presentation were also analysed. Another essential aspect that formed part of this chapter was social development and the role that peers and groups play in the life of the teenager.

3.2 PERSONALITY

Meyer (1997:12) defines personality as 'constantly changing but relatively stable organisation of all physical, psychological and spiritual characteristics of the individual which determine his or her behaviour'. The term personality, therefore, refers to that which makes people who they are, that which allows others to predict a person's behaviour. In Saucier and Simonds (2006:109,110) personality is defined as 'individuals' characteristic patterns of thought, emotion and behaviour, together with the psychological mechanisms – hidden or not – behind those patterns.' Woldt and Toman (2005:29) declare that 'the personality is essentially a verbal replica of the self'. The above-mentioned definitions stress characteristics within the individual, while many other definitions emphasise external traits, such as the role individuals adopt or the status they have achieved in society, their external appearance, and the reactions of others towards them.

One of the most interesting and important traits of people is that they are different from one another. Individuation is when a person wants to differentiate himself from others by emphasising his uniqueness or individuality (Baron & Byrne 1997:329). These differences contribute to the uniqueness of each person. There is, however, a complex interaction between the different traits within a person as mentioned previously. The human being functions as a whole and it is the sum of his traits, physical and psychic, in which his uniqueness is settled. Personality psychology revolves around the human being in totality with consideration for the individual differences between people (Möller 1993:3). The dimensions of personality are reflected in the question: *How am I?* It

doesn't refer to deep concepts, but rather to how you are in general, and especially how others see you. A person's behaviour and emotions are often influenced by what he thinks others think about him (Awerbuck & Swart 2014:55). With regard to this study, it is important to bear in mind that the above question is one that the adolescent frequently struggles with. He is extremely easily influenced by others and relies on what others think about him. Many different definitions exist with regard to the concept of personality that emphasises the complexity thereof. Möller (1993:4, 5) mentions the following definitions of personality:

- The outward appearance and outward observable traits of the person.
- The sum of a person's traits, regardless of the connection between the different traits.
- The interaction that exists between the different personality characteristics, thus, influencing each other within the person.
- A mechanism that helps a human to adjust to his surroundings.
- It is the subjective consciousness of how he sees himself (self-image), his feelings and thoughts, objectives, ideals etc.

In addition to the above, Meyer (1997:13) points out that character, temperament and nature, as well as the self, are concepts that are related to personality. Figure 3.1 explains each of these concepts:

Figure 3.1 Concepts related to personality

Character	Temperament and nature	Self
<ul style="list-style-type: none"> • Values • Ability to live according to values • Spiritual and moral dimension 	<ul style="list-style-type: none"> • Emotions • Expression of emotions • Dealing with emotions 	<ul style="list-style-type: none"> • Person's view of himself • Core of personality

The three aspects of character, temperament and nature, and the self are interconnected to contribute to the personality of a person. The one will not develop completely or naturally without the other.

3.2.1 Personality Theories

Most psychologists agree that an individual's personality and context influence their behaviour, but there are different opinions as to exactly what role is played by personality and context. Some would emphasise the role of the person, others the role of the situation and others the interaction between the two. Meyer (1997:14) distinguishes between three viewpoints with regard to the above-mentioned, as pointed out in Table 3.1 below:

Table 3.1 Different viewpoints about personality

VIEWPOINT	EXPLANATION
Personism	<ul style="list-style-type: none"> • Behaviour is influenced by the individual's personality. • Individuals have certain fixed characteristics distinguishing them from others. • People show a set pattern of individual differences.
Situationalism	<ul style="list-style-type: none"> • All people in the same situation will behave in the same way. • Genetic differences are denied. • Environment shapes specific attributes.
Interactionalism	<ul style="list-style-type: none"> • Behaviour is the outcome of the interaction between characteristics and the situation where the behaviour occurs. • The influence of individual differences and that of the situation. • Different people react differently to situations that might look the same to the outsider. • How the person reacts to the situation and the behaviour he produces in the situation.

Based on Table 3.1, it is clear that the role of the different characteristics of people and the context in which they exist will interact to determine specific behaviour. Many different theories exist with regard to personality. The different personality theories are

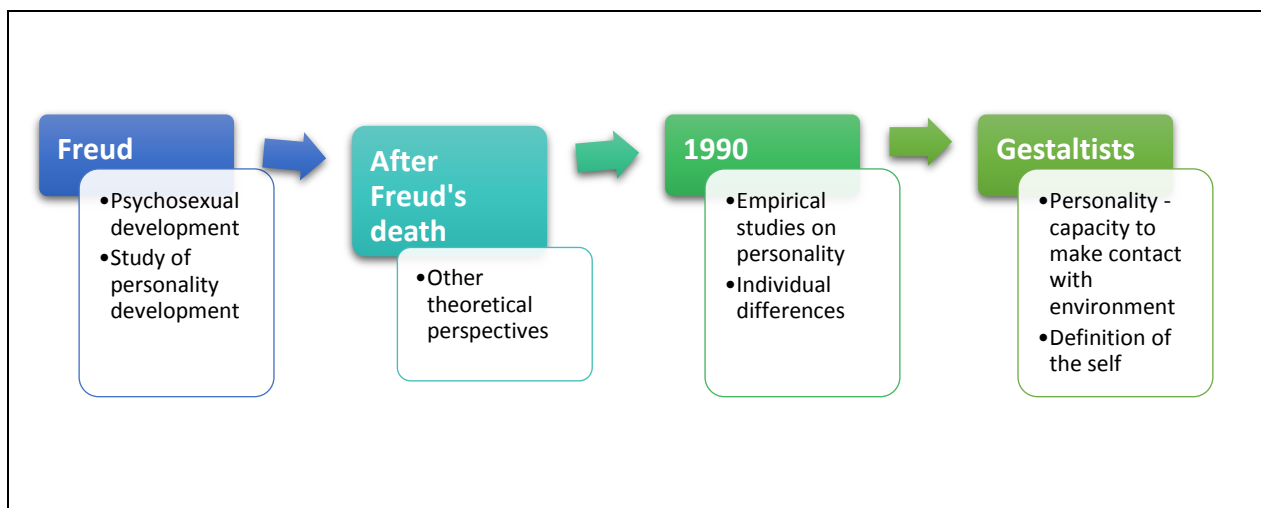
very complex and can be classified in many different ways. Meyer (1997:18) focuses on the theories according to their historical origin as reflected in Table 3.2 below:

Table 3.2 Personality theories based on historical origin

THEORY	DEFINITION
Psycho- and neo-psychoanalysts (Depth psychological approaches)	Behaviour is determined by forces within the person of which he is mostly unaware (subconscious). Different views about the nature of these forces and the degree of conscious control of the individual.
Behavioural and learning approaches	The study of observable behaviour. Learning and environmental influences are the most important determinants of behaviour.
Person-oriented approaches	Include all aspects of the person. Depth psychology and behaviourism are inadequate.
Alternative perspectives	New approaches: eco-systemic, Eastern and African. Different from traditional personality theories.

Table 3.2 makes it clear that theorists' views differ with regard to what kind of characteristics will determine a human's behaviour. Most theorists supporting the same approach differ in their views within that specific approach. The following figure indicates different views on personality development (Mroczek & Little 2006:3):

Figure 3.2 Views on personality development



According to the above, one can see that personality development was defined by broad, but individual differences in different characteristics that are displayed by most people.

3.2.2 Units of analysis in personality psychology

The core personality is made up of four units or domains, namely traits, values, abilities and narratives. In Table 3.3 a short explanation is provided for each of these domains (Roberts & Wood 2006:13-16):

Table 3.3 The four domains of personality

DOMAIN	EXPLANATION
PERSONALITY TRAITS	Patterns of thoughts, feelings and behaviours. Causal and learned. Based on unique life experiences.
VALUES/MOTIVES	Everything people want to do or would like. Includes needs, interests, preferences and goals. Two primary motivations: the need for status and the need for belonging.
ABILITIES	What people can do. Intelligence measures.
NARRATIVES	Devices used to tell stories to understand themselves and their environments. Help create meaning and purpose in their lives.

The different views and concepts of personality and all the other aspects constituting a person are very complex and cannot be completely separated from one another. The one will always influence the other, resulting in the way a person thinks about himself and how he behaves. When a connection is made between the domains of personality and adolescents, it is most likely that each of the domains is still unfolding during this developmental stage.

3.2.3 The development of the personality

Seeing that this research is based on a psycho-educational perspective, it is necessary to study the development of the personality, especially those of adolescents. Jung believes that personality development is a dynamic process that takes place throughout one's life. According to him, the primary developmental level of a person is self-actualisation, because his personality is determined by what he hopes to become (progression) as well as by what he was (regression). Table 3.4 provides a short summary of the different views of Freud, Jung and Rogers on the development of the personality:

Table 3.4 Perspectives on the development of the personality

NAME	STAGES	AGES
Jung (Möller 1993:84,85)	<ul style="list-style-type: none"> • Pre-sexual period • Pre-puberty • Puberty • Youth • Middle life phase • Old age 	0 – 3 years 3 – 5 years 40 years 60 – 65 years
Freud (Meyer1997:79)	<ul style="list-style-type: none"> • The oral stage • The anal stage • The phallic stage • The latent stage • The genital stage 	First year of life Second year 3 – 6 years 6 – 12 years Puberty onwards
Rogers (Meyer 1997:475)	General principles. Interaction between experience and self-concept. Crucial role of self-concept in behaviour. Formation of self-concept fundamental to theory.	

In light of Table 3.4, it is evident that our personalities are not static, but a fluid process in which our thoughts, feelings and behaviours connect and affect each other.

The adolescent's responses to experiences trigger how their feelings and thoughts work together, resulting in visible behaviour which are mechanisms that can promote change

and development of the personality during the adolescent years (Downshire & Grew 2014:70). Firstly, the way in which a teenager *responds to contingencies* (the rewards and punishments) of a given setting (Donnellan, Trzesniewski & Robins 2006:298). Secondly, adolescents have the ability to change their own personalities through *self-reflective abilities*. Thirdly, *observation of significant others* is the pathway to learning new behaviour and seeing that adolescents spend an increasing amount of time with peers, they have opportunities to observe the personalities of friends and acquaintances. Lastly, *reflected appraisals* may shape personality. This refers to the perceptions of others that have long been implicated in self-esteem development (Donnellan et al. 2006:299).

3.2.4 Temperament and development

As previously mentioned temperament forms part of the personality and refers to a person's capacity to respond emotionally to environmental events and includes attributes such as activity level, irritability, fearfulness and sociability. Shaffer and Kipp (2010:443, 444) discuss the following three temperamental profiles in Figure 3.3:

Figure 3.3 Temperamental profiles

Easy	Difficult	Slow-to-warm up
<ul style="list-style-type: none"> • Even tempered • Positive mood • Open and adaptable 	<ul style="list-style-type: none"> • Active • Irritable • Irregular in habits • Slow to adapt • Reacts vigorously to changes 	<ul style="list-style-type: none"> • Inactive • Moody • Slow to adapt • Responds mildly to changes

The three broad temperamental profiles of easy, difficult and slow to warm up may persist over time and may influence a child's adjustment to different settings later in life. Research done by Thomas and Chess found that early temperamental characteristics sometimes do and sometimes don't carry over into later life (Shaffer & Kipp 2010:444).

Based on this research, the question must be asked if mobile usage influences the personality of the adolescent or if the personality influences the mobile phone practices. One cannot help to wonder about the role of the teenager's temperament when he uses his mobile phone to connect and communicate with others.

3.3 IDENTITY

Identity is a broad concept that includes various *self*-terms and therefore integrates all the different aspects and roles of the self (Roberts & Wood 2006:17; Woolfolk 2010:86). Identity is the complex answer to the question: 'Who am I?' The socio-analytic theory suggests that the components of personality are organised around two psychological aspects: the *identity* (self-reports) and the *reputation* (observer reports – the perspective of others). Self-report methods will include trait ratings, self-concept measures such as self-esteem, as well as measures of goals and values. Observer methods will include ratings of behaviour, projective tests, implicit measures and physiological factors (Roberts & Wood 2006:16).

Adolescent self-conceptions and self-evaluations provide the framework for the identity formation process. Therefore, the development of the self and the identity development are closely linked. Rosen and Patterson (2011:84) explain that identity can be defined as 'a sense of who one is based on who one has been and who one can realistically imagine oneself to be in the future'. Just like personality, the sense of identity is multi-faceted and includes both chosen and assigned components. As a result, aspects such as membership in social groups, gender race and ethnicity can form an important element of one's personal identity.

Another important aspect of identity formation is that a person's contact with his environment is based on his definition of himself. If a person thinks of himself as shy and inhibited, he will set up a different kind of relationship with his environment than someone whose definition of self is daring and extroverted (Woldt & Toman 2005:29).

3.3.1 Erik Erikson's model of identity achievement

Erikson theorised that as young people move into adolescence, and experience changes associated with puberty, the expectations and responses of others and society change as well and stimulate the process of identity formation, which Erikson identified as the central task of adolescence. A *moratorium* period during adolescence allows young people the freedom to experiment with different identities and adult roles. Ultimately, they must make a series of choices that lead to commitments in a variety of domains, including personal, sexual/romantic, ideological and occupational. The process by which people achieve a unified personal identity is individual and identity development continues throughout the lifespan (Hoffner 2011:317). To Erikson, forging a sense of identity is the major developmental task of the adolescent. He proposed that an adolescent experiences the stage of *identity vs. confusion* in which peer relationships are very important (Woolfolk 2010:83). This is the reason why most adolescents move away from their parents emotionally and move more towards their peer groups. The successful resolution of this stage requires the formation of a mature identity whereas unsuccessful resolution is characterised by a sense of confusion about one's role. This conflict between identity and confusion is described as *identity crisis* to refer to adolescents' serious questioning of their essential personal characteristics, their view of themselves, their concern about how others view them and their doubts about the meaning and purpose of their existence (Rosen & Patterson 2010:84).

Erikson declared that adolescence is the optimal time for deconstructing one's childhood identity and reconstructing a viable adult identity (Jaffe 1998:174). The identity crisis is likely to be resolved when the three dimensions of identity (ego, personal, social) merge (Jaffe 1998:176). When a child moves into adolescence, he starts to develop the ability to think abstractly and begins to understand the perspectives of others. Important physical changes start taking place, so with the developing minds and bodies, adolescents must confront the issue of constructing an identity that will form a firm basis for adulthood (Woolfolk 2010:86). In addition to all the above, Erikson also characterised identity achievement as a healthy and adaptive development, which is true because identity achievers do enjoy higher self-esteem and are less self-conscious or preoccupied with personal concerns than their peers in the other three identity statuses. Erikson viewed that the achievement of identity is a prerequisite for

establishing a strong intimate relationship with another person and can be a painful process for the adolescent if he fails to establish an identity. Erikson believed that a person without a clear identity will become depressed and will lack self-confidence and will be trapped in the diffusion status. Erikson calls this a negative identity and researchers have confirmed this by suggesting that many adolescents stuck in the diffusion status are highly apathetic and express a sense of hopelessness about the future (Shaffer & Kipp 2010:506).

3.3.2 Identity formation

James Marcia's identity status model clarified and tested Erikson's theoretical model of identity. He studied the different ways that adolescents construct a personal identity. James extended Erikson's work by stating that not only do adolescents go through crises to explore their identities, but they also make decisions that he calls *commitments* (Rosen 2007:74). Marcia identified four ways (identity statuses) in which adolescents may be expected to resolve the identity. These four statuses are depicted in Table 3.5 (Jaffe 1998:177; Rosen 2007:74; Rosen & Patterson 2010:88):

Table 3.5 Marcia's stages of Identity Formation

IDENTITY DIFFUSION	<ul style="list-style-type: none"> • No Identity crisis yet • No commitments • Often confused and overwhelmed
FORECLOSURE	<ul style="list-style-type: none"> • May or may not have experienced a crisis • Made commitments based on outside forces, not through own processes • Often make quick choices without consideration
MORATORIUM	<ul style="list-style-type: none"> • Major crises • No commitments, but working on them • Lots of rebellion, dissatisfaction
IDENTITY ACHIEVEMENT	<ul style="list-style-type: none"> • Experienced, struggled with, and resolved crises • Made commitment decisions on their own • Still worry about achieving goals, but do well under stress

In the identity diffusion stage adolescents do not actively explore or commit to adult roles and values and they don't reach a conclusion about whom they are or what they want to do with their lives (Jaffe 1998:178). They might also become apathetic and withdrawn with little hope for the future, or they will become openly rebellious (Woolfolk 2010:86). Less cognitive complexity is involved and lower levels of formal operational thought than those in identity achievement or identity moratorium stages (Rosen & Patterson 2010:88). In the identity foreclosure stage, adolescents have committed to specific goals, values, roles and beliefs but without having first thought through or investigated realistic alternatives and they accept the guidance of others of submitting to social pressures (Jaffe 1998: 178). Rosen and Patterson (2010:88) state that in this stage, the openness to experience is low and lower levels of formal operational thought than those in identity achievement or identity moratorium status. They exhibit high levels of conformity and endorsement of authoritarian values, low levels of autonomy and high reliance on parents are present.

The moratorium stage is where adolescents consider different points of view and experiment with various adult roles but have not made the final commitment (Jaffe 1998:179). They will however, demonstrate formal operational thinking when they consider identity related issues (Rosen & Patterson 2010:88). During the last stage, identity achievement, adolescents have already experienced identity diffusion and have committed to a life plan after investigated a variety of adult roles (Jaffe1998:179). They demonstrate planned, rational decision-making characteristics of formal operational thought and high level of moral reasoning. These individuals can persevere when they encounter difficult problems, avoid procrastination and perform well in academic settings. Pro-social tendencies will be exhibited (helping others) and they usually have relationships that are characterised by a high level of intimacy. Successful identity development is associated with psychological well-being (Rosen & Patterson 2010:88). These statuses are not necessarily consistent across the different domains of an adolescent's life. He can be in diffusion regarding career goals, in foreclosure – sexuality and in identity achieved regarding family roles. Most adolescents experience more than one of these statuses (Jaffe 1998:179). Table 3.6 provides impressions about the process of identity formation among adolescents and young adults (Rosen 2007:75):

Table 3.6 Percentages of adolescents and young adults in Marcia's identity formation stages

Age level	Identity achievement	Moratorium	Foreclosure	Identity diffusion
Pre-high school	5%	12%	37%	46%
High school freshmen and sophomores	9%	15%	37%	39%
High school juniors and seniors	21%	14%	36%	29%
College freshmen and sophomores	23%	28%	26%	23%
College juniors and seniors	40%	16%	31%	14%

The information in Table 3.6 reflects a clear picture of how identity formation can develop from adolescence to young adulthood. The younger the person, the more identity diffusion he will experience and the older he is, the more identity achievement he will have achieved. Although Erikson stated that the identity crisis occurs in early adolescence and is often resolved by age 15 to 18, it was shown through studies that the vast majority of 12 to 18 year-olds was identity diffused or foreclosed. According to research on this topic, identity formation takes a bit of time and that most adolescents achieve a sense of identity during the college years (late adolescence), but the identity formation process doesn't stop there, many adults are still struggling with identity issues (Shaffer & Kipp 2010:505).

Erikson, Piaget, Kohlberg and Gilligan were of the opinion that formal reasoning is a prerequisite to adolescent identity formation. Perspective taking, social comparison, increased self-awareness allow adolescents to view themselves in a new light, because self-understanding is rooted in understanding others (Jaffe 1998:189). Egocentric thinking would be expected to have an inhibiting effect on identity achievement. Identity formation in adolescence differs from childhood mainly because adolescents are more aware of their identity and the infinite number of possible identities they can adopt.

When asked to describe themselves preadolescents display concrete operational thinking. They refer to general traits and feelings and begin to add interpersonal qualities that imply social comparison (I am friendly, popular etc.) (Jaffe 1998:190).

3.3.2.1 Influences on identity formation

Four distinct factors influence the adolescent's progress toward identity achievement and are reflected in Table 3.7 below (Shaffer & Kipp 2010:507, 508):

Table 3.7 Factors influencing identity formation

FACTOR	DESCRIPTION
Cognitive influences	Mastery of formal-operational thought can reason logically about hypotheticals and can imagine and contemplate future identities. They are more likely to raise and resolve identity issues.
Parenting influences	Relationships with parents are important. Adolescents in diffusion status feel neglected and rejected by parents. Adolescents must first be able to identify with respected parental figures and take on some of their desirable qualities before they can establish their own identity. A solid base of affection at home combined with the freedom to be individuals in their own right will lead to identity achievement.
Scholastic influences	It was found that tertiary education could push adolescents toward setting career goals and making occupational commitments. It was also found that adolescents attending colleges regressed from identity achievement to the moratorium and even diffusion status in certain areas – most notably religion.
Social-cultural influences	The broader social and historical context strongly influences identity. Nowadays Western societies permit and expect adolescents to raise questions about the self and answer them.

Rosen and Patterson (2010:86) support the facts above. They mention that environmental factors can influence or hinder identity development and they believe that the adolescent's relationships with parents and peers can affect the extent to which the adolescent explore and make decisions. The school environment and larger socio-historical contexts also shape identity formation. Parents influence identity when they

provide their children with emotional support and the independence to explore. They can explore, but at the same time provide a secure base, offering their child affection and the opportunity to communicate and express his own point of view. Peers can also provide a secure base for identity exploration. Adolescents learn more about themselves when they interact with peers. Close friendships usually serve as a source of emotional support, especially when they discuss identity alternatives (Rosen & Patterson 2010:86). The characteristics of the school environment also influence identity development. Teachers can provide emotional support for identity exploration and encourage this process of self-discovery in their students. Classroom activities and open discussions of identity related issues can enhance identity formation (Rosen & Patterson 2010:87). Bukowski, Buhrmester and Underwood (2011:153, 154) claim that peer relationships provide an important context for development at every point in the cycle of life. Young age is a peer rich world and interaction with peers occurs in classrooms, in after-school activities in neighbourhoods and electronic media. Adolescents and adults share most of their experiences and activities with persons their own age.

3.3.3 Personal versus social identity

Theoretical approaches of identity development are concerned with how children and adolescents form a conceptualisation of the self, typically focusing on either personal identity (a sense of 'I' as different from others) or social identity (a sense of 'we' in which the self is part of a collective). Both are considered fundamental components of identity and are to some extent, interdependent. A sense of personal identity (e.g. I am a girl) is a necessary prerequisite for identifying with a social collective and social identity can have consequences for personal identity, for example affecting self-esteem (Hoffner 2011:317). The *personal dimension of identity* includes one's ideology (beliefs about religion, politics and money), vocational aspirations, sexuality, nationality, gender and ethnicity. *The social dimension of identity* refers to the many roles people play in life. The more one values a new role, the more it becomes part of one's identity. A person will play many diverse roles in the course of his life and these roles eventually are integrated onto a uniquely self-defined person. Our identity allows us to distinguish between *who we are* and *who we aren't* and also produces a 'sense of psychosocial

well-being....a feeling of being at home in one's body, a sense of knowing where one is going' (Jaffe 1998:175).

The social identity theory adds to the above by stating that people can perceive themselves differently in a group, but it depends on where they are on the *Personal-versus-social Identity Continuum*. The *Personal-versus-social Identity Continuum* refers to two distinct ways that people categorise themselves: at the personal level, they think of themselves as a unique individual, but at the social identity level, they see themselves as a member of a group. Where people place themselves on this continuum will influence how they think about themselves (Baron, Branscombe & Byrne 2009:120). According to Jetten, Haslam and Haslam (2012:4), mental and physical health is supported by social factors. Social identity can therefore, be seen as the way in which people experience a sense of the self that is derived from their membership in social groups. When we think about who we are, we define ourselves as well as a sense of the self not just as 'I' and 'me', but also as 'we' and 'us'.

Möller (1997:71) supports the idea of a social identity by stating that the Latin word *persona* refers to the masks that the actors wore in the antique Greek dramas. It refers to the social roles that are ascribed to people and how the individual understands the roles. When in contact with others, it is the mask worn by the individual to be able to function efficiently in his relationships with others and to gratify the challenges of society. The mask can take as many forms as the individual plays in his daily life. Jung believes that a person is forced to play roles in his work and relationships to enable success on these levels. A person who doesn't develop a *persona* will be tactless and asocial (Möller 1993:71), but a person can get so attached to his *persona* that he will start to believe that the *persona* is a reflection of his true self. By playing the role, he becomes the role and other aspects of his personality are shifted to the background and don't develop. If this happens, the person misleads others and himself and this will affect his psychological well-being negatively.

In addition to social identity, social influence can help create a social identity and can be defined as the many ways in which people produce changes (behavioural, attitudes and beliefs) in others. The nature and power of social influence can be defined according to Table 3.8 (Baron et al. 2009:274):

Table 3.8 The nature of social influence

ASPECT	DESCRIPTION
Conformity	Individuals change their attitudes or behaviour to adhere to existing social norms.
Compliance	Direct requests from one person to another.
Symbolic social influence	Mental representation of others or our relationships with them.
Obedience	One person orders others to perform some action.

A factor that influences our tendency to conform is cohesiveness and is the extent to which we are attracted to a particular social group and want to belong to it. The greater the cohesiveness, the more one tend to follow the norms of the group (Baron et al. 2009:278). Seeing that adolescents are still searching for their identity, they are susceptible to social influences and will easily conform to the norms of their peers. Modern technology can create a safe space for the teenager to experiment with different identities because it is fairly easy to act anonymously when they use the Internet.

3.4 THE SELF

All people have a sense of self. Without a sense of self, persons can easily get lost in a moral sea without any sense of which direction in which to head (Garcia et al. 1997:365). To have a sense of the self means to have a view of the self, thoughts about the self and the value we place on ourselves as people. Self-image, self-concept and self-perception refer to the overall picture a person has of himself and they describe a whole range of characteristics (Fennell 2009:3). Self-confidence and self-efficacy refer to our sense that we can do things successfully and to a certain standard. Self-acceptance, self-respect, self-worth and self-esteem introduce a different element in that they do not simply refer to qualities we assign to ourselves, but they reflect the overall opinion we have of ourselves and the value we place on ourselves as people (Fennell 2009:5).

Psychology has found a great deal of value in the self-concept for the understanding of people. The research on self-schemas has demonstrated that how people think about themselves, influences the ways in which they process information about themselves and others (Garcia et al. 1997:265). The question is often asked when and how does the sense of the self develop? Are we born with a sense of self or does it develop over time with experience? How should the sense of self be described? James (1980) in Garcia et al. (1997:368) characterises the self as ‘the sum total of all that he can call his. James distinguished between two broad types of experiences one can have about the self as explained in Table 3.9 (Garcia et al. 1997:368-370):

Table 3.9 Two types of experiences of the self

Self-awareness(Self-as-knower)	
Self-focus	The direction of attention onto oneself. Developmental and individual differences
Self-identification	Identify with the object of self-focus, the self. Warmth and intimacy when reflecting upon oneself
Self-understanding(Self-as-object)	
Personal memories	Autobiographical episodes that have particular importance in one's thoughts about the self.
Representations	Generalised ascriptions people make about the selves. Actual selves, ideal selves, past selves.
Theories of self	People can identify which characteristics and features are relevant, arrange in the hierarchy of importance and analyse how they are related to each other. Provide a sense of identity.

It is evident that a person must know himself and reach some sort of self-awareness before he can progress to self-understanding. Based on Table 3.9, Garcia et al. (1997:375) put forward the following information with regard to the development of the sense of the self:

Table 3.10 Development trends of the sense of self

	Self-awareness	Self-identification	Self-understanding	Representations
Infancy	Self-focus Body boundaries (First 3 months)	Self-reference Possessiveness (18 months) Self-conscious emotions (18 months)	Little evidence of personal memories	18 months: Representation of physical appearance and active capabilities
Childhood	Small increase in self-consciousness	Growing identification with descriptions of the self	Narrative exchanges provide scaffolding	Aware of physical/cultural characteristics Characteristics of people are stable across time and context
Adolescence	Sharp increase in self-focus	Distinguish between actions that reflect the self and those who do not	Little research	Well-differentiated and organised. Perceive changes in self over time as positive

We all develop conceptions of ourselves (and others) as males or females and as moral (or immoral) beings (Shaffer & Kipp 2010:479). In the Gestalt Theory, the self is seen as the capacity of a person to make contact with his environment and can be spontaneous, deliberate and creative (Woldt & Toman 2005:27). Rosen and Patterson (2011:73) state that self-understanding develop throughout life – as an adolescent develops, he can reflect on himself along multiple dimensions and in relation with others. Self-recognition is about identifying oneself in a mirror, photograph or video recording and can lead to a concept of the self (Rosen & Patterson 2011:75; Shaffer & Kipp 2010:481). Self-description follows after the emergence of self-recognition. Self-recognition suggests the beginnings of the Me-self. It starts with concrete terms (childhood years) and becomes more abstract with development. Self-recognition also shifts from the social exterior to the psychological interior (Rosen & Patterson 2011:76). The self-concept, therefore, becomes more differentiated with age and adolescents can describe the self-concept in greater detail (Rosen & Patterson 2011:77).

Adolescents become more aware that they are not the same person in all situations – this fact might puzzle and even annoy them. This can lead to a concern about finding the ‘real me’. The adolescents who are most upset about inconsistencies in their selves are those who put on false fronts, and will act out of character in an attempt to improve their images or win the approval of parents or peers. The adolescents that exhibit these false selves are the ones who feel least confident that they know who they truly are. It was found, however, that older adolescents can integrate inconsistencies into a higher-order and more coherent view of themselves.

Cognitive development, therefore, plays a role in how adolescents develop their self-perceptions. They have to reach the formal-operational ability to be able to compare abstract traits that might be contradictory in their personalities (Shaffer & Kipp 2010:485). Thus, we can say that how the teenager experiences and sees his world, is the consequence of a changing brain. The changes in the teenager brain result in the teenager being more self-conscious, more risk-taking and more prone to peer-motivated behaviour. Who we are as teenagers is not simply the result of a choice or an attitude; it is the product of a period of intense neural change (Eagleman 2015:17). Adolescents' own beliefs and values are often included in their self-descriptions and they can combine different traits to formulate more abstract descriptions of themselves. Adolescents tend to view themselves differently depending on social context and partners. When the self becomes more differentiated with development, the adolescent comes to realise that he behaves differently at home and school or when interacting with friends, teachers and family members (Rosen & Patterson 2011: 78, 79).

3.4.1 Self-concept

The self-concept can be defined from how we view ourselves, to who we think we are. Self-concept can be regarded to be our attempt to explain ourselves to ourselves and to build a scheme that organises our impressions, feelings and beliefs about ourselves. At birth, we have no concept of the self and over the course of childhood, we gradually become somebody special – an individual possessing a unique combination of personal qualities, opinions, beliefs, goals and aspirations (Jaffe 1998:190). According to Sedikides, Gaertner, Luke, O'Mara and Gebauer (2013:236), the self-system consists of three fundamental components: the individual self, the relational self and the

collective self. The self-concept is, therefore, not a singular experience and is indeed diverse and multi-dimensional within a person. These three concepts are explained as follows (Sedikides et al. 2013:282):

Table 3.11 Three components of the self-concept

Component	Explanation
Individual self	Person's uniqueness Independent of group memberships
Relational self	Bonds and attachments Roles in a relationship
Collective self	Membership in a group Similarities and identification in social group

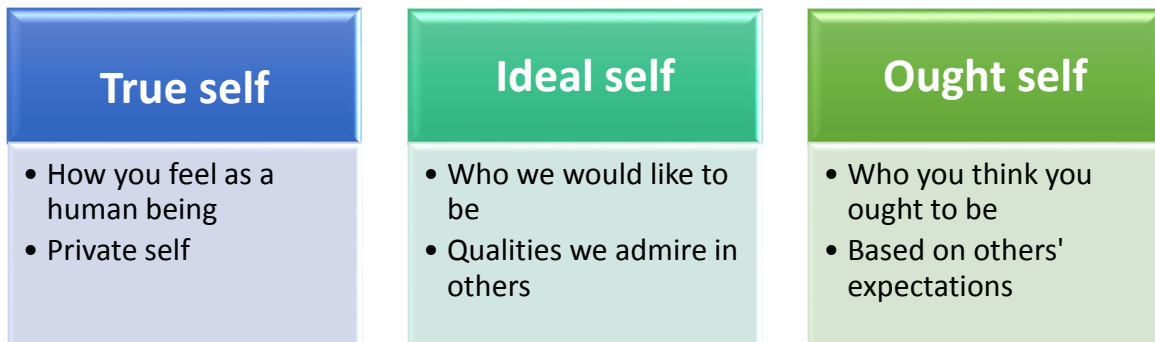
Sedikides et al. (2013:282) make it clear that the three selves are arranged hierarchically: the status of the individual self is higher than that of the relational and the collective self. The individual self forms the motivational core of the self-system.

The concept of the self is often used synonymously with the concept of personality, which includes all observable personal traits and behaviours that distinguish one from others. The simplest way of assessing others' self-concept, is to ask *Who are you?* or *Tell me about yourself.* Children have a firm sense of who they are partly based on the feedback they receive from their parents and other caregivers. They see themselves mainly through adults' eyes. Self-concept begins to change during the early adolescent years as abstract reasoning skills and a desire for autonomy begin to develop (Jaffe 1998:185).

Carl Rogers said that we collect all of our experiences and combine them to form our unique *true self*. Rogers saw the self as a result of interacting with the real world, but we as humans seek our own concept of who we are by matching responses of other to our concept of how we see ourselves. According to Rogers, we are not one actor playing a constant role, but rather an improviser, continually modifying our projected

self, based on our experiences with people and the real world (Rosen 2007:71). Based on the work of Rogers, psychologists have identified three separate aspects or parts of the self – true self, ideal self and the ought self as reflected in Figure 3.4 (Jaffe 1998:185; Rosen 2007:71):

Figure 3.4 The true, ideal and ought self



Jaffe (1998:185) calls the ought self the false self because it is who we want people to think we are, perhaps to impress or please them. Adolescents report that sometimes they feel pressured to act in ways that do not reflect their true selves. Many young people are afraid to reveal their real actual selves to others, especially peers, anticipating rejection or ridicule. For optimal functioning, our various selves must become integrated into one consistent unified self, referred to as *me*. During mid-adolescence, contradictory self-attributes sometimes cause confusion and frustration. Change in self-concept happens when adolescents perceive discrepancies among their various selves, especially between the actual and desired selves (Jaffe 1998:189).

Erikson claimed that self-concept and self-esteem exist before personal identity forms and eventually becomes part of it. According to James Marcia (Jaffe 1989:184), the self is the deepest structure in personality, deeper than identity: 'A solid sense of self is a necessary, but not sufficient, condition for an identity'. Our sense of feeling separate from others, but at the same time being in a relationship with others occurs early in life and eventually merges with our identity.

3.4.2 Self-esteem

Self-concept is who we think we are, self-esteem is how we feel about who we think we are. Self-esteem is also the evaluative component of self-concept and includes both cognitive and emotional factors (Rosen & Patterson 2011:79; Shaffer & Kipp 2010:487). Rogers considered positive self-esteem to be at the core of a healthy personality. People who like themselves have positive feelings about other people and about their lives in general and are satisfied with the type of persons they are. People with low self-esteem frequently are insecure in their relationships, feel anxious about their futures and view the self in a less favourable light and can easily focus on their weaknesses rather than their strengths. Low self-esteem in adolescence is associated with conformity, drug abuse, delinquency, depression and suicidal thoughts and influences self-worth directly (Jaffe 1998: 195).

How does self-esteem originate and when do children establish a sense of self-worth? Bowlby's working models theory provides clues to this question and states that securely attached children construct a positive working model of self and others, will begin to evaluate themselves more favourably than insecurely attached children. By early adolescence, the perceptions of self-worth become increasingly focused on interpersonal relationships. *Relational self-worth* describes the different perceptions of self-worth in different relationship contexts. For instance, the self-worth will differ in a relationship with parents, with teachers and with peers. All the different domains of relational self-worth contribute to one's global self-esteem. One domain can be much more important to some teenagers than others (Shaffer & Kipp 2010:488).

Factors influencing self-esteem are feedback from the important people in their lives, self-evaluations and their own standards of behaviour. Many adolescents rely more on feedback from classmates than to the opinions of parents. Rogers, therefore, urged parents to express unconditional acceptance of their children. Once they internalise performance standards, they apply them to see whether they measure up to their peers and siblings. Positive regard from peers and opportunities to demonstrate competence and gain recognition are particularly important factors to improve self-confidence (Jaffe 1998:198). As mentioned previously, low self-esteem in childhood and adolescence is associated with various negative outcomes – depression and other mental health

issues, substance abuse, school dropout and criminal behaviour. High self-esteem is an effect, rather than a cause of positive life outcomes (Rosen & Patterson 2011:79). Table 3.12 exhibits a summary of the different developmental influences on self-esteem (Rosen & Patterson 2011:81, 82):

Table 3.12 Developmental influences on self-esteem

INFLUENCE	DESCRIPTION
Heredity	Self-esteem are influenced by genetics more than shared family environment
Gender	Girls and women have higher self-esteem in reading and interpersonal relationships. Boys and men higher in mathematics, sport and physical appearance.
Attachment style	Early relationships with caregivers influence children's views of themselves and interpersonal relations in general. Internal working models are carried with the individual throughout life and influences quality of self-esteem.
Parenting Behaviours	Perceived support from parents is related to high self-esteem in adolescents.
Others' appraisals	Reflected appraisals on self-esteem may be stronger for characteristics that are dependent on the perceptions of others.
Social comparisons	Individuals compare skills, abilities and performance to others. Throughout lifespan occurs with same-age peers. Older children move away from direct social comparison to more subtle comparison.

Adolescence is classically portrayed as a time of upheaval and turmoil, a period of storm and stress is, therefore, a very interesting time to study personality and self-esteem development (Donnellan et al. 2006:285). Table 3.13 reflects the changes and transitions the adolescent experiences and the impact thereof on his self-esteem (Donnellan et al. 2006:290-295; Schaffer & Kipp 2010:490-492):

Table 3.13 Transitions in adolescence that are linked to self-esteem

TRANSITION	DESCRIPTION	EFFECT ON SELF-ESTEEM
Biological	Biological and physical changes. Development in brain areas. Changes in feelings, thoughts and behaviour.	Self-conscious about physical and outwardly visible changes. Strong emotional reactions
Cognitive	More advanced than children. Capable of abstract thinking.	Think about themselves in more complex and abstract ways. Become self-obsessed and egocentric. Ideas about ideal vs. actual selves. Can reflect on their behaviour and interpersonal relationships.
Social	Same-gender to integrated peer groups. Greater autonomy in parent-child relationships. Elementary to secondary school.	Decline in self-esteem in early adolescence.
Peers	Spend more time with peers. Social comparison.	Peers help shape self-esteem and personality. Peer acceptance positively associated with self-esteem. High support from peers and parents – high levels of self-esteem.
Romantic relationships	Increases in hormones such as testosterone and oestrogen. Maturity of sexual characteristics.	Sexual attraction to others. Important influence on the self-esteem.
Parenting styles	Different parenting styles affect adolescents.	Can shape self-esteem. Sensitivity to parenting in early childhood leads to construction of positive or negative working model of the self.

Studies showed that there are individual differences and variations in the ways children experience the transition to adolescence: many children show a loss of self-esteem, whereas others may not fluctuate much and others can gain in self-worth. It was found, however, that teenagers with a favourable sense of self-worth are likely to exit adolescence with their self-esteem intact (Shaffer & Kipp 2010:490). It is evident that a solid sense of self-worth can be a valuable resource that helps children and adolescents

cope with adversity and to achieve favourable developmental outcomes such as a strong and healthy self-esteem.

3.5 THE SELF AND SOCIAL DEVELOPMENT

The importance of belonging to a group is one of the most significant social contexts during adolescence. During this stage, individuals start to spend more time with peers, and through these interactions, they obtain certain social skills, attitudes and experiences which result in certain social and behavioural functioning (Mikami, Szewedo, Allen, Evans & Hare 2010:46). Emotional responses to other individuals are thus central in social interactions. Socialising helps adolescents to fit into society, gaining interpersonal skills, developing and understanding of personal and cultural differences and developing self-confidence (Symington 2010:21).

3.5.1 Theories of social cognitive development

Social cognition, when broadly defined, is thinking about people and involves attempts to make sense of human action such as how people think, perceive, infer, feel and react. The following two cognitive theories are mostly used to explain developmental trends in social cognition: Piaget's cognitive-developmental approach and Selman's role-taking analysis.

Cognitive-developmental theory

According to this theory, the ways in which children think about the self and others depend on their own levels of cognitive development. Table 3.14 explains the theory according to children's development from birth to adolescence (Shaffer & Kipp 2010:515, 516):

Table 3.14 Cognitive-developmental theory of Piaget

AGE	DESCRIPTION	SOCIAL APPLICATION
Birth to 2 years	Sensorimotor. The use of sensory and motor capabilities to explore and gain an understanding of the environment.	Primitive sense of the self and others. Objects continue to exist when they are out of sight.
2 – 7 years	Preoperational. Use of images and language to represent and understand the environment. Experience their environment as they appear to them.	Describe peers in concrete, observable terms: appearances and possessions, likes and dislikes, and the actions they perform.
7 – 12 years	Concrete-operational. Acquire and use mental activities that are components of logical thought. Egocentrism is less pronounced, decentering become evident: certain properties remain unchanged despite changes in appearance (conservation).	Become more attuned to regularities in their own and other's behaviour. Base their opinions of others on the stable traits of the individuals (psychological constructs).
11- 12 years and beyond	Formal operations. Cognitive operations are reorganised to permit them to operate on operations. Thoughts become systematic and abstract. Logical thinking no longer limited to the concrete or observable.	Psychological comparisons: form impressions of others by comparing and contrasting on abstract psychological dimensions.

For Piaget, cognitive growth involved a process of adaptation to the environment. The development of children's thinking was seen as an adaptation to the psychological environment and though this theory is rooted in biology, Piaget also recognises the importance of the environment (Hala 1997:6). Shaffer and Kipp (2010:515) feel that Piaget's theory underestimates the social-cognitive abilities of young children. The different roles a person can play socially have been discussed previously. Robert Selman in Schaffer and Kipp (2010:515) adds to this by believing that *role-taking* skills

affect a mature understanding of the self and other people. Table 3.15 explains Selman's views on role taking (Shaffer & Kipp 2010:517):

Table 3.15 Selman's stages of social perspective thinking

STAGE AND AGE	DESCRIPTION
Egocentric perspective 3 – 6 years (roughly)	Unaware of perspectives other than their own. Whatever they feel is right.
Social-informational role taking Roughly 6 – 8 years	Realise that people can have perspectives different from their own. Believe these individuals have received different information.
Self-reflective role taking 8 – 10 years	Know their own and others' point of view can differ even if they received the same information. Can consider the other's viewpoint. Realise the other person can put himself in their shoes to be able to anticipate others' reactions and behaviour. Cannot consider his own perspective and the other person's at the same time.
Mutual role taking 10 – 12 years	Simultaneously consider his own and other's viewpoints and recognise the other person can do the same.
Societal role taking 12 – 15 and older	Adolescent tries to understand the other person's perspective by comparing it with that of the social system in which he operates. Expects others to consider and assume perspectives on events that most people in his social group will take.

It is evident that adolescents' thoughts and perceptions change with regard to how they perceive themselves and others. These perceptions are entwined and one will directly influence the other to contribute to a clear sense of the self. As soon as the adolescent can reach the level of abstract thinking, he will be able to comprehend the social roles others play and will be able to orientate himself according to that. For that reason, it is important that the teen must reach a certain level of cognitive processing before he can reach a healthy sense of the self.

3.6 THE LINK OF THE LITERATURE STUDY TO THIS RESEARCH

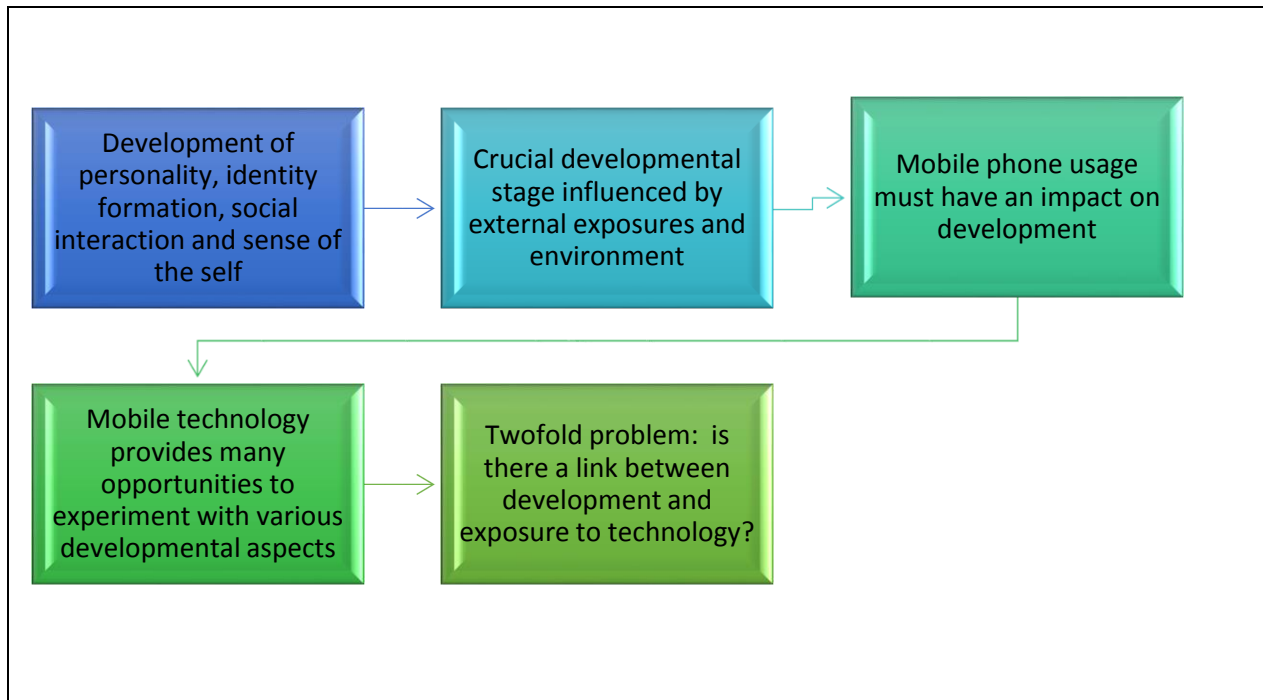
Various developmental features essential to adolescence were discussed in the literature review in this chapter that entailed personality development, identity formation, the sense of the self and social interaction. It is clear that, based on previous studies and theories that were formulated earlier, these aspects develop strongly during the adolescent years. It was also mentioned that various factors can have an impact on adolescent development and would differ from adolescent to adolescent, depending on what he was exposed to and how he had processed his experiences, as well as his environment. In Chapter 2, the impact of mobile technology on the development of the adolescent was discussed in detail and it was clear from the information provided that many researchers feel that new media and digital technology must have an impact on how youngsters develop today. The fact that they are exposed to technology since birth, as well as the long hours of exposure every day will influence the way they develop, especially during adolescence when they are susceptible to changes and external influences.

The literature study contributed to this research in the sense that it resulted in an exceptionally broad spectrum of aspects that had to be investigated. The literature study also made it evident that the topic used for the research is a complicated one with many complex issues and nuances that can have a huge impact on the holistic development of the adolescent self. Contributing to the idea of the complexity of the study, is that mobile technology involves so much more than just communication with others, opening up a world of social media, social networking sites and the Internet and is infinite in the knowledge it provides. Accordingly, mobile technology provides access to a world of numerous opportunities to the adolescent, but also sometimes exposure to content that might have a negative impact on their development.

In the light of the above, on the one hand, the extremely complex phenomenon of mobile technology and everything it entails were investigated in this research study, and on the other hand, the equally complicated phenomenon of how the adolescent develops during this challenging developmental stage in his life. Due to the fact that adolescence is such a crucial development stage in a person's life, the effect of growing up digitally

was carefully and in detail examined in the research. The question that was asked, is if there is a link between these two phenomena. To summarise:

Figure 3.5 The link of the literature study to this research



3.7 CONCLUSION

It is clear from the discussions in this chapter that there are numerous developmental milestones an adolescent has to face when he enters puberty. Not only do physical changes take place, but also cognitive and emotional transformations have to be faced during this stage of development. Personality and identity, as well as the sense of the self, form the fundamental discussions in this chapter. They are all different constructs, but need to be incorporated by the adolescent in order to form a significant balanced and mature whole. Today's adolescents face other challenges than previous generations, such as media and more specifically digital technologies and all that they entail. The impact thereof on the development of the adolescent might be a crucial one. The research design of the study was put forward in Chapter 4.

CHAPTER 4

THE RESEARCH DESIGN

*"Technology provides me with the
resources to pull in all the loose ends,
connect the dots,
and learn in the most haphazard
and nonlinear fashion imaginable."*

-Erik Rubadeau

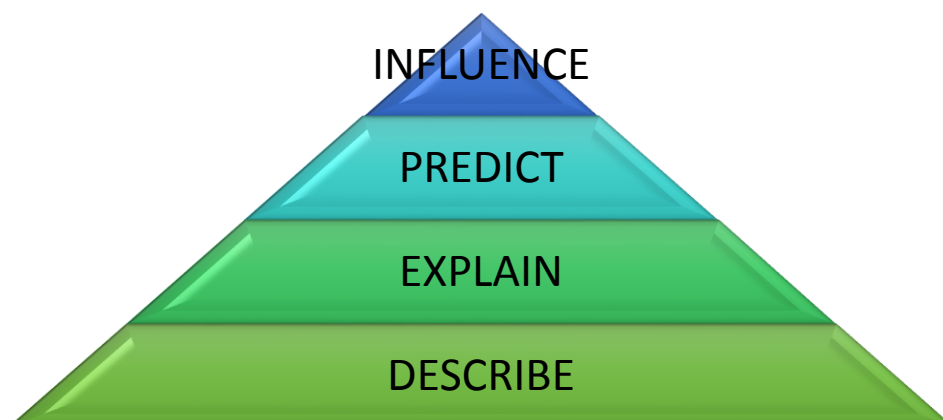
4.1 INTRODUCTION

An outline of the research design and process for the empirical research was provided in Chapter 4. The focus fell on the specific research design, methodology and research instruments. Data gathering methods, which include sampling techniques were also discussed, as well as data analysis and interpretation, validity and reliability of the instruments. Not only does the design focus on the research problem, as put forward in Chapter 1, but also on the sub-questions that I felt needed to be investigated, seeing that the phenomenon to be investigated, is a complicated one. The ethical aspects of a study are of the utmost importance; therefore, the ethical considerations that formed part of the research were furthermore discussed in this chapter.

4.2 RESEARCH DESIGN

The research design of this study refers to the procedures that I followed when I conducted the study. The design includes when, from whom, and under what conditions the data was obtained. The research design, therefore, specifies a plan for generating empirical evidence that was used to answer the research questions. I kept four goals in mind when I decided on my research design, as put forward by Bonds-Raacke and Raacke (2012:19). These goals are built upon one another like a pyramid and are reflected in the figure below:

Figure 4.1 Four goals of psychological research



The first goal was to *describe* behaviour or mental processes and entailed what is inherent to our nature as human beings. I focused on the description of the behaviour and processes that were involved in mobile usage among adolescents. After I completed this description, I then *explained* the behaviour or process in the context of the usage of digital and mobile technology. My next goal was to *predict* the occurrence of the behaviour or processes. During this phase, I began to predict where the behaviour and processes would, or would not occur. The first three goals fell into the category known as *basic research*. With the last goal of psychological research, the research moves into a category known as *applied research*. My last goal was to *influence* the studied behaviour or processes through which I attempted to solve a problem based on the findings of the study.

What people think and do is studied by psychologists through a variety of research methods. Table 4.1 indicates the two main ways in which my research was conducted (Bonds-Raacke & Raacke 2012:56):

Table 4.1 Differentiating between research methods

FIRST METHOD	
Qualitative	Inductive study Seeking subjectivity through in-depth collection of data
Quantitative	Deductive study Seeking objectivity through numbers and statistics
SECOND METHOD	
Experimental research	The variable is manipulated
Non-experimental research	No manipulation of variables

I put all the above to user to attempt to answer the research question and sub-questions. In order to come to a decision between a qualitative and a quantitative study, I investigated the advantages and disadvantages of qualitative and quantitative designs. The advantages and disadvantages of both designs are put forward as suggested by Coolican (2006:97) in Table 4.2:

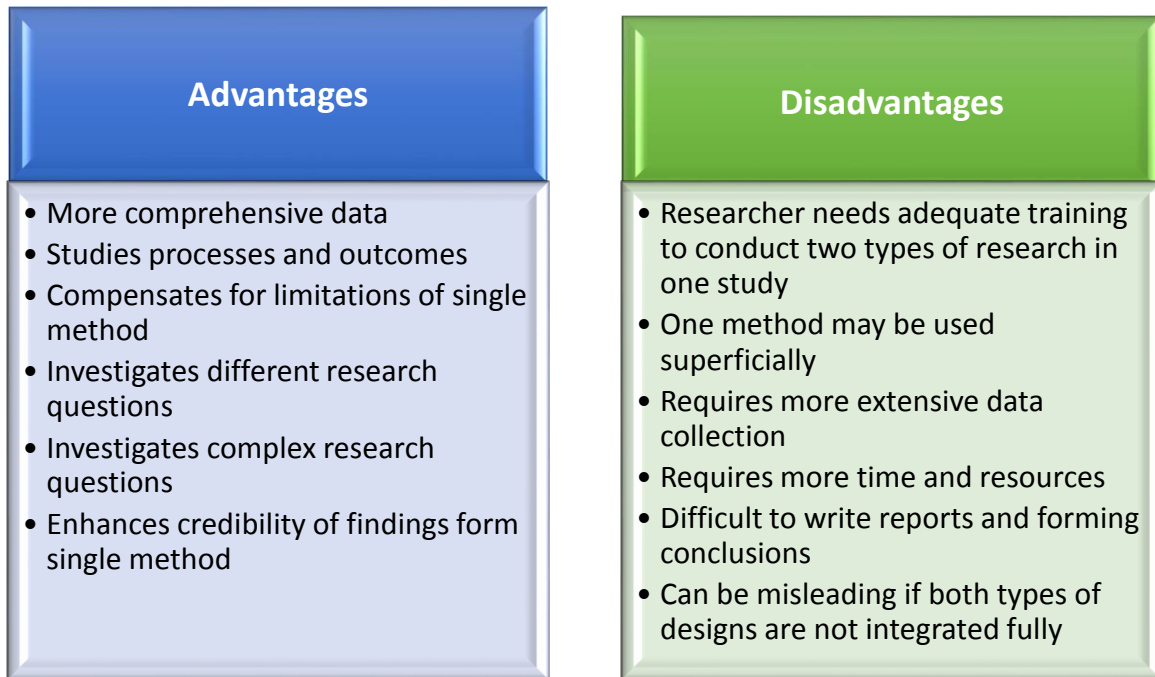
Table 4.2 Advantages and disadvantages of quantitative and qualitative data

ADVANTAGES	DISADVANTAGES
Quantitative data	
<ul style="list-style-type: none"> • Statistical analysis • Clear view of typical scores and range • Used to test hypotheses • Can generalise from sample to population (deductive) 	<ul style="list-style-type: none"> • No reflection of complete individual or their thoughts • Variable is treated as separate from rest of person/context • May provide false impression of scientific findings
Qualitative data	
<ul style="list-style-type: none"> • Retain individual's original meanings • Rich and authentic • Reflects individual's whole views/experience 	<ul style="list-style-type: none"> • Difficult to generalise findings to other situations • Disagreements over appropriate way to gather and analyse data • Analysis and interpretation can be influenced by researcher's own perspectives and biases

Based on the facts above, I decided that a combination of a quantitative and qualitative design would be applied for this study, defining the design as a mixed method design. I found that combining the two designs will help to facilitate a more valid and comprehensive, and holistic picture of the phenomenon being studied (Henn, Weinstein & Foard 2006:20). Seeing that each approach has its own strengths and weaknesses, advantages and disadvantages, each approach will be particularly suitable for a specific context. 'Each research method implies a different line of action toward reality – and hence each will reveal different aspects of it' (Denzin 2009:298). Burgess (1982:163) supports this view by stating that 'different methods can be used, and different data collected, in order to address a variety of theoretical and substantive problems'. A mixed method approach enabled and encouraged me to investigate a specific research area from a variety of different angles and perspectives, focusing on different questions and issues. I could collect different types of data and could analyse the data according to different techniques and interpret the results from a variety of different positions (Henn et al. 2006:22). This resulted in a thorough and comprehensive research study. Using a mixed method design, I felt that I also had to have knowledge of both the advantages

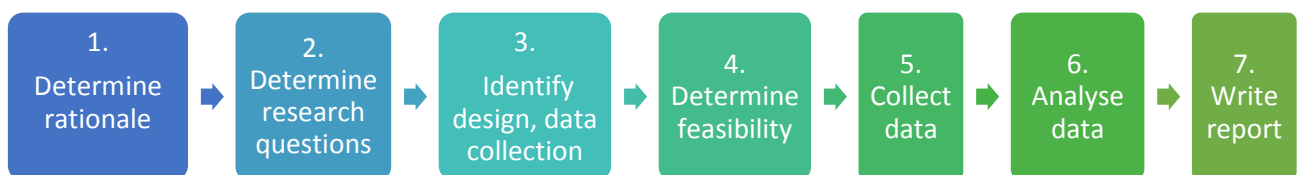
and disadvantages of a mixed method design. These advantages and disadvantages are depicted in Figure 4.2 (McMillan & Schumacher 2010:396):

Figure 4.2 Advantages and disadvantages of a mixed method design



I decided to use a concurrent triangulation mixed method design for the study, which means that quantitative and qualitative data were collected concurrently to allow the triangulation of the findings (McMillan & Schumacher 2010:399). A mixed method study could not be executed successfully if I was not aware of the different steps that are essential when conducting a mixed method study. I employed the following steps for the study (McMillan & Schumacher 2010: 404):

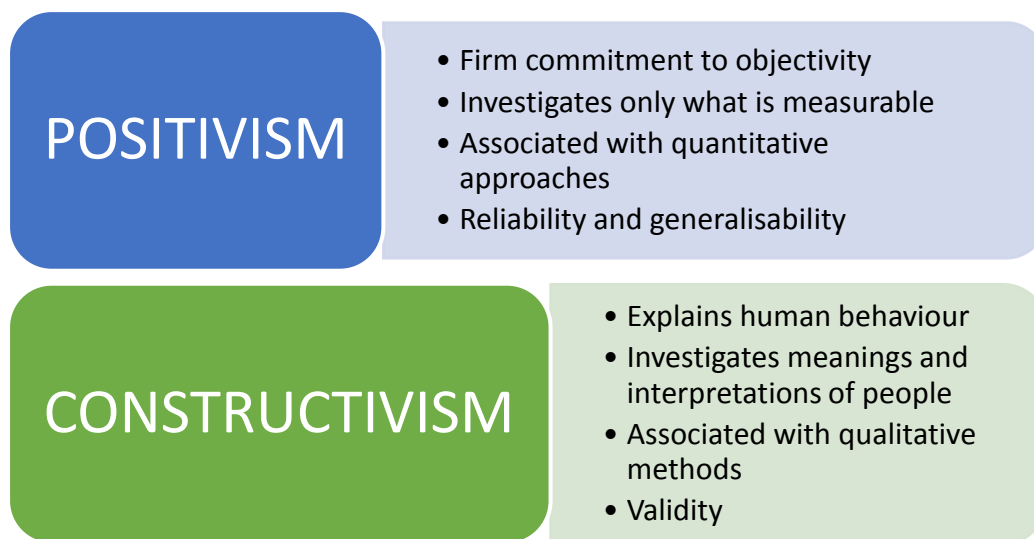
Figure 4.3 Steps in conducting mixed method studies



4.3 RESEARCH PARADIGMS

A paradigm can be regarded as a set of laws, theories, methods and applications forming a scientific research tradition (McBurney & White 2010:24). Seeing that I used both qualitative and quantitative methods, the paradigm I utilised was a combination between the *positivism* and *constructivist/interpretive* paradigms. *Positivism* can be described as a methodological belief that phenomena can be reduced to observable facts and can be measured (Coolican 2006:275). *Constructivism* is the view that knowledge is relative – one person sees reality differently from another and neither's views are more valid (Coolican 2006:94). The main differences between the two paradigms are put forward in Figure 4.4 (Henn et al. 2006:27):

Figure 4.4 Differences between positivism and constructivism



Based on Figure 4.4, it is clear that positivism encompasses a quantitative design and constructivism a qualitative design. In this study I used the positivism paradigm to determine the *what, how much, relationships, causes and effects, numerical precisions* of this study and the constructivist paradigm focused on many different varieties by establishing the *why* and the *how* of the phenomenon. The constructivist paradigm furthermore included the lived and subjective experiences of the participants (McMillan & Schumacher 2010:6).

4.4 METHODOLOGY

4.4.1 Data gathering methods

In this mixed method design, I did not limit myself to using techniques associated with traditional designs, but I was able to show the result (quantitative research) and explained why it was obtained (qualitative research) (McMillan & Schumacher 2010:25). As mentioned before, I used a concurrent triangulation mixed method design, therefore both the qualitative and quantitative data were collected at about the same time. The data was interpreted together to provide a better understanding of the phenomenon of mobile usage among adolescents. The quantitative results strengthened the generalisability and the qualitative results helped explain the context. This approach reinforced the fact that the strengths of one method compensated for the weaknesses of the other so that together they provided a more comprehensive set of data. I gave equal emphasis to each method and I believe that the use of the two different methods resulted in very strong results. In the quantitative study I made use of surveys in the form of self-structured questionnaires that provided a general overview of the usage of the mobile phone by adolescents. This was a non-experimental approach. I also carried out a single group experiment in the form of a pre- and a post-test with an intervention in between. The qualitative study entailed individual interviews and a focus group interview/discussion.

4.4.2 Research instruments

Many different approaches exist to data collection in qualitative and quantitative studies, but data collection always involves two parties: researchers and subjects. Additionally, data collection for qualitative and quantitative research differs. Different data collection techniques were used for the quantitative part of my study as illustrated McMillan and Schumacher (2010:187-215):

Table 4.3 Collection techniques for quantitative studies

Personality, attitude, value and interest inventories	Non-cognitive measures Focuses on emotions and feelings
Questionnaires	Written set of questions

I made use of a survey in the form of self-structured questionnaires that were completed by anonymous learners, teachers and parents (See Addendum A, B and C). These questionnaires were used to determine the attitudes, ideas and perceptions of the participants towards the general mobile usage by adolescents. I used another questionnaire as part of an experimental design (pre- and post-test), completed by eight learners, to determine their emotions, feelings and experiences based on the sense of the self (Addendum D).

Gibson and Riley (2010:59-76) discuss the most common sources of data used by qualitative researchers in psychology. Table 4.4 reflects the sources that were employed by me for the qualitative part of the study:

Table 4.4 Different ways to collect qualitative data

Interviews	Understanding other people by talking to them, listening to them to determine how they experience everyday life
Focus groups	An informal discussion among selected individuals about specific topics

The interview is most often used in qualitative research and for this study, I used both individual interviews and a focus group discussion to obtain information based on interview schedules that was constructed in advance (see Addendum E).

4.4.2.1 Quantitative study: surveys

Seeing that surveys are widely used as a method of gathering information and are often used to determine how people feel about a specific issue (McBurney & White 2010:245), I decided that to use surveys mainly to obtain an overview and a description of how

mobile phones are utilised by teenagers today, as well as the effect thereof on their self-confidence, self-esteem and identities. I had to address the following four issues (Figure 4.5) when I conducted the survey to ensure that the results were accurate and meaningful (Gravetter & Forzano 2006:332):

Figure 4.5 Four issues when conducting the surveys



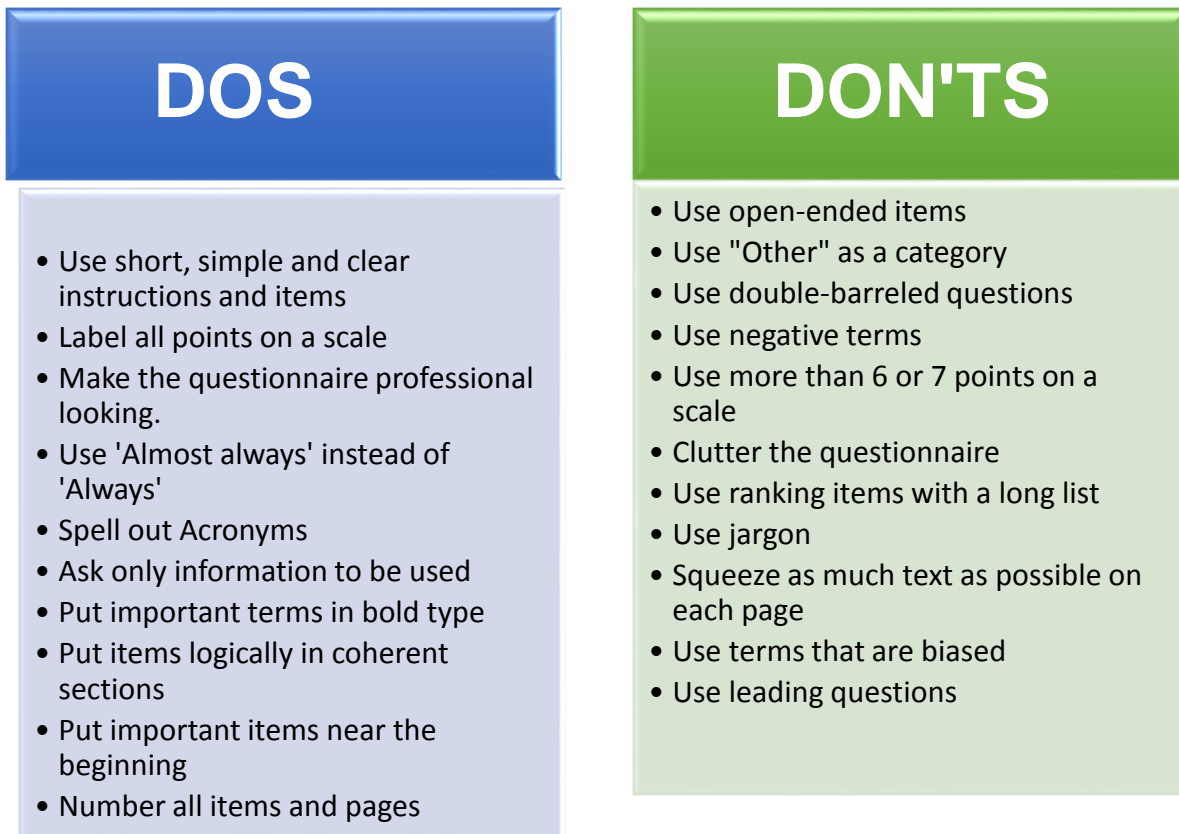
Surveys are also used to gather large amounts of information. Subjects are presented with a few carefully constructed questions in which information regarding attitudes, opinions, personal characteristics and behaviours can be obtained (Gravetter & Forzano 2006:331). This view is supported by Henn et al. (2006:150) who demonstrate that survey research can obtain the following multi-faceted data from an individual, all of which were applied by me in the survey:

Table 4.5 Multi-faceted data obtained through surveys

Behaviour	Questions on what respondent has done, is doing or may do in future
Beliefs	What people will think might happen.
Attitudes	How people think and feel about certain things.
Attributes	Personal questions concerning characteristics of respondent (classification questions)

As previously mentioned, this part of the study consisted of a survey in which I employed self-structured questionnaires. The following list of dos and don'ts is presented by McMillan and Schumacher (2010:205) and Evans and Rooney (2008:245), which I applied when I structured the questionnaires for the study:

Figure 4.6 Dos and Don'ts of writing questionnaires



I designed and structured three different questionnaires for this part of the study, which were completed anonymously by learners, teachers and parents. The format of the three questionnaires looked the same, but the content differed in certain categories. The objective was the same for all three questionnaires, namely to determine a general overview of the practices of mobiles among teenagers in different contexts and their perceptions of how the mobile phone influences views of the self and their identity. The focus fell therefore on *what* mobile phones are used for by teenagers and *what* the respondents' attitudes and opinions regarding mobile phones are, classifying this part of the study as a simple descriptive design. I administered the surveys for this study

myself by approaching pre-existing groups, in this case one class in every grade (8 – 12), teachers and parents.

4.4.2.2 Quantitative study: single-group pre-test post-test design

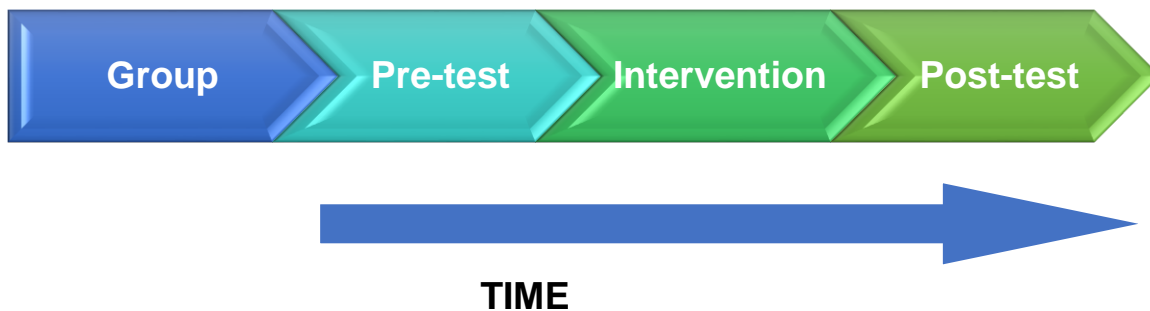
My goal of the experimental research strategy was to establish the existence of a cause-and-effect relationship between two variables. I understand that an experiment is a way of learning something by varying a condition and observing the effect, in other words something is changed and the effect is watched (McMillan & Schumacher 2010:257). To accomplish this goal, the experimental study contained the following four basic elements as depicted in Table 4.6 (Gravetter & Forzano 2006:170):

Table 4.6 The basic components of an experimental research study

COMPONENT	DESCRIPTION
Manipulation	One variable is manipulated by changing its value creating two treatment conditions
Measurement	A second variable is measured to obtain a second set of scores
Comparison	The scores between two treatment conditions are compared
Control	All other variables are controlled

For the benefit of this study I applied a single-group pre-test post-test design in which one group of subjects was given a pre-test, then the manipulation, and then within a time lapse of 4 days, the post-test. The pre-test and post-test were the same, but were completed by the participants at different times as explained above. I examined the result, which was the change from the pre-test to the post-test. Figure 4.7 below illustrates the procedure that I followed to conduct this experiment:

Figure 4.7 Single-group pre-test post-test design



The instrument that I utilised was a short self-structured questionnaire. I applied the characteristics discussed in 3.4.2.1, regarding questionnaires, when I structured the questionnaire for this part of the study. The focus of this questionnaire was the self: ego-strength, self-concept, self-confidence, self-image, self-presentation, identity, communication and social skills. The participants also completed a form during the intervention that reflected positive and negative experiences, emotions and thoughts they felt during the experiment.

4.4.2.3 Qualitative study: individual interviews and focus group

According to Henn et al. (2006:186), there are basically two types of qualitative in-depth interviews both of which were executed by me. The first involved one-to-one interviews where eight individual participants were questioned about their mobile phone practices. The second interview was a group discussion (focus group), with other participants (12) that allowed me to observe the interaction between them and gain more knowledge while discussing how they use their mobile phones. In this case, I used the focus group discussion as a confirmation technique for the information gathered in the individual interviews.

For the individual in-depth interviews, a phenomenological qualitative study was executed. I used semi-structured interviews to gather rich information. During these interviews, I aimed to explore issues in detail with the interviewee by using probes, prompts and flexible questioning. The intention was therefore to capture the point of view and perceptions of the participant. The semi-structured interviews, which involved preparing questions beforehand, provided the freedom for the participants to raise

aspects not necessarily anticipated by me (Forrester 2010:79). I also had the freedom to respond in natural ways in the interaction, but the focus still was to broadly address the research question. The interviews were digitally recorded and transcribed in order to analyse the data efficiently. I made use of the following guidelines as presented by McMillan and Schumacher (2010:357) and Dyer (2006:31-33) when I structured the questions for the interview as reflected in Table 4.7:

Table 4.7 Types of interview questions

Type	Description
Experience/behaviour	To determine what a person does or has done Descriptions of experiences, behaviours, actions, activities
Opinions/values	What the person thinks about his/her experiences. This reveals a person's intentions, goals and values
Feelings	How the person reacts emotionally to his/her experiences
Knowledge	Factual information the person has or what the person regards as factual
Sensory	Descriptions of how the person sees, hears, touches, tastes and smells his world
Background/demographic	Descriptions of himself/herself

As mentioned above, the focus group discussion was conducted with the aim to support and strengthen the investigation as a whole. This was executed in the form of an informal discussion between twelve adolescents with shared characteristics, in this case, adolescents who are actively using their mobile phones on a daily basis. By using the group discussion, the study benefited from having a wider range of voices using a context where the interactions enriched the research topic (Forrester 2010:62). Furthermore, the information gathered in the focus group discussion lead to a better understanding of the phenomenon being studied and can be regarded as a supplementary technique that increased the validity and credibility of the entire study. Just like the individual interviews, the focus group will also be recorded and transcribed.

4.4.3. Sampling techniques

One of the most important aspects of research is to choose whom to study. I needed to consider two aspects in this instance: firstly, what characteristics the subjects should have; secondly, the number of participants. I decided that I will choose a representative sample that related to the population from which the sample was chosen (Clark-Carter 2004:33; Elmes, Kantowitz & Roediger 2012:191). For the purposes of this study, I made use of the following sampling techniques, as indicated in Table 4.8:

Table 4.8 Sampling techniques

RESEARCH INSTRUMENT	SAMPLING PROCEDURE	SAMPLING
Survey: learners	Non-probability sampling	Convenience sampling
Survey: teachers and parents	Non-probability sampling	Convenience sampling
Pre-test, post-test + Individual interviews	Non-probability sampling	Convenience + Purposeful sampling
Focus group	Non-probability sampling	Convenience + Purposeful sampling

For the survey in which the learners, teachers and parents participated, non-probability sampling was applied meaning that there was no random selection of participants. The convenience sampling that I applied involved using participants who were readily available or who were volunteering (Bonds-Raacke & Raacke 2010:144). For the learners, one class from each grade (8 – 12) was asked to complete the survey. The amount of learners for the survey was 190 learners. The teachers teaching at this secondary school were asked to complete the questionnaire (35 individuals) and for the parents (21) a questionnaire was distributed at a parents' meeting to complete.

For the experiment (pre-test post-test) and the individual interviews, the same sample was used. Firstly, convenience sampling was used by means of volunteers and the first eight individuals that responded were utilised as the sample. The goal here was to find

a sample with specific characteristics that was informative and would provide rich information with regard to the topic. The sample for the focus group discussion was also being selected in the same way as above (the first twelve volunteers). McMillan and Schumacher (2010:140) point out the strengths and weaknesses of the sampling methods that I employed in the study, as summarised in Table 4.9:

Table 4.9 Strengths and weaknesses of sampling methods

Sampling method	Strengths	Weaknesses
Nonprobability sampling		
Convenience	<ul style="list-style-type: none"> Less costly and time-consuming Ease of administration Assures a high participation rate Generalisation possible to similar subjects 	<ul style="list-style-type: none"> Difficult to generalise to other subjects Less representative of an identified population Results depend on unique characteristics of the sample Greater likelihood of error due to experimenter/subject bias
Purposeful	<ul style="list-style-type: none"> Less costly and time-consuming Ease of administration Assures high participation rate Generalisation possible to similar subjects Assures receipt of needed information 	<ul style="list-style-type: none"> Difficult to generalise to other subjects Less representative of an identified population Results depend on unique characteristics of the sample Greater likelihood of error due to experimenter/subject bias

It is clear that each type of sampling method has its own advantages and limitations, and also differs regarding with how representative the sample is of the population.

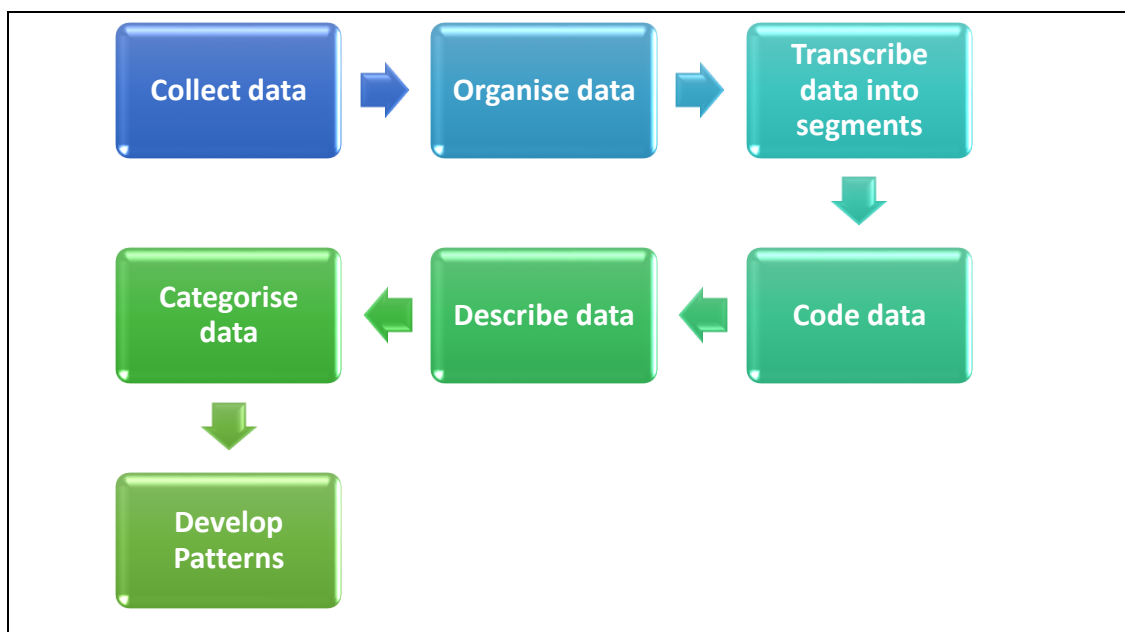
4.4.4 Data analysis and interpretation

The data that was collected for this study needed to be analysed and interpreted. A descriptive research strategy was employed by describing the variables as they existed. The descriptive strategy did not involve relationships between variables but rather was a description of individual variables. The general goal was to describe a single variable or to obtain several descriptions for variables where more than one variable was

involved (Gravetter & Forzano 2006:322). I used descriptive and inferential statistics to describe the variables in the quantitative study. Seeing that quantitative research relies mainly on numbers in the results, statistics were used to organise and analyse the quantitative data to help me to organise and interpret the numbers derived from measuring a certain trait. The main goal was to summarise, organise and reduce large numbers and focuses on *what is* with regard to the sample data (McMillan & Schumacher 2010:149). I also used inferential statistics to compare the results of the pre-test and the post-test and to determine the strength of the different variables as tested in the pre-test.

To analyse the data that was gathered by means of the qualitative study, I examined my field notes and the interview transcripts critically and then interpreted the findings. This data analysis was mainly inductive referring to a process through which qualitative researchers synthesise and make meaning from data. The process involved starting with specific data and then ending with categories, patterns and relationships among the identified categories. I followed the following steps (Figure 4.8) to analyse the qualitative data according to McMillan and Schumacher (2010:369):

Figure 4.9 Steps in analysing qualitative data



I applied Interpretative Phenomenological Analysis (IPA) to analyse the qualitative data. This approach is based on *phenomenology* and *hermeneutics* and consequently the focus was on wanting to understand the meaning behind the participants' experiences and to pay special attention to the interpretative activity involved in the process of analysing data (Forrester 2010:177).

4.4.5 Validity and reliability

A measurement cannot be any use to science unless it is both reliable and valid. I ensured the reliability and consistency of the measurements so that they provided the same result on different occasions. The validity was strengthened by ensuring that the measurement tests tested what they were supposed to test (McBurney & White 2010:129). The validity can be threatened in different ways and I took special care not to fall for these threats that could reduce the validity of the study (Henn et al. 2006:208, 209):

- *Reactivity*
People may alter the way they behave or modify what they say when they are aware that they are being researched. I attempted to reduce this effect by developing a rapport with the participants in order to gain their trust.
- *Subjectivity*
The views and experiences that were focused upon in the study were determined by what I considered to be significant to the study. I justified the decisions with regard to the setting selected, people studied, what was recorded and filtered out and the interpretations given to the data.
- *Going native*
To prevent the study from developing a too emphatic view, I tried to inhibit the possibility of bias by completing the research in a short period of time.

To ensure the test validity of the quantitative study, I attempted to describe the validity of the tests and questionnaires being used in relation to the context in which the data are collected. This guaranteed that the tests measured what they were supposed to measure. In the qualitative study, a combination of strategies was applied to enhance the validity of the investigation, like multi-method strategies, verbatim accounts and

mechanically recorded data. The reliability of a variable is extremely important when conducting research. As mentioned earlier, it refers to the consistency of the measure that produces similar results on different occasions, in other word being able to replicate or reproduce the findings. It is important to remember that even though reliability and validity are both criteria to evaluate the quality of a measurement procedure, these two factors are partially related and independent. Reliability is a prerequisite for validity, in other words, a measurement cannot be valid unless it is reliable. On the other hand, a measurement need not be valid for it to be reliable (Gravetter & Forzano 2006:75). I took special care to ensure the credibility, transferability, dependability, conformability and trustworthiness of both studies.

4.4.6 Demarcation of the study

The study made use of adolescents from Grade 8 to 12, as well as parents and the teachers from one secondary school. The study was thus, a case study as only one school was the focus of the study.

4.4.7 Pilot study

I wanted to determine whether the participants understood the instructions they were given and if the measurements had face validity. By executing a pilot study with the questionnaires, the abovementioned was established, as well as how long the procedure took (Clark-carter 2004:34, 35). A sample of subjects with the same characteristics similar to those that were used in the study was chosen for the pilot study. This sample was smaller than the sample used for the study. They were asked to report about the clarity and wording of the questions and the items were then be revised accordingly.

4.5 ETHICAL CONSIDERATIONS

All research projects reach a point where individuals are involved in the research study: firstly the participants whose behaviours and responses were measured in the course of the study, and secondly the people who saw the report of the study's results. All these individuals have a right to expect respect and honesty from me, as the researcher.

As the study developed, I accepted the responsibility to behave ethically towards those who will be affected by the research. Ethics are an important aspect when conducting a study and I was governed by a set of ethical guidelines to assist me to make appropriate decisions and take proper actions during the study (Gravetter & Forzano 2006:89). Forrester (2010:100-104) puts forward ethical principles that encompass the ethical issues I had to address when I did my research. Each of these principles is discussed in Table 4.10 below:

Table 4.10 Ethical principles in the research process

ETHICAL PRINCIPLE	EXPLANATION
Informed consent	I provided participants with adequate information about the study so that they could make an overt decision to participate: <ul style="list-style-type: none"> • What was expected of the participants • The purpose of the study • How data will be used
Confidentiality	I informed the participants that their identities would not be revealed and that only information relevant to the research question would be collected.
Right to withdraw	Participants were told that they had the right to withdraw from the study at any point, without having to explain the reason for withdrawal. If they chose to withdraw, it would not have any subsequent consequences for them.
Assessing risk of harm	I assessed the risk of harm regarding the participants before the study commenced.
Deception	I informed the participants about deception and withholding of information which are only permissible when <ul style="list-style-type: none"> • They are clearly necessary to test the hypothesis under investigation • They involve relatively trivial matters that cannot cause distress
Debriefing	I gave a full account of the purpose of the study and the way data will be used to the participants.

Limitations of the researcher's role	My involvement with the participants was restricted to the role of researcher only and not to provide professional help.
Use of incentives	No incentives were used during the study.
Honesty and integrity in the research process	I acted honestly and with integrity throughout the research process and I <ul style="list-style-type: none"> • Declared potential conflicts of interest • Avoided any fabrication or manipulation of data • Acknowledged fully and fairly the contribution of all those involved

The following ethical principle can be added to the above list:

- *Institutional approval*

Ethical clearance Ethical clearance for this study was obtained from UNISA's College of Education Research Ethics Review Committee.

The ethical guidelines below (Bonds-Raacke & Raacke 2010:44,45) are based especially on the publication process and were being put to use by me in the following ways:

- *Reporting research results*

I did not fabricate any data and all errors were corrected by me once the results were published and that were found later through reasonable means.

- *Plagiarism*

No work of others was presented as my own.

- *Publication credit*

I provided authorship to the individuals based on the contributions of the study.

- *Duplicate publication of data*

If the data needs to be republished, I will clearly document it.

- *Sharing research data for verification*

When data is published, I will share it with other professionals if such a request is made for verification purposes.

- *Reviewers*

When the research was completed, it was submitted for publication. During the publication process, professionals in the field reviewed the work to ensure that it was ready for publication.

4.6 CONCLUSION

In this chapter, a description of the empirical investigation was provided. This description included the research design, instruments and methodology. The research design, a mixed method design (concurrent triangulation), was given. The sampling was put forward as well as the data collection techniques, namely three surveys (questionnaires) for the quantitative study and interviews and a focus group discussion (qualitative study), were described. The chapter was ended off with the ethical principles that I adhered to through the whole research and publication process.

CHAPTER 5

RESEARCH FINDINGS AND DISCUSSIONS

*Online expressions are a meaningful
by product of identity formation.
For today's teens, it's just another
step in the path of figuring out who you are.
And figuring out who you are requires
being social.*

- Danah Boyd

5.1 INTRODUCTION

The research design and methodology were presented in Chapter 4. In this chapter, a discussion of the results of the empirical study was presented. The discussion included the results and findings of the quantitative and qualitative studies with references to the literature study. Seeing that this research design was a mixed method triangulation design, the quantitative and qualitative data (experiment, individual interviews and self-reports) were analysed concurrently and in an integrated way. The link between the empirical and literature study was discussed, additional information was added and the correlation between the findings and the research questions were put forward in this chapter.

5.2 QUESTIONNAIRES: PARENTS, TEACHERS AND LEARNERS

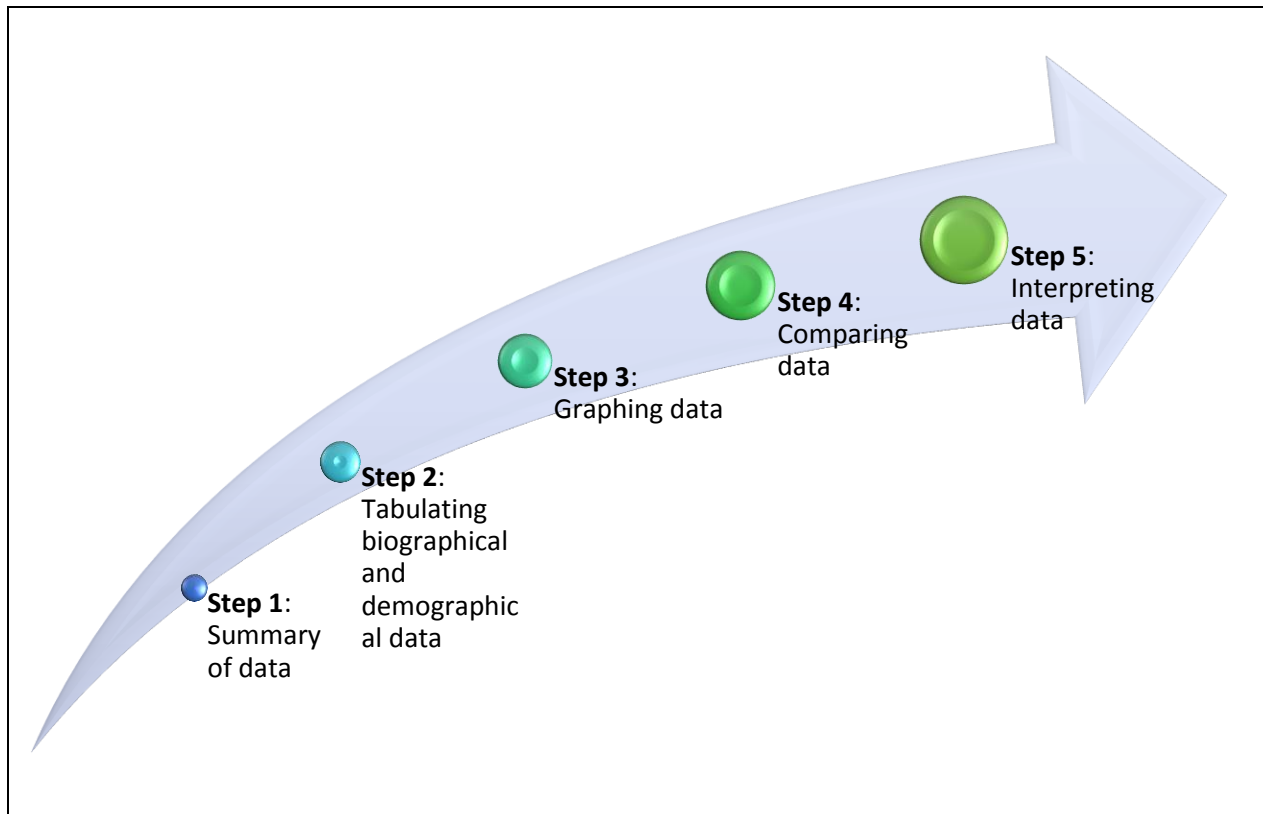
In the non-experimental part of the quantitative research, self-structured questionnaires were completed by anonymous learners, teachers and parents. The main objective was to obtain an overview and a description of how mobile phones are utilised by teenagers today. The respondents' perspectives with regard to the effect that mobile usage has on the teenager's self-confidence, self-esteem and identity formation were also determined. Another objective was to gather multi-faceted data from the respondents that include their behaviours, beliefs, attitudes and attributes with regard to mobile phone usage among adolescents nowadays. As a result, the focus fell on *what* mobile phones are used for and *what* are the respondents' attitudes and opinions regarding mobile phone usage. Thus, this part of the study is a simple descriptive design. Three different questionnaires were constructed that included checklists, rankings and graded response questions that were divided into separate sections.

5.2.1 Data analysis

The descriptive statistics that I employed to describe the variables in this part of the quantitative study involved the organising and analysing of the data that was gathered by means of the questionnaires. According to McBride (2013:144) descriptive statistics allow one to organise and summarise data by allocating numbers to the variables and to demonstrate those numbers in the forms of graphs and charts. Evans (2007:110)

adds to this idea by proposing that descriptive surveys provide summaries of opinions, attitudes and behaviour by answering questions such as *how many*. Figure 5.1 indicates the steps that I followed to analyse and organise the data for this part of the quantitative study:

Figure 5.1 Steps to analyse and organise quantitative data



Specific steps were followed enabling me to interpret the quantitative data that were collected with the questionnaires. The data that was reflected in the tables, charts and graphs was interpreted to establish how it could be tied to the research questions and the sub-questions of the study.

5.2.2 Results and discussion of the parent questionnaire

The main objective for using parents as subjects, was to determine how they experience their teenagers' mobile practices and to determine their perceptions with regard to the impact it has on the adolescent self, identity and communication skills. The above-mentioned steps were followed to analyse and interpret the data that was acquired from

the parent questionnaire. The number of respondents was 21. Firstly, the results of the questionnaires were tabulated and secondly they were divided into the different sections as depicted in Table 5.1:

Table 5.1 Results of parent questionnaire with regard to cell phone usage

QUESTION	NUMBER (n=21)	PERCENTAGE
Children in possession of a phone	21	100%
Age receiving a phone:		
Before 10 years	7	33%
11 years	7	33%
12 years	7	33%
Take phone to school:		
Yes	12	57%
No	9	43%
Supervision over child's phone activities:		
Limit on time phone might be used	7	33%
Limit the minutes	2	10%
Limit the messages	1	5%
Take phone as punishment	7	33%
Look at the content of the phone	9	43%
Child's usage of phone:		
Contact during school activities or meetings	18	86%
Contact with friends	19	90%
Research for school assignments	11	53%
To join groups on social networks	19	90%
Take pictures	18	86%
Recording videos	14	67%
Listen to music	21	100%
Surf the Internet	10	48%
Playing games	6	29%
Hours per day using phone (after school hours):		
1 – 2	12	57%
3 – 4	3	14%
5 – 6	4	19%
7 - 8	2	10%

QUESTION	NUMBER (n=21)	PERCENTAGE
Allowed to take phone to bed: Yes No	17 4	81% 19%
Children should be allowed to take phone to school: Yes No Maybe	7 7 7	33% 33% 33%
Phones should be used during class time for educational purposes: Yes No Maybe	0 17 4	0% 81% 19%
Type of cell phone account: Open contract Fixed amount Pre-paid	4 11 6	19% 53% 29%

The results in Table 5.1 indicate that all the respondents' children possess a phone and they have received their first phone from before 10 years up to 12 years of age. Almost half the parents (43%) look at the content of their children's phones and 33 percent limit the times their children are allowed to use their phones and take the phones as punishment. According to all the parents (100%), their children use their phones to listen to music, 90 percent to contact friends and to join groups on social networks. Fifty seven percent of children use their phones between one to two hours per day after school hours. Eighty one percent of children are allowed to take their phones to bed. Parents' views are evenly distributed on whether children should be allowed to take their phones to school (33%). The majority of parents felt that their children should not be allowed to use their phones for educational purposes (81%). Fifty-three percent of the contracts used by children have a fixed amount per month. Table 5.2 reflects the responses to the close-ended questions in the questionnaire:

Table 5.2 Responses of parent respondents on close-ended questions

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
11. Cell phone usage among teenagers has a negative impact on their face-to-face communication skills, especially with adults.	10	5	1	4	1
12. Today's teenagers cannot spell and write effectively due to texting.	11	5	1	4	
13. Cell phone usage has a positive effect on a teenager's self-image, self-concept and self-confidence.		4	7	8	10
14. Cell phones play an important role in a teenager's identity formation and individuation.	1	5	6	6	3
15. Today's teenagers don't know the meaning of privacy due to cell phone usage.	9	7	2	3	

Seventy-one percent of parents strongly agreed and agreed that mobile phones have a negative effect on the adolescents' face-to-face communication skills and the majority of parents (76%) felt that texting also has a negative impact on the teenager's spelling abilities. Forty-eight percent of parents believed that cell phones do not have a positive effect on teenagers' self-image, self-concept and self-confidence, while thirty three percent felt neutral and 19 percent disagrees. On the question, if cell phones influence a teenager's identity formation, 43 percent disagreed, 29 percent felt neutral, 29 percent agreed. Where privacy issues are concerned, 76 percent believed that teenagers do not know how to keep personal information private when using their phones. Parents commonly look at the content of their teens' phones and use the devices as a disciplinary measure by confiscating the phones. It can be said that most parents regard their teenagers' mobile phone as an easy way to keep contact with them with regard to activities going on at school and to organise picking up times.

In the light of the above information it is evident that today's youngsters grow up in a digital age, because they have all received mobile phones before the age of 12 years. These youngsters exhibit numerous characteristics of the Net Generation, because they

always have their phones with them, mainly to listen to music, but also to stay in contact with others.

5.2.3 Results and discussion of the teacher questionnaire

Just like the parents, teachers were used as respondents as part of the quantitative study to try to determine what their perceptions are on how adolescents use their mobile phones in their everyday lives. Other objectives were to establish their views on using mobile phones for educational purposes and the effect of mobile phone usage on the development of the adolescent self. The same steps were followed to analyse the data as were applied to the parent questionnaires depicted in Figure 5.1, by tabulating the results first and then calculating the percentages and totals of the results. Table 5.3 below exhibits the biographical data of the teacher respondents, as well as their current and past teaching experiences:

Table 5.3 Biographical detail and teaching experience of teacher respondents

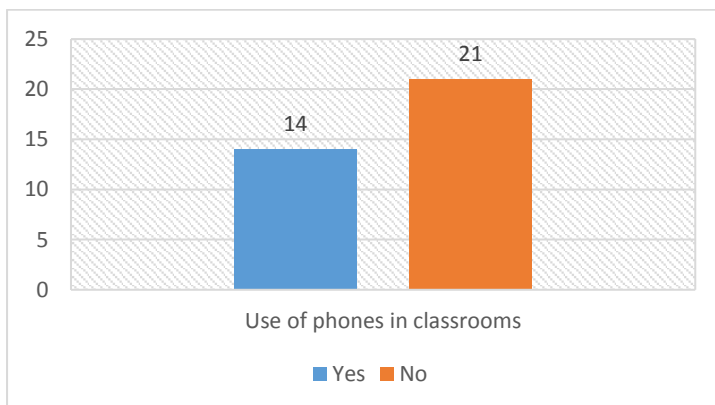
Teachers (n=35)		Amount	Percentage
Age	20 – 30	10	29%
	30 – 40	8	23%
	40 – 50	6	17%
	50 – 60	9	25%
	60 – 70	2	6%
Gender	Male	5	14%
	Female	30	86%
Years teaching	1 – 10	15	43%
	10 – 20	8	23%
	20 – 30	8	23%
	30 - 40	4	11%
Grades currently taught	8	14	40%
	9	12	34%
	10	16	46%
	11	19	54%
	12	16	46%

Teachers (n=35)		Amount	Percentage
Socio-economic status of pupils who are taught	High	0	0%
	Average to high	5	14%
	Average	13	37%
	Average to low	18	51%
	Low	2	6%
	Beyond the breadline	0	0%

The majority of teachers (29%) who participated in this questionnaire were between 20 and 30 years old with 43 percent having taught between 10 – 20 years. The female respondents were 86 percent of the total. The greater part of teachers teach grade 11 (54%) and 51 percent of the pupils that are taught have an average to low socio-economic status.

Figure 5.2. and Figure 5.3 contain graphs that reflect the teachers' views on mobile usage in the classroom for educational purposes:

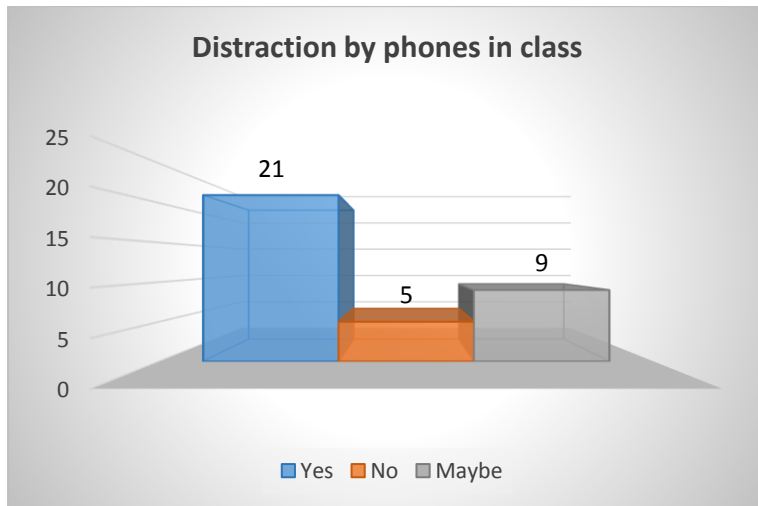
Figure 5.2 Mobile phone usage in the classroom



The above results indicates that 21 respondents felt that mobile phones should not be used in the classroom for educational purposes and 14 felt that mobile phones could be used for educational purposes. These results correlate with the parents' view that phones should not be used in the classroom. A reason for this outcome is probably that the respondents feel that the learners will then not be able to focus on schoolwork, seeing that the mobile phone provides access to much more than just surfing the

Internet to add to subject knowledge. Chances are good that it will distract their attention. This perception is confirmed by the result below (Figure 5.3):

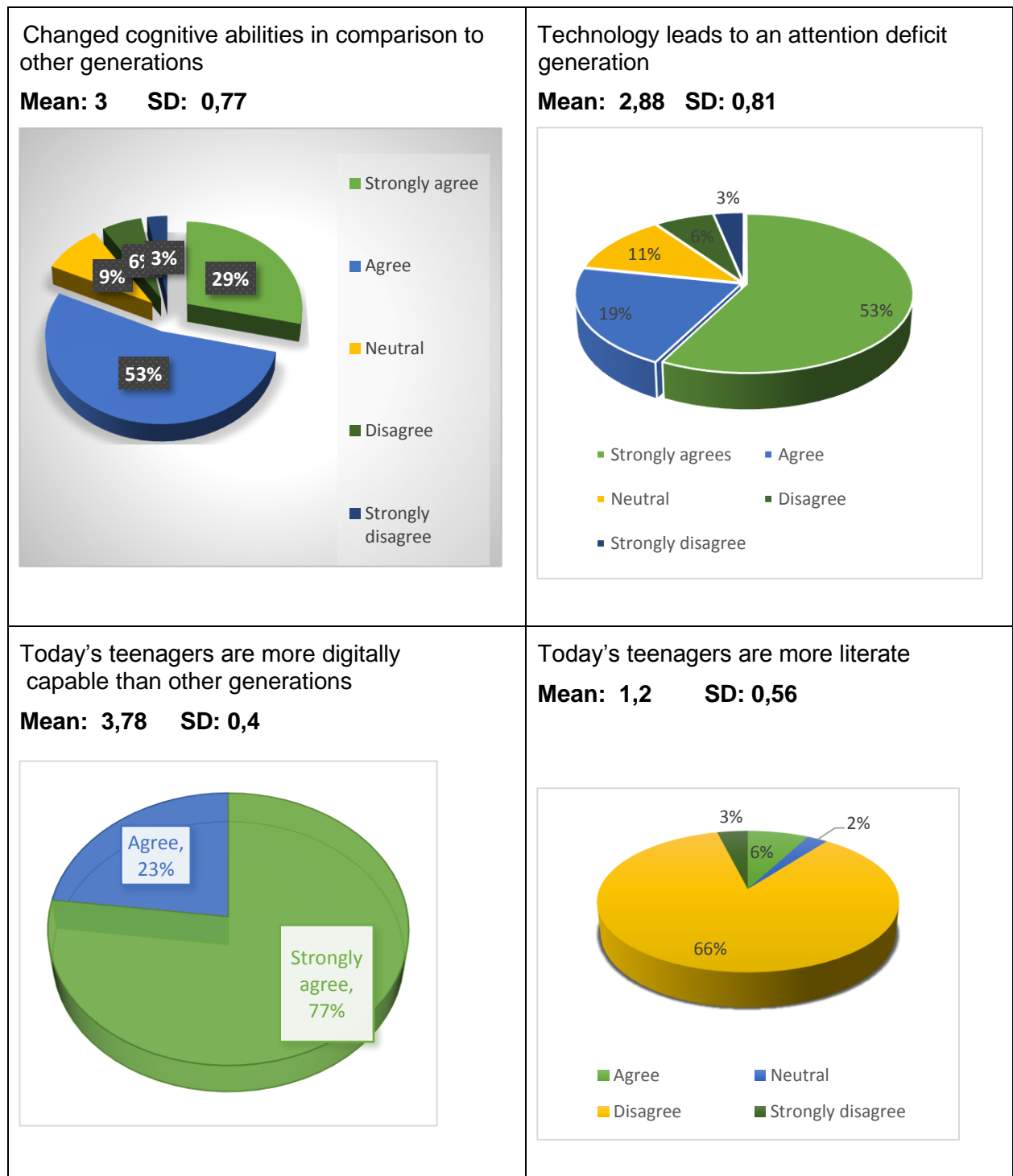
Figure 5.3 Attention distraction by cell phones in class



Most teachers (21) felt that the learners would be distracted when they use their mobile phones in class for educational purposes, nine felt that it is possible and five felt that it would not happen. There are however many mobile friendly schools nowadays all over South Africa where learners are allowed to use their mobile phones to contribute to subject content and discussions.

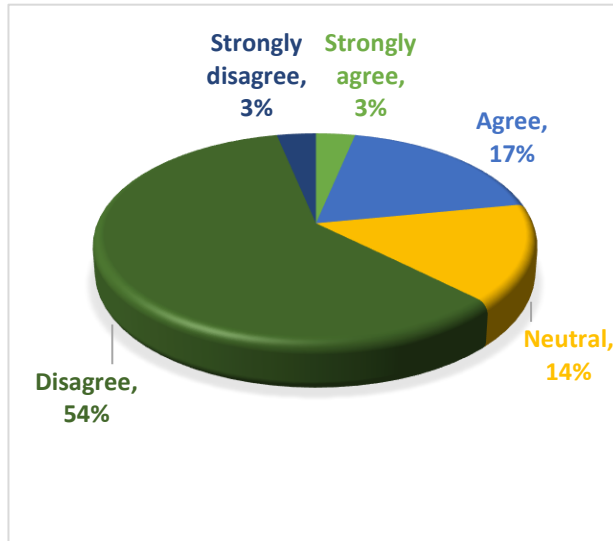
Figure 5.4 provides teachers' perceptions as to how technology impacts adolescents' general functioning. The mean of the scores for each question was calculated by dividing the sum of individual scores by the number of scores. The mean, therefore, reflects the average of all scores (Martin & Bridgmon 2012:6, 7). The standard deviation of scores was also calculated, depicting the average dispersion of scores around the mean, in other words the distance, on average, of the scores from the mean. The mean and standard deviation of each response were calculated by allocating a number to each response: strongly agree (4), agree (3), neutral (2), disagree (1), strongly disagree (0).

Figure 5.4 Percentages of responses on the impact of technology on adolescents' functioning



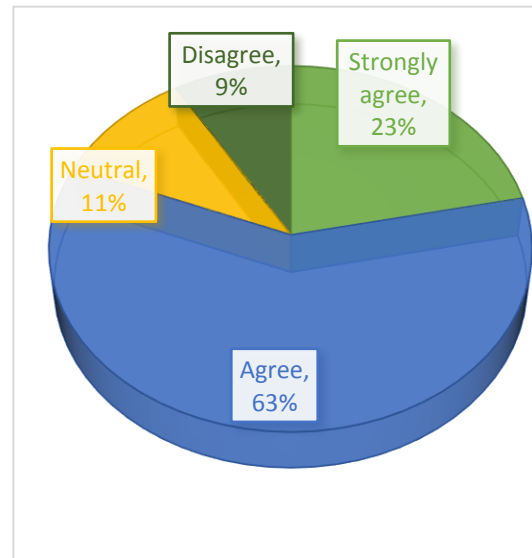
Today's teenagers can multi-task easily

Mean: 1,5 SD: 0,5



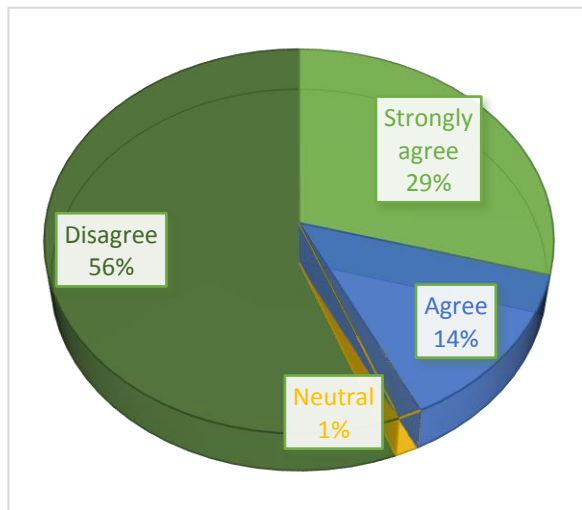
Today's teenagers need immediate feedback when looking for information

Mean: 3,1 SD: 0,77



Teenagers are attached to technology and need more time without it

Mean: 3,48 SD: 0,8

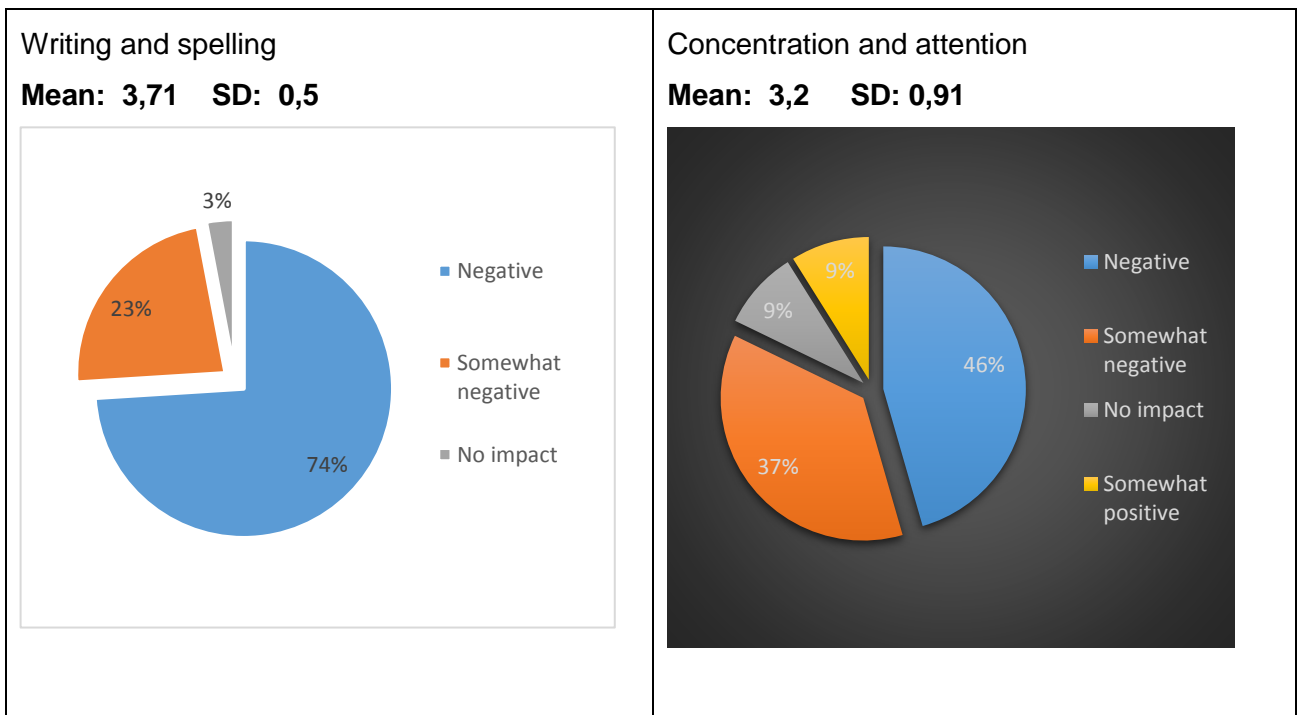


In general, teachers were of the opinion that today's youngsters have other cognitive abilities than previous generations. This result is in line with Strasburger and Wilson (2002:28) who feel that there exist two different cognitive developmental trends among adolescents and children that are linked to digital technologies. The teachers felt that

the use of mobile phones and technology leads to more attention deficit children and that children are much more digitally capable than their parents and older people. Teachers did not have the opinion that mobile usage enhances multi-tasking, but that it leads to a generation that is used to receiving immediate feedback when they are looking for information. Teachers acknowledged the fact that youngsters are attached to their phones, but they were not completely sure that they should spend less time with technology. These results add to the fact that technology exposure is linked to attention deficits in children. Definite links exist between the levels of media consumption and poorer school performance (Warburton 2012:10).

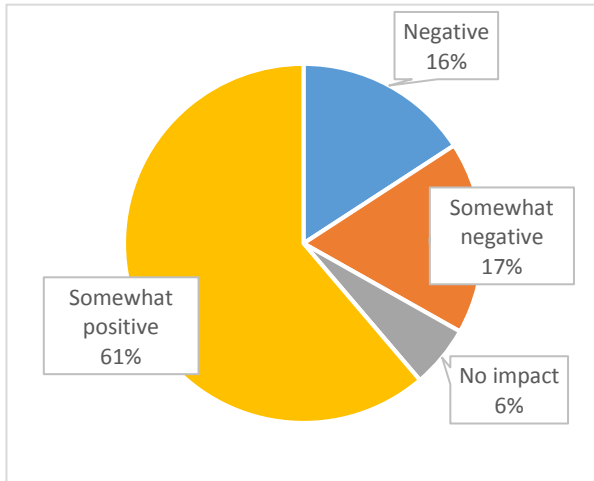
The views of the impact of cell phone usage on specific abilities are reflected in Figure 5.5 below:

Figure 5.5 Percentages of responses based on the impact of the mobile phone on specific abilities



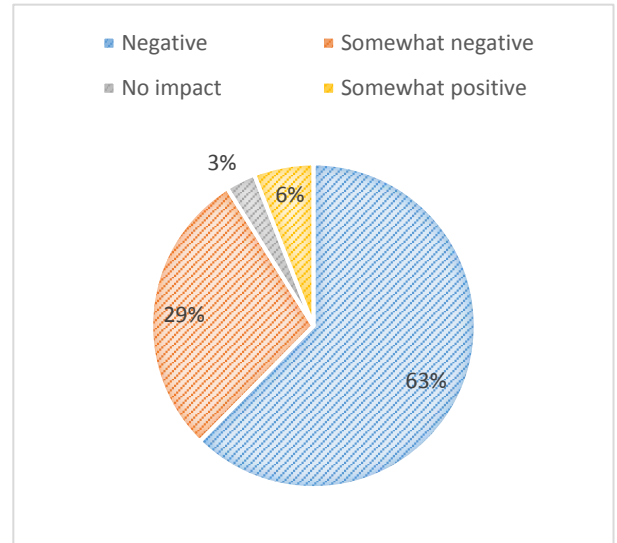
Multi-tasking

Mean: 2,74 SD: 1,12



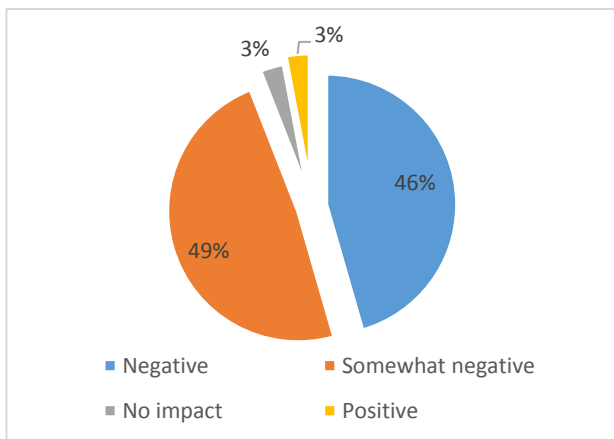
Face-to-face communication

Mean: 3,48 SD: 0,8



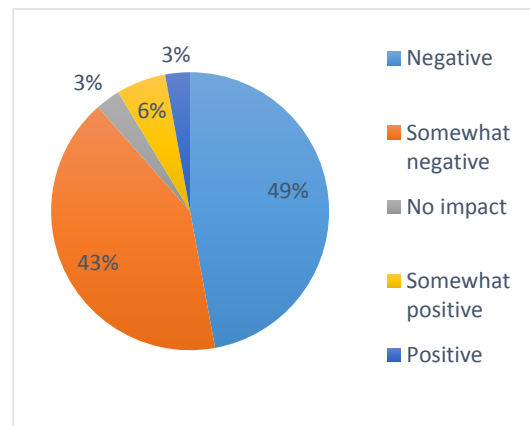
Social skills and development

Mean: 3,37 SD: 0,67



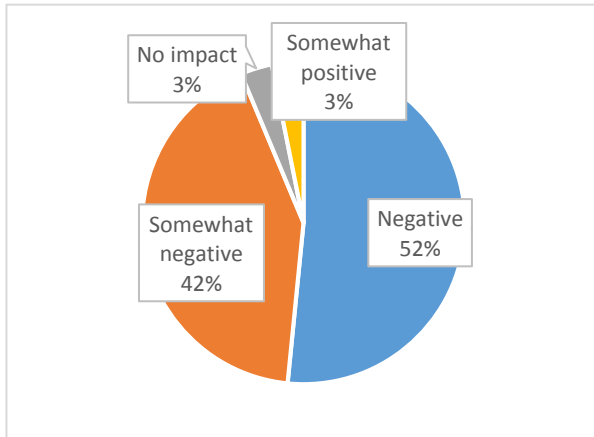
Peer pressure

Mean: 3,31 SD: 0,67



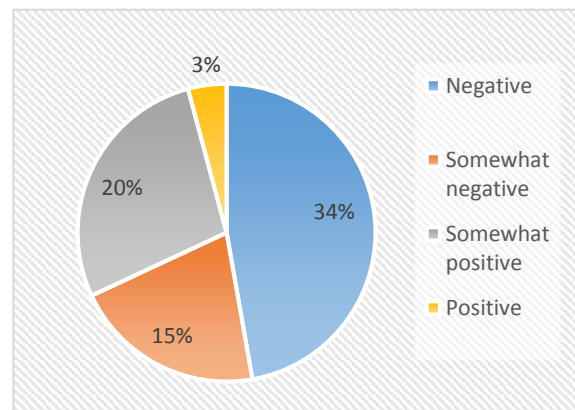
Concept of privacy

Mean: 3,25 SD: 0,78



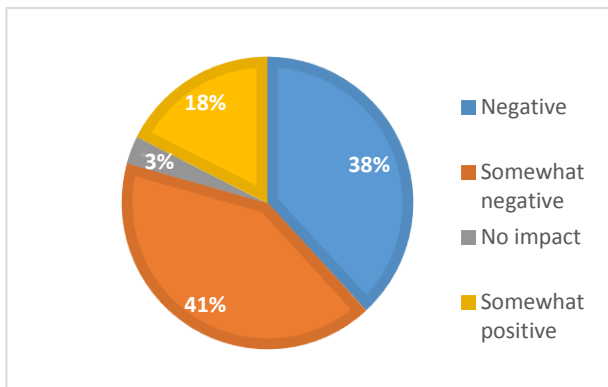
Self-concept, self-image and self-confidence

Mean: 2,85 SD: 1,06



Identity formation

Mean: 2,91 SD: 1,03



The data in Figure 5.5 reveals an overall pessimistic perception concerning the impact of mobile usage on adolescents' specific abilities and skills. Overall, teachers indicated that the mobile phone influences teenagers' writing, spelling and concentration abilities negatively. It might, however, support them when they have to multi-task. The teachers were of the opinion that the mobile phone impacts negatively on face-to-face communication, social skills, peer pressure and identity formation. According to their view, teenagers do not have a clear idea of where the boundaries lie between what information is private and what is public. All these opinions correlate strongly with the viewpoints that the parents exhibited in their questionnaire.

5.2.4 Results and discussion of the learner questionnaire

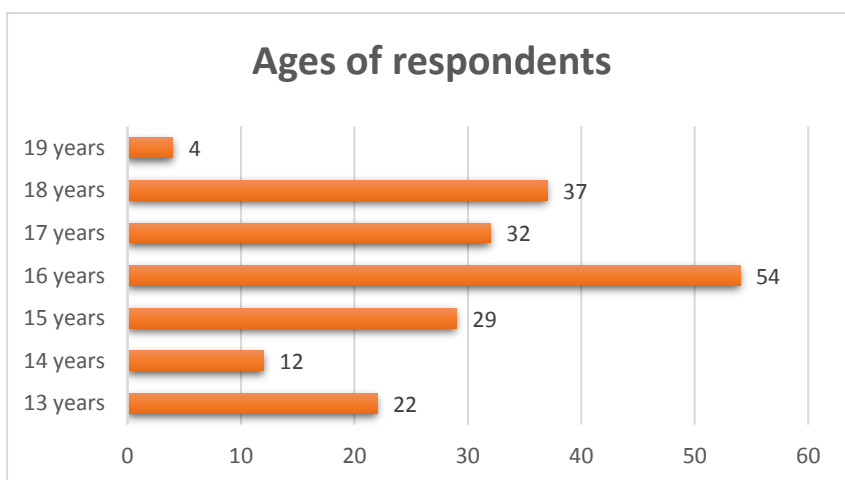
The learner questionnaire was completed by one class from each grade (Grade 8 – 12), a total of 190 learners. The objectives of the learner questionnaire was the same as the previous two questionnaires: to establish mobile phone practices among adolescents and the impact thereof on the sense of the self. Table 5.4 reflects the biographical data of the respondents:

Table 5.4 Biographical detail of learner respondents

n = 190		Amount	Percentage
Age	13	22	12%
	14	12	6%
	15	29	15%
	16	54	28%
	17	32	17%
	18	37	19%
	19	4	2%
Grade	8	37	19%
	9	27	14%
	10	44	23%
	11	53	29%
	12	29	15%

The above biographical information can be illustrated graphically in Figure 5.6:

Figure 5.6 Ages of learner respondents



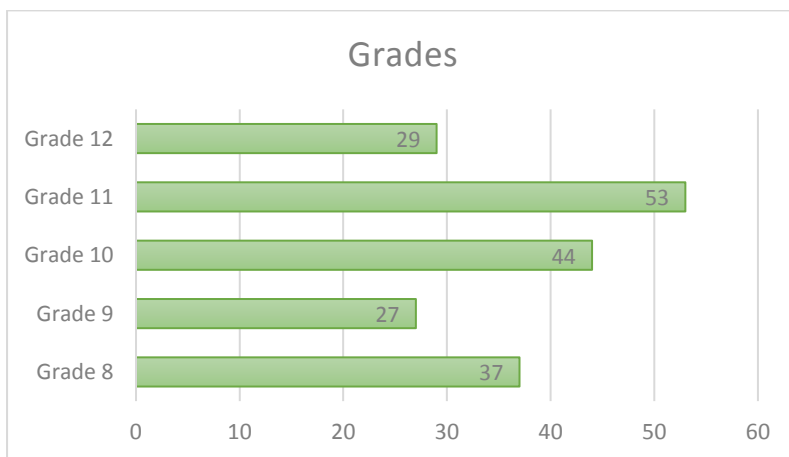
It is clear that the biggest group of learners consist of 16-year olds. Measures of central tendency are values representing typical scores, in a distribution of scores, consisting of the mode, the median and the mean. The mode is the score that occurs most often in a set of scores, the median is the value, in the set of which 50 percent of cases fall below and 50 percent above and lastly the mean is the sum of individual scores divided by the number of scores (Martin & Bridgmon 2012:6,7). Table 5.5 displays the central tendency of the ages of the respondents:

Table 5.5 Central tendency of learner respondents

Number of respondents	Mean	Median	Mode
190	15.99	16	16

The central tendency of the ages of the participants comes down to 15,99 years. This study focused on adolescents as subjects and seeing that the age range of adolescence is mainly between 13 and 18 years, this sampling can be seen as representative of the population of adolescents in general.

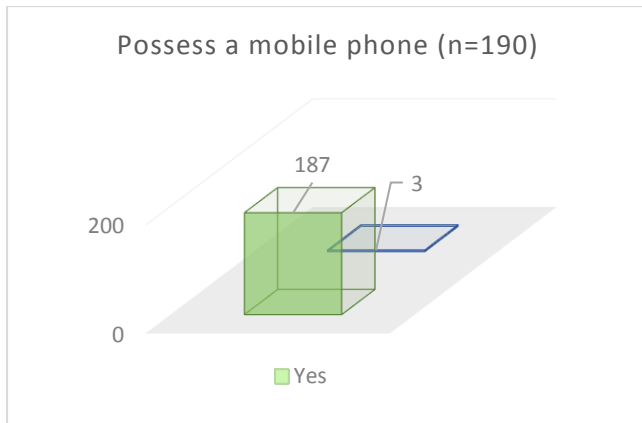
Figure 5.7 Number of learner respondents per Grade



The majority of learner respondents are in Grade 11 (27%), 23 percent in Grade 10, 19 percent in Grade 8, 15 percent in Grade 12 and the minority of learners (14%) are in Grade 9.

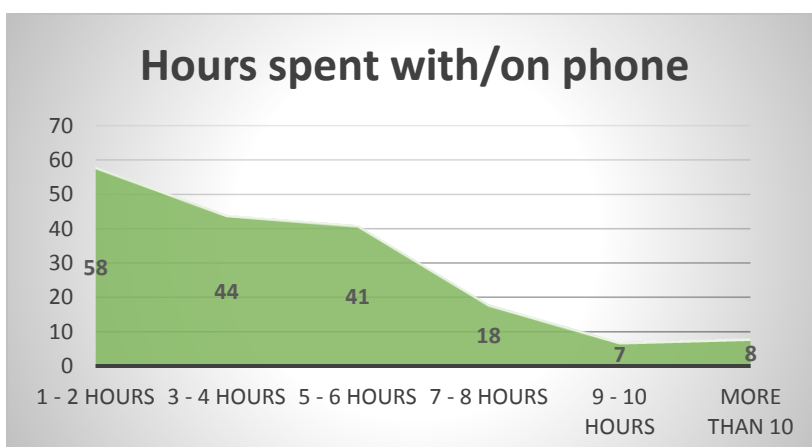
Figure 5.8 contains a graph that illustrates the number of adolescents that are in possession of a mobile phone:

Figure 5.8 Learners in possession of a mobile phone



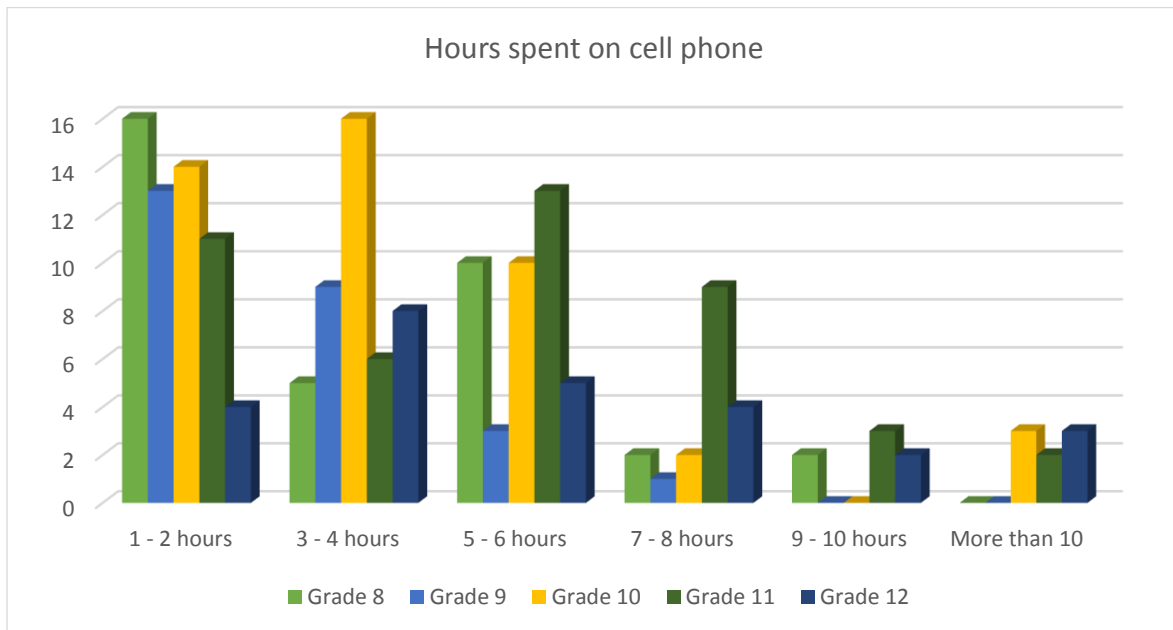
Ninety-eight percent of respondents possess a mobile phone and 2 percent does not have a mobile phone. This correlates with the idea that today’s youth grow up in the digital era where mobile technologies form part of their life world and that, at the end of 2010, cell phone subscriptions had reached five billion worldwide of which a huge chunk consists of the youth (Cole-Lewis 2010:56; Goswami & Singh 2016:69).

Figure 5.9 Time spent on cell phones after school hours



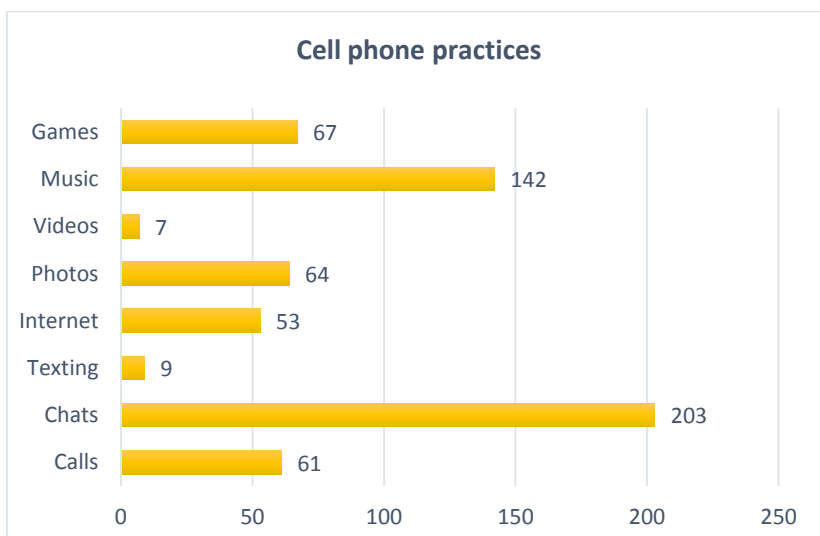
Most respondents (58) spent one to two hours per day on their phones outside school hours. Only eight respondents spend more than 10 hours per day on their phones.

Figure 5.10 Hours spent on cell phone according to Grades



Based on Figure 5.10, the assumption can be made that the lower the grade, the fewer hours spent on mobile phones and the higher the grade, the more hours are spent on mobile phones. Thus, there seems to be a correlation between the grade and the amount of time spent on mobile phones.

Figure 5.11 Cell phone practices

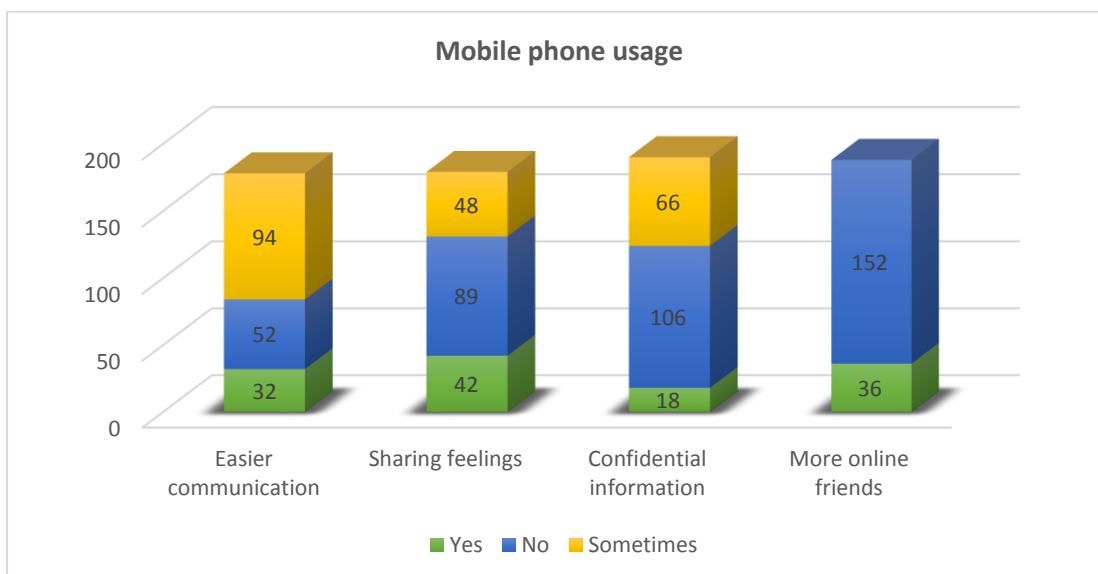


The results above indicate what mobile phones are used for most often by the respondents. Mobile phones are used mostly for chats with family and friends and to

listen to music. Playing games, surfing the Internet and taking/posting photos are distributed evenly. These results support the idea that the exposure to digital technologies is quite high among youngsters and that they use their phones for many different reasons through the easy access to a variety of functions their mobile phones provide. They are constantly texting, calling, listening to music, playing phone games or simply fiddling with the phone being such an integral part of their lifestyles (Goswami & Singh 2016:69). This correlates with the viewpoints of several researchers that today’s adolescents can use the latest technologies to perfection. Mobile phones are now at present characterised by immediacy, speed and interconnectivity and are used by adolescents in a personalised way (Chambers 2006:113; Goolsby 2009:2; Prell 2012:80).

Figure 5.12 indicates why mobile phones are used in terms of communication with others and sharing information. Ninety-four respondents use their mobile phones because it is sometimes easier for them to communicate via their cell phones. Eighty-nine respondents do not share feelings with others on their phones. One hundred and six stated that they do not share confidential information on their phones at all and 152 said that they do not have more online friends than in real life.

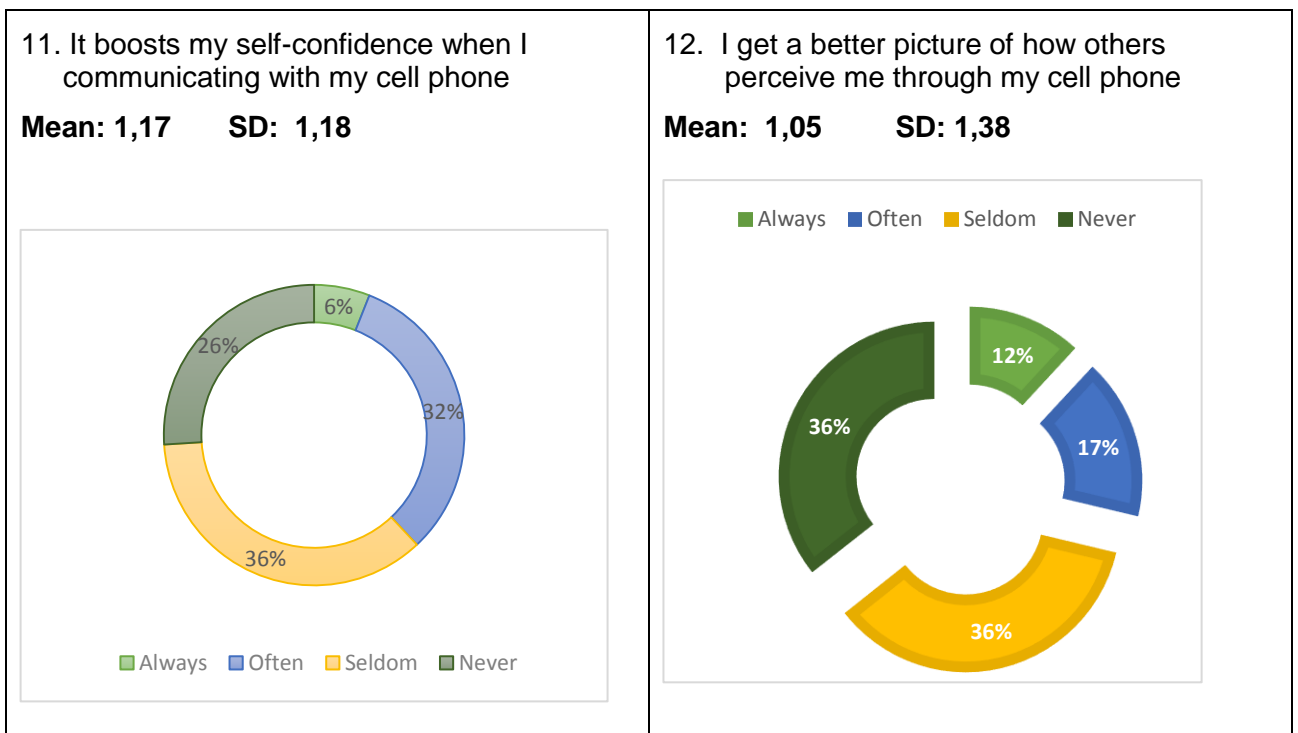
Figure 5.12 Why mobile phones are used in terms of communication



The results in Figure 5.12 reveal that mobile phones sometimes provide easier communication to adolescents. The learners furthermore indicated that they do not share their feelings online or provide others with confidential information online. These findings are ambivalent to the teachers and parents' perceptions that the youth do not know when to keep personal information private. The learners also claimed that they do not have more online friends than offline friends.

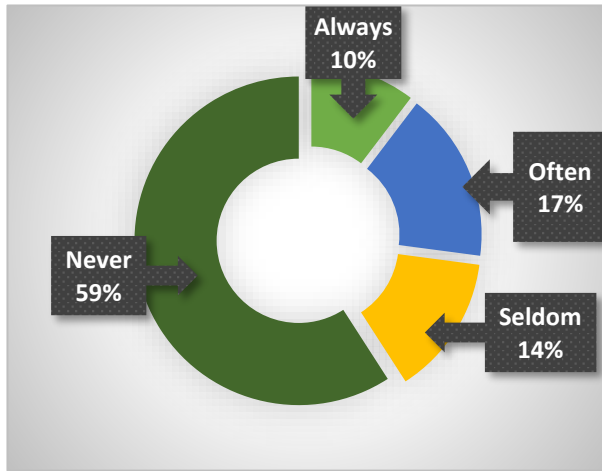
The scores of the close-ended questions in the learner questionnaire were calculated in the same way as in the teacher questionnaire. The means and standard deviations are indicated, as well as the percentages. The mean and standard deviation of each response below were calculated by allocating a number to each response: always (3), often (2), seldom (1) and never (0).

Figure 5.13 Responses of learners regarding close-ended questions 11 – 15



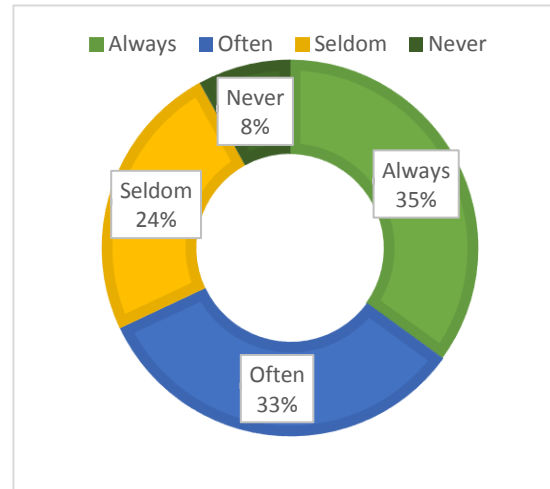
13. I can identify with the groups I communicate with on my cell phone

Mean: 1,59 SD: 0,98



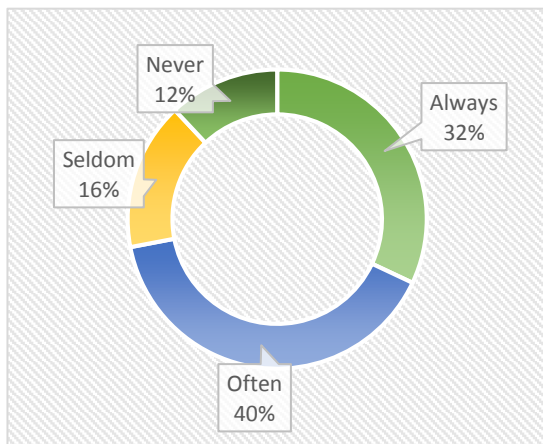
14. My cell phone helps me to stay informed about schoolwork and homework

Mean: 1,94 SD: 0,94



15. My cell phone helps me to stay informed about social events in my peer group

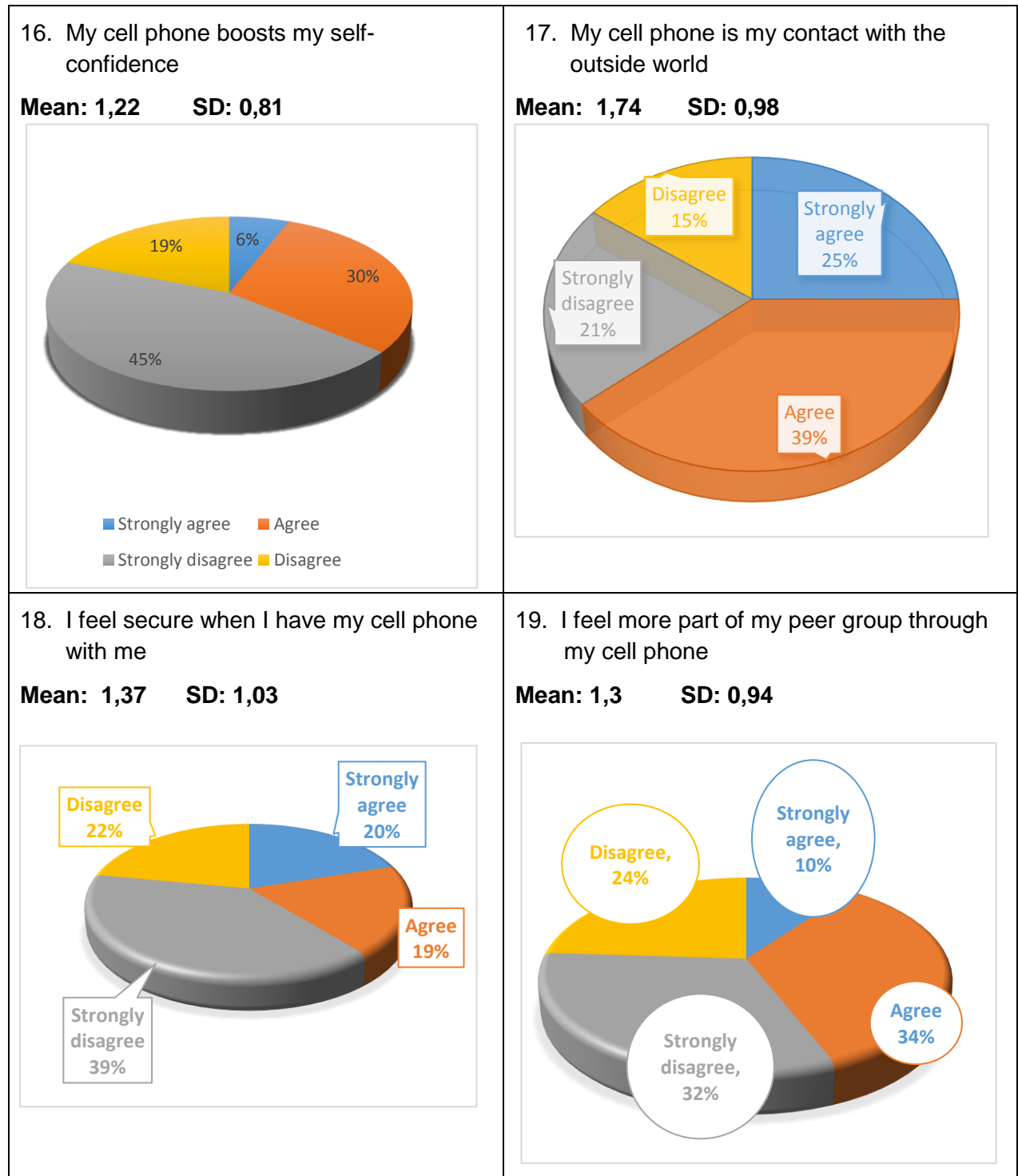
Mean: 1,19 SD: 1,00



Based on the outcome of the above questions, most respondents felt that communication with their cell phones seldom boosts their self-confidence and they mostly felt that their cell phones do not increase their self-perception. Fifty-four percent reckoned that they can identify with the groups on their phone and the other 46 percent feels that they do not identify with the groups on their phones. Sixty seven percent use their phones to stay informed about schoolwork and homework and 66 percent to keep in touch with regard to social events. The above results indicate that these learners

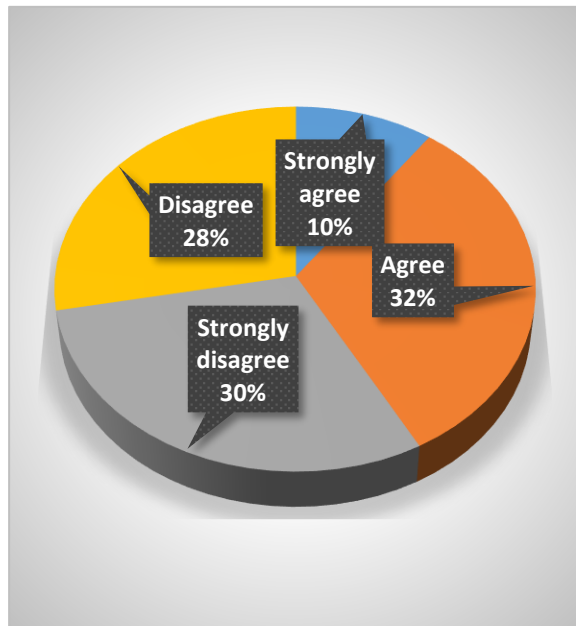
consider their phones to be a necessity rather than a luxury, as far as schoolwork and socialising are concerned.

Figure 5.14 Responses of learners regarding close-ended questions 16 - 20



20. I cannot function optimally without my cell phone

Mean: 1,23 SD: 0,93



According to the results in the above graphs, the following is clear concerning the respondents' answers: only 36 percent of the respondents felt that their cell phones strengthens their self-confidence, but 64 percent believed that their phones provide contact with the outside world. The majority of respondents did not think that their mobile phones make them feel secure and 56 percent stated that their mobile phones do not make them feel closer to their peer group or strengthen the group identity. Fifty-eight percent said that they can function optimally without their cell phones.

5.3 INDIVIDUAL INTERVIEWS

As mentioned earlier, I used eight volunteers to take part in the experiment and the individual interviews. The interviews took place one week before the experiment was conducted.

5.3.1 Data analysis

I utilised an inductive process to analyse the data obtained from the individual interviews and self-reports by organising the data into categories. I tried to identify patterns and relationships within these categories. Figure 4.7 in Chapter 4 illustrates the steps that I followed in analysing the information obtained from the individual interviews. The process that I followed can be explained and summarised as follows in Table 5.6 (Nestor & Schutt 2012:372-376):

Table 5.6 Steps for qualitative data analysis

STEPS	DESCRIPTION
Documentation	Verbatim transcriptions of interviews Determine outline for analysis Read through transcriptions
Conceptualising, coding, categorising	Identify and refine important concepts Coding of concepts into categories
Examining relationships and displaying data	Study different codes and categories Identify connections
Authenticating conclusions	Validate conclusions Linking literature study to findings

During this process, I endeavoured to conduct an intensive analysis that involved specific reliving of each interview while questioning the data for nuances and deeper meanings that might contribute to the study and relate to the literature review.

5.3.2 Findings and discussion of the individual interviews

After I executed intensive and recurrent analysis of the data based on the abovementioned steps, the findings and discussion of the individual interviews are presented below with reference to the specific themes and categories that were discussed during the interviews. All interviews were transcribed verbatim and the

quotes used as part of the findings, were all taken from these transcriptions. The following information came forth from the interviews and is reflected in Table 5.7:

Table 5.7 Information from individual interviews

Participant	Hours of mobile usage after school	Mobile phone practices	Description of the self	Communication with others
1 Age 16 Female	3 – 4	Chat with friends Music Online games	Shy	Easier with phone
2 Age 17 Female	9 – 10	Chats Posting photos Social media School work	Spontaneous	Easier with phone
3 Age 16 Male	1 – 2	Chats Music Online games	Confident	Easier face-to-face
4 Age 17 Female	1 – 2	Chats Taking pictures Music Books School work	Confident	Easier face-to-face
5 Age 14 Male	1 – 2	Chats IM Pictures Music Online games	Confident	Easier with the phone
6 Age 17 Female	3 – 4	Making calls Chats Pictures Music Games	Shy	Sometimes easier with the phone
7 Age 15 Female	7 – 8	Chatting Internet Pictures Music	Spontaneous	Sometimes easier with the phone
8 Age 15 Male	1 – 2	Chatting Music Reading bible	Confident Spontaneous	Sometimes easier with the phone

Mobile phone usage

The mobile usage of the eight participants differed considerably as reflected in Table 5.7. Some participants were clearly much more attached to their mobile phones than

the others were. The results reveal that most participants spend 1 – 2 hours on their phones after school hours. As previously mentioned, this can be because the school does not allow any mobile phone usage on its premises. Seeing that most teenagers do have many extra-mural activities in the afternoon, it will limit the spare time they have to spend on their mobile phones. During the interviews, they all indicated that they use their phones more over weekends. The mobile practices correspond with the learner survey previously discussed. An interesting feature is that six of the eight participants revealed that communication is mostly easier via their phones, irrespective of whether they are shy, confident or spontaneous.

In the interviews, it became evident that all the participants agreed that they mainly use their mobiles to communicate with friends, family and their parents and to find out more about homework and schoolwork and when certain projects are due:

Talking with friends the most and mostly it is also schoolwork and a lot of those things and organising things and so on.

They all take their phones to school every day in order have contact with their parents with regard to school and extra-mural activities. Apart from chatting with friends and families, mobile phones are also used to listen to music and to play online games. Participant 1 claimed that she constantly plays games over weekend, especially if she does not have anything else to do:

I play Clash of Clans in my brothers' group. You play with other people against each other, but you cannot play against your own group. It can become addictive, especially over weekends when you don't have anything else to do.

The boys who participated were more inclined to play online games than the girls, but the girls were much more active on social media than the boys.

One participant said that her parents must take her mobile phone when she has to study, because it has a negative impact on her attention span. Her phone sends a notification each time something happens within the online game, when she is not online or when a message from a friend is sent. This makes it very difficult to focus on anything else:

...when you are physically sitting to learn, then you see the light on your phone flashing, you have a message and then you look quickly and then learn further and it goes on like that...

.. and you are like that. You are curious. You want to look what is going on now!

Another participant agreed with the above – she mentioned that she will keep on picking up her mobile phone when she studies or when she is doing homework, because she is too afraid that she might miss something:

...and you are afraid that tomorrow at school they talk about things.... and you don't know what is going on.

This correlates with the teachers' viewpoint that mobile phones might create an attention deficit generation.

The mobile phone is an important contact with the outside world and keeps the participants updated with everything that is happening. Participant 5 confirmed this by stating that communication with the outside world is very important to him and without his phone he, will not be updated on things that are going on:

....the communication....then you don't know what is going on around you or what the others are doing and what is happening or so....

For another participant his mobile phone is used as a 'convenience tool' to have non-stop contact with friends and to organise social functions and get together.

Another fact that emerged from the interviews is that the participants frequently use their phones when they are bored and do not have anything to do. They will then look at pictures or videos, chat with friends, play games or see what is happening on Facebook. Accordingly, the phones always provide them with an opportunity to do something and provide instant and constant entertainment. Others felt that their mobile phones lessened their spare time, because when they have spare time, they choose to spend it on their mobile phones instead of doing something else:

But I think it definitely takes your time. Especially learning time, because you go on and then you play and you think I can perhaps get more and I just have to do this and just that and that list gets longer and longer and you don't get everything done in the end.

One participant stated the following:

If you don't have a cell phone or didn't have one before, then you don't miss... it doesn't bother you. But if you already had one, then it starts to bother you if you don't have one.

An interesting fact is that all the participants agreed that girls use their mobile phones much more than boys. Even during a social gathering, the girls will pass time on their phones inside the house where they are visiting, while the boys usually socialise outside. According to the participants, girls are also 'addicted' to Selfies. They post their Selfies on social media on a daily basis.

Many participants mentioned that they experience their specific mobile phone as a status symbol, seeing that all teenagers have mobile phones nowadays and that their peers will think it very strange not to have a phone:

If you walk through the shops with your cell phone, then you look a little important.

Some participants feel safer when they have their phones with them, mostly when they are not at home. When something unexpected happens, they can quickly get in touch with their parents or somebody else.

Social media, SNS and online friendships

All the participants use WhatsApp and Facebook the most. Facebook is mainly used to keep up with what is happening with all the online contacts. Instagram, Twitter and Snapchat are also used by some. WhatsApp is mostly used to communicate with friends about schoolwork, but also about social activities that are being organised. On the question of who the online friends were, the answer was:

Children who are in my class. If I need information or want to know about homework and stuff.

Facebook is used a lot to stay updated with regard to friends:

...you just go through all the things and stay up to date with your friends.

Social media is mainly used to send and receive pictures and to keep in touch with what is happening socially. Most participants have more online friends than offline friends and would communicate with many more people online than offline. This is contradictory to the result of the questionnaire where the learners indicated that their online friends are fewer than their offline friends. Participant 2 claimed that she has 500 – 700 online friends, but she does not have contact with them all. Her close friendships are far fewer (approximately 50). All the participants have an enormous amount of friends online. It ranges from 150 up to 1000. They are not close to all these friends, and they do not

always share personal information with them all, because they only trust a few of their online friends. Most participants prefer to befriend someone online only if they know the person in some way, personally or through a network connection. The big majority of friends on SNS are people that they do not really know personally and their online friends are more like acquaintances rather than friends. Their online friendships mostly reinforce their offline friendships, especially if they do not have frequent physical contact with the other person. Participant 3 felt strongly that if a person invites her, he must have a profile and a picture; otherwise she will decline the invitation. The participants made it clear that they only have a few close friends online and those friends are also their offline friends. The average amount of friends the participants have frequent contact with varies between 50 and 150. Participant 3 felt that she is much closer to her offline friends than his online friends.

All agreed that social media is an easy method to let others know who you are, by posting quotes and pictures, because it is impossible to chat with all the online friends. It is a way to reveal a part of the self to many others without chatting or communicating with them individually. One point of view was that it must take courage and a lot of confidence to post something on social media, because everybody is able to see what one has posted. This participant felt that one needs a lot of self-confidence to expose yourself like that.

Identity formation

Groups are formed online, mainly through WhatsApp to keep in touch with friends constantly, but also to organise groups like leaders, sports teams, church groups, family groups and friendship groups. The main reason for this is to organise the functioning and duties within the group and to socialise and organise social activities. Being part of an online group helps to keep up with what is happening socially and in school. This results in a feeling that they are part of a group and that they belong. Unfortunately the opposite is also true:

If you send a message and they ignore you, then you feel half separated from the group. It makes you feel the whole time..., and it is very bad when something like that happens to you... it easily makes you feel that you are not important enough to get a reply.

Participant 4 supported this viewpoint:

We'll talk about something at night like this is happening and then we'll talk about it again at school and the person who is not in that group, I think will feel left out.

The participants felt that mobile phones contribute to peer pressure more than being in each other's presence. All teenagers want to take part in conversations and social activities and it is very easy to feel you are not part of the group if you do not take part in those conversations:

They can talk about a social and then, if everybody says they are going, then you will feel left out and you feel that you must also go.

Some participants will act differently over the phone than in real life. One participant claimed that she is much happier over the phone, because she can add much more emotion to a conversation by using emoticons and certain punctuation marks:

....but on the phone it is easier to like to....show. In person it is difficult, because not everyone can read you.

Participant 2 indicated that she is also a different person online, than offline. She is much more private and formal online and will think before she replies whereas she is more spontaneous and easy going in face-to-face situations:

I think it is just about the fact that a person knows that it is over the phone, that message that you sent... it is there and he can easily send it on. A person is a bit more careful on the phone.

Participant 8 added to this:

Because if you say something to someone, then he can tell others, but he doesn't have any proof to show them. But if you send it on your phone, if you now tell him what you think of him, then he can show it around...

Participant 8 claimed that he is much more irritated, abrupt and blunt on the phone in comparison to real life. This correlates with the fact that it is easy to play different roles and experiment with different personas and identities through mobile technology in a virtual space.

Participant 8 claimed that the groups that he belongs to online, make him feel part of something that he shares with others offline:

It makes me feel that I belong, because it is that – it is with the band and those groups as well. So, if I were in the band and not on the group, then I would feel like an outsider, I think.

Another agreed with this statement:

...in order to be a part of something on your cell phone, you have to be a part of it in real life as well. Like the groups...

Communication and online interactions

Some participants were of the opinion that it is easier to communicate online with those that they do not know that well, but prefer face-to-face communication with those they do know well:

....if I know him well, then it's easy.... nicer in person, but if I don't know him that well, then I will speak with him on the phone...

Many online conversations often lead to offline conversations at school. One participant mentioned that some friends sent too many texts:

...they send many text messages and then sometimes it bothers you.

In addition to the above, they sometimes prefer to speak to their friends face-to-face, mainly when the topics get more personal, because they like to fall back on the non-verbal cues that are part of face-to-face communication:

I prefer talking to a person face-to-face when it comes to like matters, important things rather than on social media.

Participant 8 preferred to communicate offline rather than online, because he likes to focus on facial expressions when he communicates with others:

I like to focus on their facial expressions.

Another participant stated that when things get more personal, you see much more how the other person will react if you are communicating face-to-face.

...it is deeper with the person face-to-face.

On the other hand, one participant experienced the opposite:

I am much closer with them on the phone and I will communicate more on the phone than in then in person we won't even speak much at all.

Participant 7 stated that she communicates with certain friends online and then she has other friends with whom she only speaks with offline. She prefers to resolve difficult issues with others over the phone:

If I have to speak to someone about something serious, then I prefer it on the phone, but then it is as if I don't have to face that person, so it is easier for me on the phone.

Another participant agreed:

Because then you can say it without them actually looking you in the eye while you are saying it....because then you can't see how it hurt them.

A positive aspect of online communication, according to the participants, is that it furnishes the user time to think about what is being said before an answer is sent:

...and to think how true it is and why they are saying so...

...It will be easier to talk, because if you text someone then you can quickly decide you don't really want to say this to that person, and then you can just leave it.

It is furthermore fairly easy to block online friends when they annoy you or if you do not want to be friends with them anymore.

Participant 8 indicated that messages that are sent online are very easily misunderstood: others will find something that he said funny and he did not intend it as a joke. This happens easily, because there are no non-verbal cues present:

...you might sent a message, but they don't understand in which context your message was sent, but if you speak to them in person, then they realise what you really meant with what you said. You might think the person enjoys talking to you, but actually he doesn't.

Communication via mobile phones supplies easy and convenient communication with friends and family that do not live in close proximity and many of the participants use their phones to keep contact with friends and family that live far from them. Some even have contact with people that live overseas. It is extremely convenient in the sense that your friends are with you all the time and that you always have easy access to them:

I have constant contact with them.

And:

Sometimes, if someone really has to discuss something with you, but you can't go there, and if you are very angry, then you don't think twice, you just send a WhatsApp.

Another participant mentioned the following:

.. in person it is better to communicate, but it is just easier if you cannot be with each other, then you can communicate with your phone.

Participant 4 felt that the mobile phone has a negative impact on a teenager's social skills, because they get so used to communicating online, that they lose certain basic and important social abilities and then they do not know how to apply those in real life. In addition to this, to some participants, conflict does not get resolved easily over the phone:

We had a struggle and he didn't answer me anymore and I called him and he simply just didn't answer me. Or he shut me out. And that bothered me.

Self-presentation and self-disclosure

As mentioned above, the more shy and introverted participants tend to prefer communication via their mobile phones, particularly when conflict has to be resolved, or sensitive topics are talked about, as mentioned earlier. They feel that they can speak their minds more openly when they do not have to look the other person in the eyes:

...just the fact that you don't say it in their faces...

Another point of view was that it is mostly the people with a low self-image that will post the most pictures or comments, probably to determine the reaction and responses.

One participant mentioned that she tries to keep all conversations private, and that she will never disclose any emotions online. She will only post pictures and quotes on Facebook. Another introverted participant claimed that he will not post personal and private information on SNS, he would just post jokes and pictures. Participant 6 stated that she would rather find out more about others online, than reveal information about herself:

If someone tries to talk to me about something new, then I would rather try to find out more about them rather than talking about myself.

Participant 7 added to the above by stating that she will also not disclose personal information online:

I did it like all the time and I always like shared my personal life with others on the phone. And now I am much more..... careful about what I say.... because now there is proof and nowadays you can take screenshots and hold it against somebody else and if you said something bad, then they will show it to someone.

The sense of the self

One participant felt that her mobile provides her more time for herself, which she then uses to play games. She also said that her mobile phone contributes to the fact that her homework is always done and she will not get into trouble at school due to this, due to the contact that she have with her classmates. So, her phone contributes to her feeling of self-worth. Online games also strengthens her self-confidence:

You feel that you are in control of that specific thing. If people attack me, then I will attack them back.

The games she plays, give her the confidence to stand up for herself within a group in real life. Her mobile phone has taught her that she can do things in a group, without being in conflict with the others. Online games provide her with the space and the opportunity to try out and do things that she will be hesitant to do in real life.

One participant posted pictures on Facebook to see how many likes she will receive:

... I always want to know how many likes I got.

When she gets the reaction that she expected, it will strengthen her self-confidence. This reaction also contributes to how she will experience and see herself contributing to her self-knowledge and self-awareness. Another participant agreed with this by stating:

If there are 16 messages on your phone or something like that, then you feel good about yourself because people want to talk to you. And then later, because when you are with other friends or so and you see they perhaps only have two or so, then you feel extra good.

According to another, it can influence one's self-confidence in a negative way as well:

... it can also degrade you, because now you post a photo and you don't get many likes and of course that is not always nice, so it can go both ways, but I will say yes, the phone definitely plays a role in how you feel about yourself. I will say it strengthens my self-confidence.

The mobile phone can also strengthen your self-image, particularly when others post pictures of you and when many congratulate you on your birthday.

To the participants who like social interactions with others, the phone contributes to their feeling of belonging and to keep up with what is happening on the social front. Participant 7 agreed with this:

You communicate easier....and it helps me.... it strengthens....shy children. They don't have to like talk or make eye contact or so, they can just be there on their own and talk.

One participant added to this by claiming that she realised that when she uses her mobile phone her self-confidence increases, because it makes her feel stronger emotionally and psychologically. Firstly, it makes it easier to make contact offline with someone when he has liked your pictures or quotes online. Secondly, her mobile phone provides her with personal security. She will not be able to function optimally without her phone and she considers her mobile phone to play an extremely important role in her life. This came from the participant who spends nine to ten hours on her phone.

Another participant said that his mobile phone also contributes to a sense of the self, because he knows that through his mobile phone he has continuous contact with his friends and this makes him feel good about himself. He feels less lonely and definitely more part of a group. His mobile phone provides him with the opportunity to express himself. Participant 5 added to this by indicating that his mobile phone strengthens his self-worth based on the reactions he gets from others on his mobile phone. When you know what is happening due to the contact with the outside world, you will be less ignorant and this might also contribute to a healthy self-esteem.

One participant indicated that, when she was younger, in Grade 8, her phone was her whole life, but now that she got older, she thinks that she can manage well without her phone. Participant 6 said that her mobile phone educated her in a certain way, by giving her the chance to apply some of the things that she previously said on the phone, practically in real life. This was especially helpful in sensitive and difficult situations in her life that needed to be resolved face-to-face. She also claimed that her phone taught her to have more self-discipline, but also that she can very easily get irritated with certain things:

At one stage during the holidays, I just switched my phone off for two or three days....then just to find myself again also. Because many times with the phone, you are not, you are just not yourself... we need time to get out...

Participant 7 mentioned that in the past her phone practices had a negative impact on how she experienced and saw herself:

I started spending more time on the Internet than with friends in real life and I started comparing myself with the others' pictures and then it was all just very negative for me. I became a little more self-conscious. Then it is like that typical thing that that person is skinnier than you... It changed how I see myself and I felt very shy about myself.

Participant 8 claimed that his phone definitely contributes to how he sees himself:

...if I switch on my phone and I don't have a message, then the first thought in my mind is 'oh no, nobody wants to talk to me'. Not that I even want to talk to them – it is just the thought that nobody wants to talk to ME. If you then switch on the phone and see someone did send you a message and then you feel as if there is someone who likes you!

Participant 4 felt that the effect of the mobile phone on the sense of the self will depend on different social media. Some girls will post pictures of themselves on Instagram after they had photo-shopped and edited those pictures which can lead to negative feelings one has about oneself, seeing that one knows that one is not as perfect as the girl in the picture. This will decrease self-confidence, but increase peer pressure:

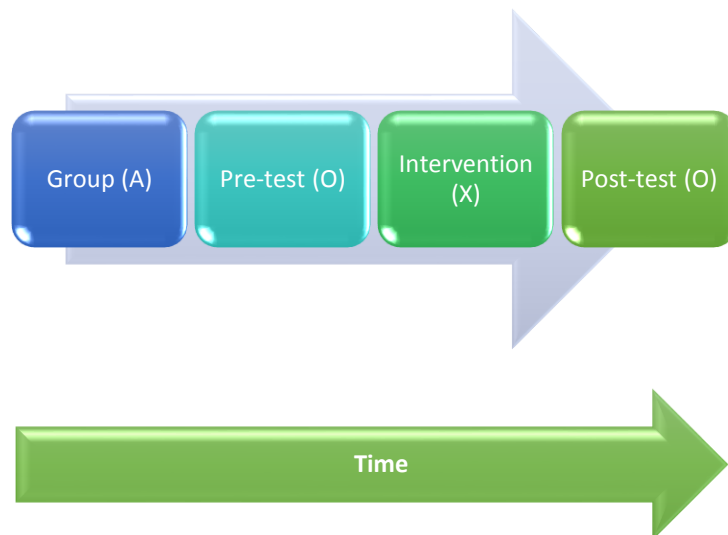
That is why Instagram is not okay, good, social media I think. Because there is editing, whereas Snapchat is a different story because that one there is, you don't edit, it is how you look in real life. There you chat via pictures.

5.4 SINGLE-GROUP EXPERIMENT AND SELF-REPORTS

In the single-group design I used the same eight volunteers from the individual interviews to take part in an experiment. The group of subjects was given a pre-test (O), then the treatment (X), and during the treatment the post-test (O). The treatment or intervention was for them to give up their mobile phones for four schooldays. During this time they completed the post-test so that the impact of having to function without

their phones could be determined in their daily lives. The result that is examined is the change from the pre-test to the post-test. Figure 5.15 below explains graphically how the design was conducted:

Figure 5.15 Single-group pre-test post-test design



The focus of the questionnaire was the self: ego-strength, self-concept, self-confidence, self-image, self-presentation, identity, communication and social skills.

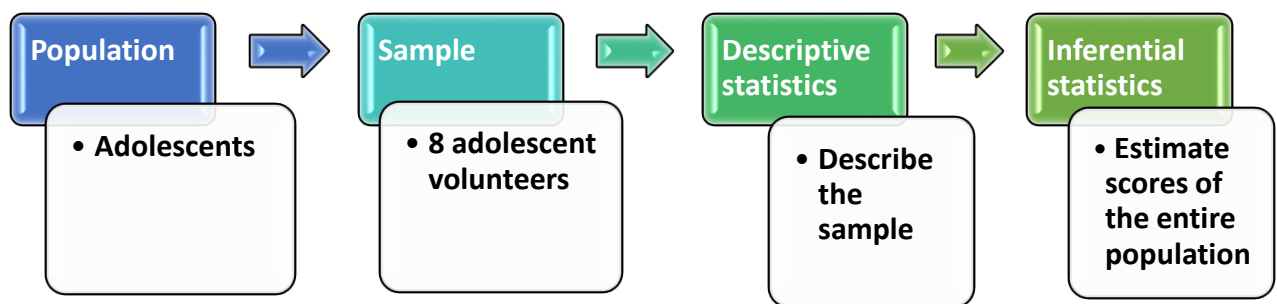
5.4.1 Data analysis

The main objective of the experimental research was to determine a cause-and-effect relationship between two variables. The conditions were manipulated (mobile phones were handed in) and the effect was observed by means of the same questionnaire that was completed before the manipulation and then again during the manipulation of the conditions (pre- and post-test). Thus, the pre- and post-test served as the measurement tool with which two sets of scores are obtained. To determine the effect, the scores between the two tests were compared. Descriptive statistics were used to summarise the data that was obtained by the pre-test and post-test. The summaries indicated *what* was determined with regard to the sample data.

After I had calculated the descriptive statistics I used inferential statistics to compare the results of the pre-test and the post-test by applying a dependent samples t-Test.

Correlation coefficients were also put to use as a statistical summary of the relationship between the variables that formed part of the questionnaire in this experiment. The Pearson product-moment correlation coefficient (The Pearson r) indicated the linear relationship between the variables (McMillan & Schumacher 2010:473,374). Inferential statistics depend on descriptive statistics and without the complete understanding of the descriptive statistics, the inferential statistics will not make sense. Figure 5.16 illustrates the relationship between descriptive and inferential statistics (McMillan & Schumacher 2010:149):

Figure 5.16 The relationship between descriptive and inferential statistics



5.4.2 Results: experiment and self-reports

The results of each participant's pre-test post-test, as well as their positive and negative experiences during the intervention (self-reports), are put forward below:

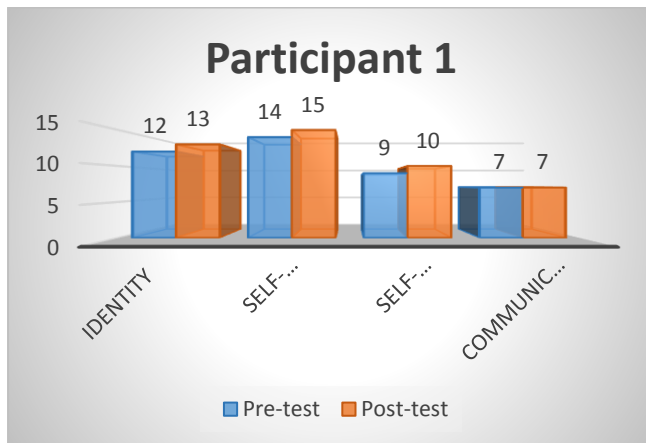
5.4.2.1 Participant 1

Age: 16
 Grade: 10
 Gender: Female

Pre-test and post-test

Figure 5.17 indicates the difference in scores between the pre-test and post-test of participant 1:

Figure 5.17 Results of experiment: participant 1



According to the results this participant scored higher in identity, self-confidence and self-concept in the post-test than in the pre-test. Her communication and social skills tested the same.

Self-report

A summary of this participant's self-report during the intervention is depicted in Table 5.8:

Table 5.8 Results of self-report – participant 1

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
Can relax without thinking about phone	Cannot find out what school work I missed
Did my schoolwork in advance	Worries about the work that I missed
I pay more attention to my chores	I cannot follow my progress on my online games
	People cannot call me for urgent information
	My mother has to wake me up in the mornings

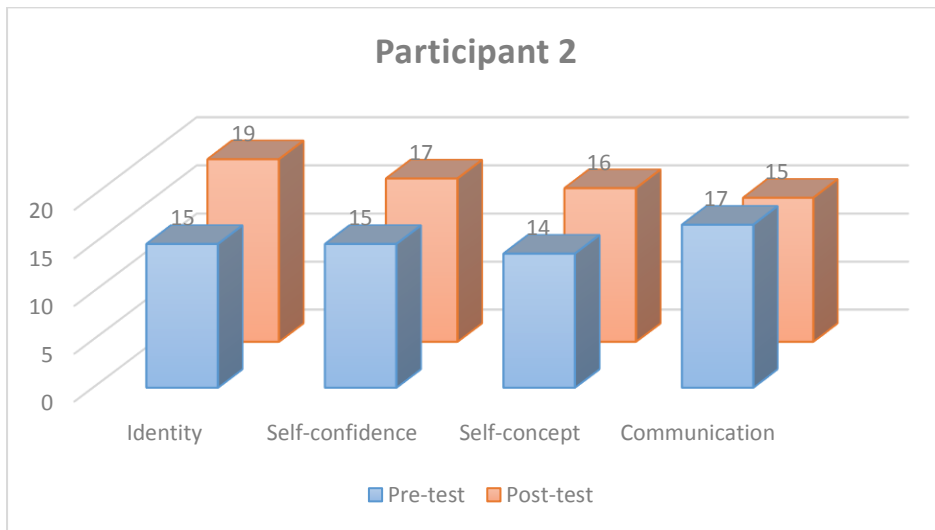
5.4.2.2 Participant 2

Age: 17
 Grade: 11
 Gender: Female

Pre-test and post-test

Figure 5.18 indicates the difference in scores between the pre-test and post-test of participant 2:

Figure 5.18 Results of experiment: participant 2



Participant 2 scored higher in the first three variables, but lower in communication and social skills.

Self-report

The experiences of participant 2 are reflected in Table 5.9:

Table 5.9 Results of self-report – participant 2

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
No disturbances from other learners to find out about school work	Never know what the time is
Get all my schoolwork done and do work in advance	Do not know about information that is provided on groups
I am more focused on academics and homework	Have to borrow my brother's alarm clock to get up in the mornings
No temptations	Want to use my phone a few times to calm myself down after a hockey practise
No messages and notifications to distract my attention	Not to know what is going on in everybody's lives
No negative things on Facebook that makes me negative	Am very curious about how many 'likes' I got on Facebook and Instagram during the last few days
I am forced to have more face-to-face conversations with others	Have to look up words in a dictionary for English homework
Meet the people that I have as friends on Instagram and Facebook in real life and talked to them	Cannot not take any pictures of nature and friends
More family time and family communication	My mother gets worried, because I cannot inform her about changes in school activities
Join exercise groups to have the opportunity to talk to other people	Miss my music
Get to bed earlier than usual	

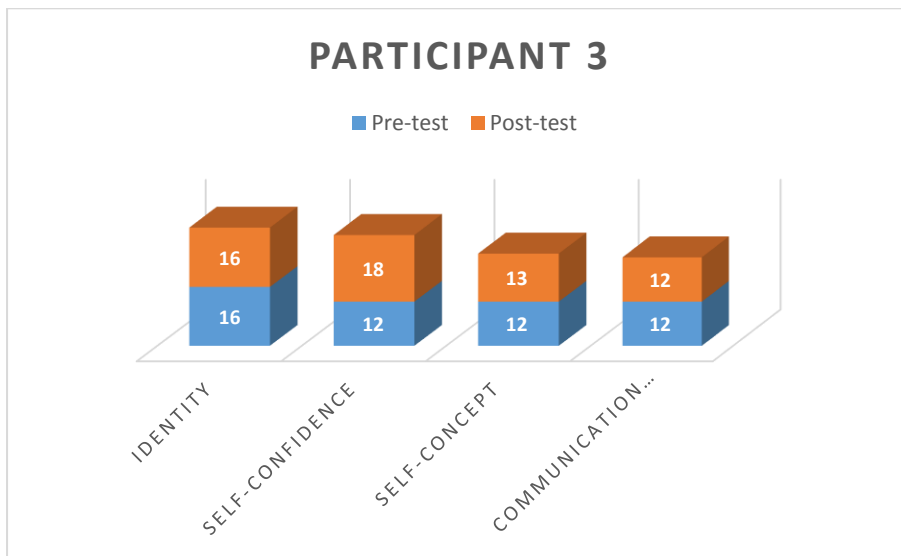
5.4.2.3 Participant 3

Age: 16
 Grade: 10
 Gender: Male

Pre-test and post-test

The difference in scores between the pre-test and post-test are reflected in Figure 5.19:

Figure 5.19 Results of experiment: participant 3



The intervention had a huge impact on this participant’s self-confidence. His self-concept increased a little, but identity and communication stayed the same.

Self-report

A summary of this participant’s self-report during the intervention is depicted in Table 5.10:

Table 5.10 Results of self-report – participant 13

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
I can focus better during study time not having a phone to distract me	Cannot communicate with friends that easily
I have to pay more attention in class to make sure what homework to do	Not always sure about the arrangements on WhatsApp groups
More family time and communication	I do not know about arrangements about social events
I communicate more in person	I am curious what I missed on my phone
	I physically miss and search for my phone all the time

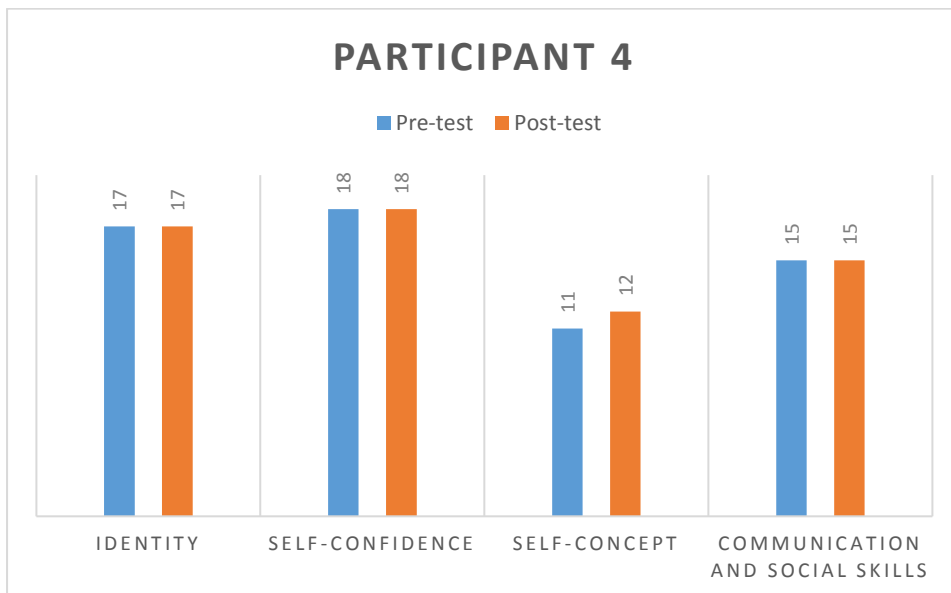
5.4.2.4 Participant 4

Age: 16
Grade: 11
Gender: Female

Pre-test and post-test

Figure 5.20 below indicates the difference in scores between the pre-test and post-test of participant 4:

Figure 5.20 Results of experiment: participant 4



The intervention did not seem to have such a great impact on participant 4, because no major differences were identified between the pre- and post-test.

Self-report

Table 5.11 reflects a summary of participant 4's self-report during the intervention:

Table 5.11 Results of self-report – participant 4

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
Realise that I rely too much on my phone for information and news	Physically miss the phone
I have more time on my hands	Cannot contact parents or friends
Realise that I can do without Instagram, Facebook, Twitter and Snapchat, but not WhatsApp	I cannot play music or use Google and YouTube
I survive without Wi-Fi for a few days and that is quite good in today's day and age	Search for my timetable for where I am on duty during break
	Need my phone to find out about my meetings and other activities
	Miss my phone before going to bed to go through Twitter, Instagram and Snapchat
	I struggle without my phone as I am not aware of the outside world
	The thought of not having my phone makes me think about it more
	I cannot connect with the world, feels disconnected and not aware of things
	I have to ask my friends to call my parents and to tell me what was going on
	Negative impact on my self-confidence as I was not aware of my surroundings and I always need to be in control
	I have to rely on other people

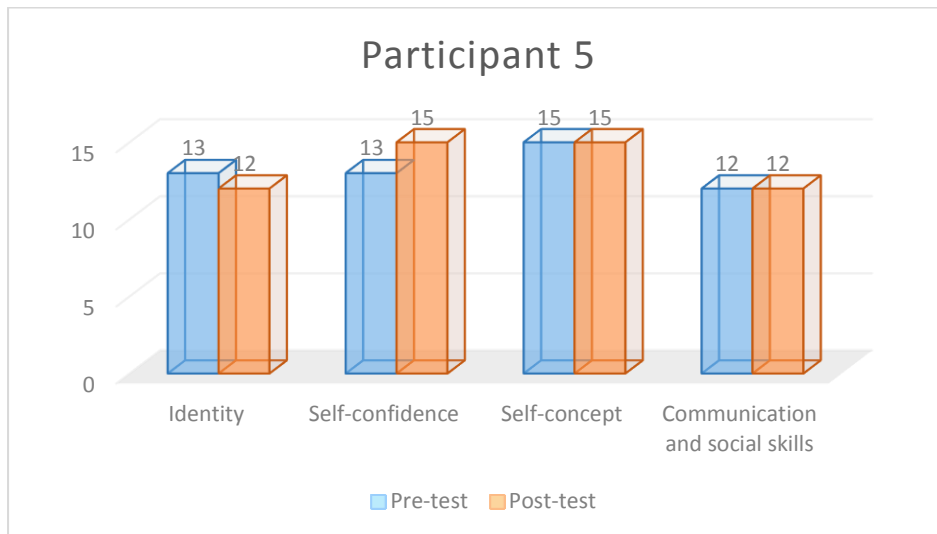
5.4.2.5 Participant 5

Age: 14
 Grade: 8
 Gender: Male

Pre-test and post-test

Figure 5.21 reflects the difference in scores between the pre-test and post-test of participant 5:

Figure 5.21 Results of experiment: participant 5



Participant 5’s identity decreased with one point, self-confidence increased, but self-concept and communication stayed the same.

Self-report

A summary of participant 5’s self-report during the intervention is depicted in Table 5.12:

Table 5.12 Results of self-report – participant 5

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
Can concentrate better when I do my homework	Doing homework feels longer, because I cannot listen to music
Can pay more attention to my brother and sisters	I do not know what is going on in the Whatsapp groups
I can focus better on my schoolwork	I cannot communicate with my friends often
	I miss my friends
	I have to find out about homework at school

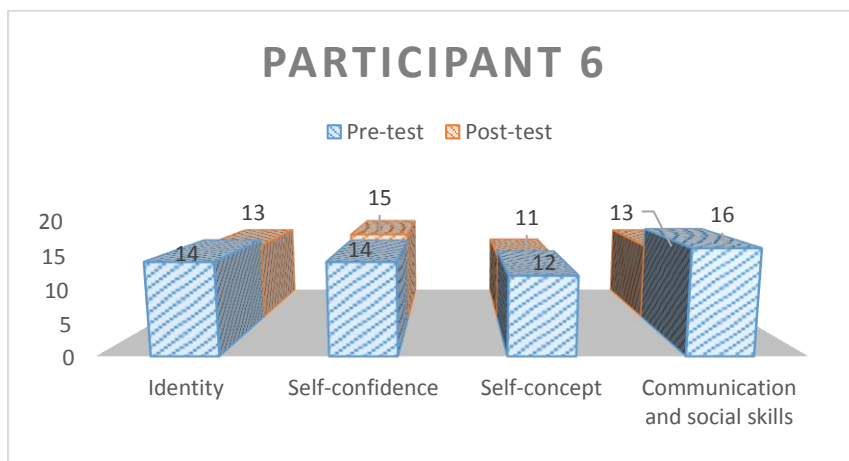
5.4.2.6 Participant 6

Age: 17
Grade: 11
Gender: Female

Pre-test and post-test

Figure 5.22 exhibits participant 6's difference in scores between her pre-test and post-test:

Figure 5.22 Results of experiment: participant 6



Participant 6' identity was lower, self-confidence higher, self-concept lower and communication skills also lower.

Self-report

A summary of participant 6's self-report during the intervention is depicted in Table 5.13:

Table 5.13 Results of self-report – participant 6

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
I am forced to do something else	I feel isolated and not part of anything
There is nothing that can distract my attention	I cannot do proper planning
	I cannot use my phone's flashlight when the power is off
	I am lost without time
	If I take a break when studying, it feels far too long
	I miss out on arrangement of meetings and events
	I have to communicate much more with people in person
	I physically search for my phone every now and then
	I can almost not control my curiosity on what is going on on my phone

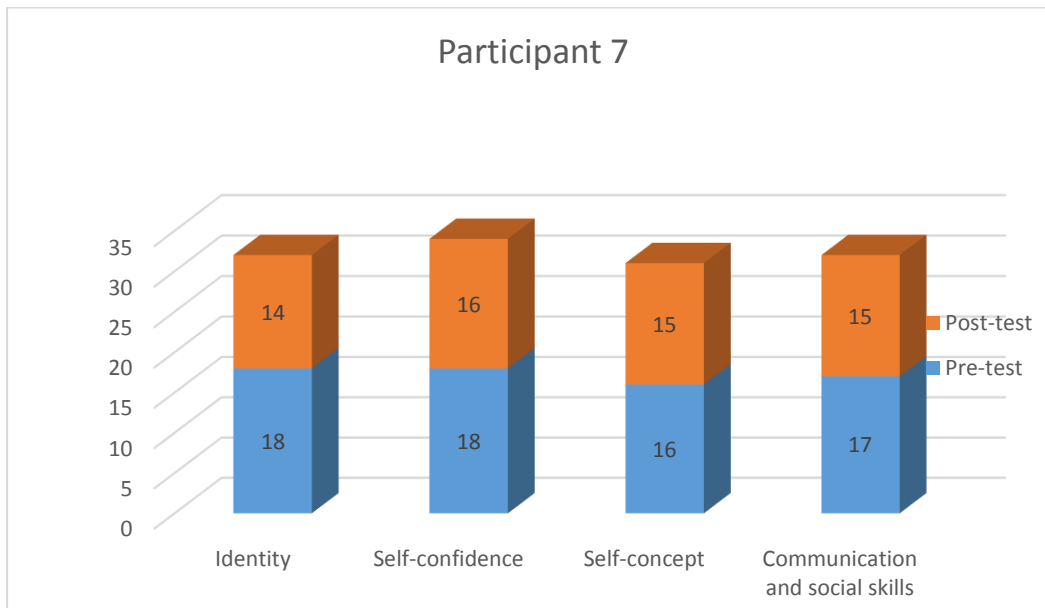
5.4.2.7 Participant 7

Age: 15
 Grade: 9
 Gender: Female

Pre-test and post-test

The difference in scores between the pre-test and post-test are reflected in Figure 5.23:

Figure 5.23 Results of experiment: participant 7



The intervention had a rather huge effect on the participant’s sense of the self. All four variables indicated lower scores in the post-test.

Self-report

A summary of the self-report during the intervention is depicted in Table 5.14:

Table 5.14 Results of self-report – participant 7

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
I do more homework than usual	Cannot organise things like events and meetings
Communicate more with parents	Cannot use the phone to wake me up
I am more interested in other things	Cannot listen to music
I study more and better	Cannot talk to friends
I spend more time outside	Cannot Google
I read more	Physically search for the phone
I communicate more with people about other topics than usual	I am extremely curious about what is going on on my phone

5.4.2.8 Participant 8

Age: 15

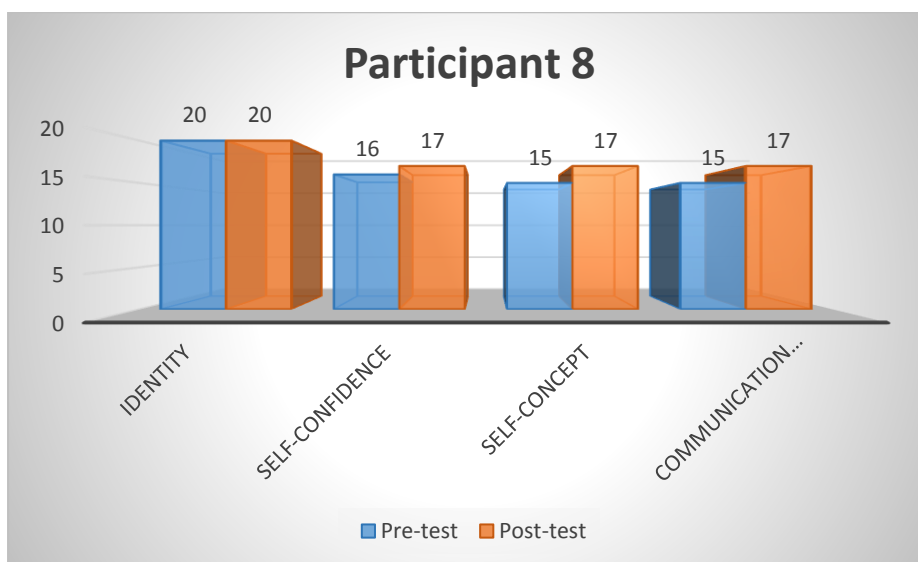
Grade: 9

Gender: Male

Pre-test and post-test

Figure 5.24 indicates the difference in scores between the pre-test and post-test of participant 8:

Figure 5.24 Results of experiment: participant 8



The intervention lead to better self-confidence, self-concept and communication skills for participant 8.

Self-report

A summary of this participant's self-report during the intervention is depicted in Table 5.15:

Table 5.15 Results of self-report – participant 8

POSITIVE EXPERIENCES	NEGATIVE EXPERIENCES
I have time to play with my dog	Cannot make contact with my parents when at school or somewhere else
Concentrate better on my homework without wondering if I have a WhatsApp	I miss a music lesson, because my reminder is on my phone
I am in a better mood	Cannot call the teacher to say I am sorry, because her number is on my phone
Go to bed earlier	I got a demerit at school, because I forgot about homework
Play outside more	I oversleep every day
	Could not send a message to my niece on her birthday

5.4.3 Discussion of the findings

5.4.3.1 Pre-test and post-test

As previously mentioned a dependent samples t-Test was put to use to determine if the difference in means between the pre-test and post-test is statistically significant. The *t*-Test showed no significant difference between the pre-test and the post-test, because the *t*-Test statistic of 4.95 with 7 *df* is not statistically significant. This means that even though the means of the different tests are different, there is a good possibility that they can be different by chance alone ($t(8) = 4.95, p = .001$ with $df = 7$). It can, therefore, be said that the intervention of functioning without a phone for four days did not have a significant impact on the identity, self-concept, self-confidence and communication/social skills on the sample as a whole, even though differences exist in the results of the individual participants.

Conclusively, no generalisation could be made from the differences between the pre-tests and post-tests. The results were different for each participant, which suggest that the impact of mobile phone usage on an individual adolescent is a highly personal phenomenon and consequently, the personality of each individual will determine how he experiences, uses and relies on his phone. The influence of the mobile phone on

the sense of the self will, thus, be different from individual to individual. This conclusion adds to the idea that mobile usage and the effect thereof on the development of the adolescent is a highly complex and complicated occurrence and is in line with the complexity that exists in each person with regard to personality, identity, self-confidence, self-concept and social skills.

In addition to the above, I wanted to determine if a relationship existed between the variables that were used in the pre- and post-tests. I used the *Pearson product-moment correlation coefficient* to determine if there was a relationship between any two variables. The correlation coefficient is generally used as a statistical summary of the nature of the relationship between two variables and provide us with an estimate of the quantitative degree of the relationship. The numbers are almost always between -1.00 and +1.00 (McMillan & Schumacher 2010:473). The correlational data between the different variables can be reported in Table 5.16:

Table 5.16 Correlation matrix for variables on the pre-test

Variable	Identity	Self-confidence	Self-concept	Communication and social skills
Identity	-			
Self-confidence	.60	-		
Self-concept	.51	.24	-	
Communication and social skills	.04	.56	-.11	-

Based on the results of the calculations depicted above, the strongest relationship exists between identity and self-confidence (moderately positive) and the weakest relationship occurs between communication/social skills and self-concept (low negative). And so, one can deduce that when an adolescent has a strong identity, he will also have good self-confidence. There is a very weak relationship between communication/social skills and self-concept, which means that the one will not necessarily influence or have a huge impact on the other.

5.4.3.2 Self-reports

The positive and negative experiences as reflected by the participants during the experiment, could be generalised slightly more than the pre- and post-tests, because the effects of having to function without a phone were more or less the same within the group. This means that adolescents use their phones for more or less the same purposes in their daily functioning. The findings of the self-reports are summarised in Table 5.17, followed by the interpretation:

Table 5.17 Findings of the self-reports

FINDINGS

Positive experiences

Paid more attention when doing homework and when studying
Paid more attention in class to know what homework to do
Did more homework and studied more
No disturbances and distractions
More face-to-face communication
Got to bed earlier
More family time
More personal spare time
Spent more time outside

Negative experiences

No communication with parents and friends
Missed friends
Felt totally disconnected
Felt they missed out on everything
Did not know what homework to do
Felt isolated, and did not know what was happening in the outside world
Did not know what was happening in group chats
Missed music and other entertainment
Had too much time on hands
Physically missed and searched for phone
Struggled with practical things such as organisational matters, planning, alarm clock and looking at the time
Had to rely more on friends
Was curious about what was going on on phone

5.5 FOCUS GROUP INTERVIEW

A focus group interview was conducted with 12 volunteers ranging from Grade 8 – 11. The objective with the focus group interview was to use the findings from the discussion as a confirmation technique for the information that I gathered in the individual interviews and experiment. The discussion between different subjects gave me the opportunity to observe the interaction among them while gaining more knowledge on the topic of mobile practices among adolescents.

5.5.1 Data analysis

I applied the same inductive process that I utilised to analyse the data obtained from the individual interviews as described in 5.3.1. In addition, I followed the same steps to analyse the information that was put forward by the subjects during this discussion, namely documentation, coding and categorising, identifying relationships and making conclusions. The discussion was digitally recorded and transcribed in order to facilitate the above-mentioned steps.

5.5.2 Findings and discussion

It was clear that the findings from the group interview discussion corresponded with the findings of the individual interviews. The findings are summarised and presented below:

Mobile phone usage

All the participants received their first mobile phones in Grade 5 – 6 and they used them mainly to play games and to communicate with their parents in the past. Nowadays, they all possess smartphones, which makes social media much more accessible. Furthermore, mobile technology provides the users with excellent cameras, which are used almost every day by most of the participants. It is evident that all youngsters post photos very regularly nowadays on the different social media. Photos are posted to create memories and to provide an indication of what he/she is doing or where he/she currently is. The younger adolescents in the group still play online games, but not the older ones. WhatsApp, Instagram and Facebook are used by almost everybody. Seeing that today's phones have a bigger memory, they can download music to which

they listen in their spare time and even when they do their homework. In correlation with the individual interviews, the phones are used in general to have uninterrupted contact with their friends and to organise meetings and social events. It is extremely important to everybody to know where their friends are and what they are doing. All the participants use their phones to keep up to date with all that is going on:

...or sometimes I just look at people's gossip news..

I just go through everything, but I don't post at all.

...and further on I just check what is going on..

On the question what will they miss most about their phones if they had to get along without them, the responses were as follows:

My life will be much more difficult. Much more.

..It will make it much more difficult to keep track with all the things that are going on without a phone, because they give much more detail on the phone.

..I will be like very bored, because I use my phone to watch videos on Youtube or listen to music or to talk to people.

It will be very boring. It will feel as if I am so... I am so lonely...

I won't know what to do with myself.

I won't know what homework to do...

...if you don't have anything to do.... then you go through Facebook and Instagram...

I hate it without my phone.

The above comments prove that mobile phones have become an integral part of the functioning of the adolescent. They use the devices not only for communication, but also in all aspects of their lives. They acknowledged the fact that they will feel lonely without their phones, because their phones are their contact to the outside world. Today's teenagers rely very strongly on their phones with regard to their homework and schoolwork. They get anxious if they do not know what homework they must complete, due to the fact that they have come into the habit of not really focussing in class when homework is given, probably because they know that they will find out from their friends what to do.

Social media, SNS and online friendships

The advantage of using social media is mainly that you can get one message through to many people just by pressing one button:

...I like the idea that you can like spread things to many people and now it can reach many people...

Another opinion was that one reads a lot of negative things on social media that are posted regularly.

Where Facebook is concerned, it is important to receive 'likes' when they have posted something. It makes them feel proud if they receive many 'likes':

Then I feel proud.

One participant explained to the rest of the group what his sister's reaction usually is when she receives 'likes':

Then she brags the whole time. Like when she posts something, ten minutes later 'check how many likes I got'. Each time she gets a like, then 'I got another like'...

This links to the individual interviews where the participants noted that the 'likes' strengthens their self-confidence.

All the participants have an enormous amount of online friends. It ranges from 50 to 1000 per person, but they are not close to all of them. An aspect they all agreed on, was that it is fairly convenient and easy to block anybody that you do not want to be friends with any more. This confirms the fact that through the mobile phone, a teenager's circle of friends can reach enormous proportions. The fact that they always have friends around on their phones, make them feel less lonely and strengthens the feeling that they belong. This has a positive effect on their self-worth, self-esteem and self-confidence.

Identity Formation

All the participants are part of groups via SNS. The more activities, the more groups. Committees and school related activity groups are mainly used to make arrangements for meetings. A common group is a homework group and they all seems to be quite dependent on these group to be informed on what school work needs to be done. This

correlates with the individual interviews. Friends groups are used to organise social events and to be in contact with everyone or to just chat casually about things.

Some participants stated that they do take on different roles when they are communicating and chatting online. It will depend on which group they are and who the friends are that they are communicating with:

It depends on which friends you talk to.

... Yes, if it is someone you don't want to talk to, you will send something abrupt..

You will use abbreviations and so on in WhatsApp language or slang....

An interesting viewpoint was that one participant felt that on Whatsapp you can be more yourself, because it is a direct communication channel between her and her friends, but on social media can no one see your personality and might easily think that you are a different person than what you really are. It is easy on social media to appear as if you are two different people, even though it is not meant that way. Based on this it is, therefore, a convenient platform to play between the *true self*, the *ought self* and the *ideal self* (see Figure 3.4). You can thus decide how you want to present yourself online, especially to those that do not know you that well offline.

Another participant felt that it is easier for her to let others know who and how she is by posting pictures:

Because people don't usually understand me, because I am not easy to understand, I never make any sense, so usually when they don't understand me, then I send a picture of what it is and then they understand...

By preferring to post pictures can result in the fact that the verbal component is removed when one represents oneself in that way and as a consequence the social identification process online are made more impersonal.

Communication and online interactions

All the participants in the group agreed that the advantage of communicating online, is that it gives them time to think what was said and to plan and contemplate the reply that they will send:

Especially when someone said something you don't like, or you now need time to think, then you have the time.

Some agreed that it is easier to communicate online than offline, but a few felt that it is impersonal to communicate online only. In addition to this, it is very difficult to grasp the real meaning in messages online. Misunderstandings occur regularly, because the messages are misinterpreted.

It is very convenient to communicate online with people that live far away. Two participants mentioned that their fathers live in another town, and to be online and chat with each other is extremely convenient to chat every day. This correlates with the fact that being connected to others via the mobile phone, expands the boundaries of time and space.

Self-presentation and self-disclosure

Just like the participants who took part in the individual interviews, these participants claimed that they do not get too personal online, especially not in the groups via WhatsApp. They feel that on the groups, there are too many people who are just acquaintances and the groups are mainly used for organising events. They will only get personal online when they know the other person well:

Depends on how well I know that person...

They are all rather careful not to disclose too much information online, due to the fact that it is easy to take screenshots of conversations and can easily be used against you later.

A new topic or theme that was spontaneously discussed during this session was the issue of Selfies. The group felt that it is more evident among girls than boys. They all feel that it is very irritating, because most children do not know where to draw the line when they post Selfies on social media with regard to the number of Selfies that is posted by individuals:

...The same Selfie, but twenty times and then she WhatsApp it to everyone as well.

My sister thinks she is the most beautiful thing, because she takes Selfies all the time...

... a Selfie is fine, but now they post the same Selfie that's just a little different twenty times...

Selfies might be another easier and convenient way to present oneself to others and can consequently be considered as a form of self-expression based on the physical appearance of a person.

Sense of the self

One participant stated that she thinks that for teenagers nowadays, mobile phones are the main source of everything they like. It is a tool that provides access to infinite sources of knowledge, information and entertainment. Based on the experiment, it was concluded that how this tool is utilised, depends on individual characteristics and personality traits. Therefore, how the mobile phone impacts on the sense of the self can be a highly personal experience.

All the participants agreed that the mobile phone can strengthen or weaken one's self-confidence and self-esteem:

...if you are degraded, then it breaks down your self-esteem, but if you are boosted, or you do something and you feel good about it, then it strengthens your self-confidence and that is why so many people use social media all the time, because it is the only place where they really feel that they can be more than they really are...

They all feel that they can learn more about themselves via their phones through the comments that everybody sends after a post or the replies in a conversation:

...just say they posted something where they for instance say something about you, then you can think about it and perhaps it is true.....

Thus, the cell phone can lead to a better self-awareness which will then lead to better self-knowledge that can contribute to an overall stronger self-esteem.

All the above findings coincide with the perceptions, attitudes and experiences of the other eight participants who took part in the individual interviews and experiment. It can thus be accepted that the focus group discussion met its main objective which was to confirm the findings of the empirical research and provide rich information.

5.6 FINAL DISCUSSION

5.6.1 Link between the literature and empirical studies

Parent, teacher and learner questionnaires

The digital era provides youngsters of today the opportunity to be able to do something new, novel and useful. For the first time, there are certain things that parents want to be able to know about and do, where the kids nowadays are the authority (Tapscott 2009:28). One can say that with the appearance of each new technology, particularly mobile devices and social networks, the knowledge hierarchy of the past had changed. Concerning technology, particularly the Internet, the Net Gener is the expert now. Tapscott (2009:18) further claims that teenagers have assimilated technology as part of their environment and using it has become as natural to them as breathing. This is in line with the results of the questionnaires which indicate that most children have their phones with them most of the time. Parents' perceptions about the impact and effect of their children's mobile usage are mostly negative. They feel that it inhibits face-to-face communication, influences their spelling abilities negatively and does not contribute positively to self-image, self-confidence and self-concept. The issue of privacy is a matter of great concern for parents, as they all feel that their children are not aware of what the privacy boundaries of virtual space entail. This perception coincides with the viewpoint of Downshire and Grew (2010:144) that adolescents cannot always distinguish between private and public social boundaries and seeing that adolescents constantly test social boundaries, they develop a sense of self that is situated in the broader world.

The results from the teacher questionnaire coincide in certain aspects from Tapscott's view (2009:126) that a gap exists between how the Net Geners think and how most teachers teach. He is of the opinion that children who grew up digitally want to make themselves heard and they want their education to be relevant to the real world. A convenient way to achieve this is through digital technologies. An Australian principal put it this way: 'The teachers are no longer the fountain of knowledge; the Internet is' (Tapscott 2009:126) and, therefore, he feels that the relationship between teachers and learners should change. Barnes et al. (2007:1) support this view by stating that this generation's students learn differently than their predecessors, but more important is

that they are a generation that wants to learn. The youth is accustomed to technology resulting in distinct ways of thinking, communicating and learning which have shaped their experiences and approaches in the classroom. Another point of concern is that we now live in a fast-paced world of the information age where children are focused on quick answers, quick feedback and instant results. Learners of today are also expanding their knowledge beyond their local community and are becoming global citizens in an increasingly complex world. This correlates with the viewpoint of Elliot and Urry (2010:87) that time and space between people, places, nations and cultures have been transformed through technology. Youngsters of today have an effortless and endless connection with others worldwide. The outcome of the teacher questionnaire correlates with Hakaoma and Hakoyama (2011:2) who propose that in the present time most teenagers are in possession of a mobile phone and that they have become as important to them as wallets. The fact that mobile phone usage is prohibited by the secondary school where this study was conducted, results in the fact that the learners do not spend that much time on their mobiles, seeing that they do not really have that much spare time after school.

The learner questionnaire indicated that most teenagers use their phones to stay connected to family and friends and to connect with others on homework and schoolwork. This compares to the findings of O’Keeffe and Clarke-Pearson (2011:801). The learners additionally use their phones often to listen to music, which emphasises the entertainment functions their mobile phones. This will include videos that are watched. An important aspect that emerged from this questionnaire is that most teenagers felt that their mobile phones are their contact with the outside world. This is made possible by the fact that, with a mobile phone, today’s teenager is not restricted to time, place and context. The people they are connected to consist of a system of networked communities that are connected to each other constantly (Foucault et al. 2009:2). Therefore, easy access to others forms an essential part of their lifestyle. An interesting and contradictory feature in the above-mentioned results is that most learners indicated that their mobiles do not really contribute to their self-confidence, but that at the same time they all used their phones to keep contact with the outside world. Seeing that social interactions with peers form a fundamental part of adolescence, social connections and regular contact with peers are closely linked to the strengthening of a teenager’s self-confidence (Rosen 2007:48 Symington 2012:21). The fact that they

have contact with the outside world and can communicate with others at any time will therefore eventually contribute to the experience that they belong, which will have a positive impact on their self-confidence at the end of the day. The psychological experience to know that they are not alone in their current surroundings may lead to increased self-confidence (Cumiskey 2011:17).

Individual interviews and focus group interview

The findings from the individual interviews with regard to mobile usage in general, confirmed what was found in the literature study, as well as the outcome of the questionnaire that was completed by learners. Mobile phones are mainly utilised by these adolescents to keep contact with the outside world and with what is going on (Hakoama & Hakoyama 2011:2). It is not a surprise that mobiles are very often used to pass time and to provide entertainment, which is easily accessible, by the Internet through smart phones that currently provide many usable features and functionalities that can keep a teenager busy for hours on end. Youth is more inclined towards using mobile phones for other activities in addition to communication. Adolescents are more susceptible to changing fashion trends and style and are more inclined to the newest gadgets of any sort, leading to a generation who is technologically much more literate than previous generations (Goswami & Singh 2016:69). One participant indicated that her mobile phone makes her feel important. This coincides with the notion that in this day and age, mobile phones have become a fashion accessory and a status symbol (Srivastava 2005:1) and can positively contribute to a stronger self-image.

The interviews correlates with Jue et al. (2010:4) who claim that social media equals participation through which adolescents can simply view information or communicate with others and provide information about themselves. Social media is about the interactions between people and the opportunity to share with other people and to learn more. SNS provide teenagers with the opportunity to express a sense of the self and to interact with peers, which can enhance identity formation and their abilities to interact (Hwang et al. 2009:1105). One aspect of having online friends, is that there is basically no limit. Youngsters can invite friends or are invited by them without end. There is no restriction on the number of friends one can have online. This is proved by the fact that one of the participants had up to 1000 friends online. Blais (2008:2) found that young people's online socialisation follows a similar trend as face-to-face relationships. The

participants stated that their online friendships can reinforce their offline relationships, but made it clear that not all their online friends are close friends, but it was interesting to have found that the close online friends were all offline friends as well.

With regard to identity formation, it was evident that being able to communicate with others via mobile phones, provides teenagers with a space where they can experiment with different identities and apply different personas or roles when they are online. The participants noted that they do not always act the same online than offline. This is in line with the idea that 'behind the screen' leads to a feeling of freedom for many people where they can adopt and play different roles. White and White (2008:155) claim that the roles people play online depends on the audience and performance will be a result of specific goals and agendas. The participants proved that this is true, because they do not always act the same towards the same audience when they interact online. Their phones, therefore, equip them with the space and opportunity to try out different roles. The mobile phone can strengthen an adolescent's identity, because the phone is used frequently to portray their sense of style and uniqueness by personalising the device. The above findings illustrate that it is extremely important for an adolescent to feel that he belongs to a group and to be part of something outside himself. Rosen (2007:49) confirms this by claiming that the Internet fosters group interaction and that online discussion groups have always produced group cohesion. Identity theories state that socially reinforced behaviours that produce a positive outcome are likely to become well established in a person's self-identity. The fact that the participants all felt that they are part of online groups and group activities, can, for that reason, contribute to their identity formation, because their behaviour within the group and with the group produces positive outcomes most of the time. These results show a discrepancy with the learner questionnaire, which revealed that the respondents did not feel that their mobile phones contributed to feeling that they are part of a group. Research has shown that sharing interests among individuals leads to an increased sense of belonging and self-validation that can, in its turn lead to better self-knowledge and self-awareness (Rosen 2007:51).

The participants pointed out that they experience online communication as both positive and negative. It seems as if they prefer to have a choice on how they want to communicate with others which will depend on the situation and the audience. To some, it is easier online, to others it is the other way round. In line with the Hyperpersonal

theory (Whitty 2008:56), some participants felt that they do not like to communicate if non-verbal cues are not present and would prefer face-to-face interaction. This point of view emerged mainly from the more outgoing participants, whereas the more introverted ones preferred online communication. The participants indicated that online communication often leads to misunderstandings because the messages are not always interpreted correctly. One thing they all agreed on was that one advantage of online communication is that it gives them time to contemplate before they send a reply, but the biggest advantage is that the boundaries of online communications are flexible and this enables them to be able to keep in contact with the outside world at all times (Foucault et al. 2009:295). Communication entails mostly texting via WhatsApp, but posting pictures and photos, or responding and making comments to what others post, like for instance on Instagram can now be regarded as an alternative form of communication and interaction among adolescents.

Tapscott (2009:40) is extremely worried about the way in which the Net Geners share intimate details about themselves online. The findings from the interviews proved the opposite. All the participants agreed that they do not share any personal or confidential information online, especially not in the groups they are part of. They stated that what is said online, stays online forever and anybody can use that information against you at a later stage. This corresponds with O’Keeffe and Clark-Pearson (2011:802) who point out that ‘what goes online, stays online’. An aspect that can play a role here is the fact that today’s adolescents might have a completely different idea as to what is private and what is public than previous generations. Due to mobile technologies and new media, so much more is out in the open than a few years back. Today’s youngsters may think that what they disclose is private, but according to older generations, the same disclosure may be too public to them. This may be the reason for the discrepancy between the views of the youngsters regarding this topic versus the teachers and parents. If one just thinks about the many sexual messages and provocative pictures, including Selfies and private body parts that are sent via mobile phones presently, and from a very early age, it strengthens the idea that the term ‘privacy’ does not necessarily have the same meaning for different generations. A reason for this can be the exposure to social media and new media today’s youngsters had since they were small.

The findings with regard to the sense of the self, proved to be quite diverse. The general feeling, however, is that the mobile contributes to a sense of the self, especially by enhancing self-confidence, self-worth and self-esteem. This is mainly based on two aspects: firstly, the responses they receive when they have posted something or made a comment during a conversation. Secondly, the feeling that they are part of something and that they have constant contact with others. This makes them feel less lonely and can, thus, contribute to a stronger self-esteem and more self-confidence. These two aspects also lead to a feeling of self-worth supporting the opinion of Walsh et al. (2010:334). But, some participants were of the opinion that the opposite can also happen with regard to the online responses they receive. If one does not receive messages or nobody reacts to a post, it can damage self-esteem, self-worth and self-confidence. All the participants personalised their mobile phones by keeping inscriptions such as messages, images, videos, songs and ring tones. Lasén (2011:96) calls this new 'cartographies of personalisation' that reinforce processes of individualisation, self-representation and self-recognition. Walsh et al. (2010:334) also propose that psychological motivations, such as self-esteem enhancement and the need to belong, can have an impact on young people's mobile usage and behaviour. The above fact was clear during the interviews, and because people all differ, their mobile usage, practices and behaviour will also differ. This is the reason why there were various diverse experiences, perceptions and mobile practices among the participants.

5.6.2 Additional information

5.6.2.1 Self-reports completed during the intervention

The self-reports that were completed by the eight participants, who took part in the experiment, revealed interesting additional information by means of the positive and negative experiences they had:

Positive consequences

Not having their cell phones, had a positive impact on all the participants' homework and schoolwork. They all indicated that they were much more productive in doing their homework, seeing that they had no disturbances and distractions. It resulted in paying

better attention in class in order to know what homework needed to be completed. This is in line with the view that mobile phones lead to an attention deficit generation where they find it extremely difficult to focus on other things when their phones are with them. Another positive experience was that the intervention led to more face-to-face communication, not only for arrangements and planning, but also because they missed their friends. This proves the fact that adolescents find it very convenient to communicate with others via their mobile phones. Without their phones, the communication boundaries were suddenly enclosed and they found their circle of friends with which they could have contact, was much smaller without their phones (Underwood et al. 2012:295). Most participants had more time for themselves to pay attention to their families and to spend more time outside and even to read books. This indicates that time spent with mobile phones are indeed precious time that could be spent in more constructive ways.

Negative consequences

A major negative aspect was that the participants all felt isolated, disconnected and wondered if they were missing out on everything. This confirms that adolescents mainly use their mobile phones as a communication and social tool. They need to know what is going on with their peers for their own personal well-being. Some participants even got anxious at the thought that they are missing out and could not handle the feelings of isolation well. This coincides with the idea that adolescents use media to make sense of the world and to reaffirm their identities as members of specific communities and groups (De Block & Buckingham 2007:viii). To some participants, their lives were in chaos during those few days, because they rely too much on their phones to organise their lives. For that reason, it can be concluded that adolescents use their mobile phones as an organisational tool in their day to day functioning as well. Some felt that they had too much time on their hands and that they were bored without their mobile phone's entertainment it provides. This is in line with the viewpoint of Barnes et al. (2007:3) that the Net Generation do not like the idea that they are wasting time doing nothing. For them, even fiddling with their phones when they have nothing to do, counts as constructively doing something. They missed their phones physically and found that they were searching for their phones time and again, which proves that adolescents get not only emotionally, but also physically attached to their mobile phones in such a way that their phones feel part of them (Cumiskey 2011:17; Hakoama & Hakoyama 2011:2).

5.6.2.2 Generation gap in perception

The current situation in South Africa regarding crime definitely contributes to the fact that most children receive cell phones from an early age. Parents are extremely concerned about their children's safety and the mobile phone is a convenient tool to ensure easy contact between parents and children. But with the fast development in mobile technology, parents find it difficult to understand that their child's phone has become a multi-tool and is used for much more than just communication by most youngsters, as was intended at first. Furthermore, parents find it hard to comprehend that when a child holds a phone in his hand, he is, in reality, holding much more than just a device: it is the total of many things in his life that carries weight for him. On top of that, mobile technology has given youngsters a great amount of freedom, because they are no longer confined to a computer; they have their friends close by all the time and they can access a world of information with the click of a thumb.

The negative outcome in the parent questionnaire where self-image, identity and communication skills are concerned, can be because parents feel that mobile phones have taken over their children's lives completely. They spend an enormous amount of time on their phones instead of, for instance, spending time together as a family. Parents may also feel that phones have become too much of an entertainment device, because this is how the youth keep themselves busy nowadays. The negative side to this is that this type of pastime is in reality one that can easily isolate a child from his immediate surroundings, especially an adolescent who is starting to detach himself from his parents and move more towards spending time with his peers. The adolescent's environment has thus changed and parents, not being too familiar with this new environment, may believe that the way their children function and behave with regard to technology cannot contribute to a healthy development of the self. The context wherein the youngsters function today is worlds apart from the environment in which parents themselves grew up. To bridge this gap in perceptions, parents need to allow their children to inform them about new media and how they use them on a daily basis. Parents need to learn from their children about technology. Parents can still teach their children the morals and values they want to, but perhaps from a different angle or with different applications in a different context, because the platform from which a

teenager's sense of self develops at present is a much more complicated and different one than a few years back and includes multiple contexts.

In the light of the above, just like parents, teachers also need to adapt to the changing environment that surrounds the youngsters of today. To respond to the needs of the Net Generation, there is an enormous challenge that digital technology must be introduced into the classrooms (Beyers 2007:225). Teachers should adapt by upgrading their own skills to empower themselves as facilitators in the classroom. Thus, the teaching style should become much more interactive, where technology can contribute to this positively by being incorporated. Learners should be provided with the opportunity to discover for themselves, and thus learn a process of critical thinking instead of just memorising. With technology always present, this might not be too difficult to apply in the class context. At present, teachers have already begun to meet the learners halfway by starting to convert traditional teaching strategies to accommodate the Net Geners. Many schools and educators use more technology in the classroom in order to engage this generation's learning experiences (Barnes et al. 2007:4). There are schools in South Africa where the learners learn by means of their tablets instead of having scripts and textbooks for each subject, but this happens mainly in the affluent schools. The socio-economic divide that is a harsh reality in South Africa, will definitely prohibit this from happening in all schools. The specific secondary school, on which this study was based, makes use of technology by means of interactive white boards with which the teachers teach, but pupils are still not allowed to use their mobile phones for anything whatsoever in the school context. Beyers (2009:218) makes it clear that all the current changes, especially the fast development of technology, are inevitably resulting in a demand for learners who have a new set of skills, that the curriculum of the day needs to reflect these new skills and abilities.

5.6.3 Link of the findings to the specific research questions

The results of both the literature and empirical research are discussed below with regard to the specific research questions.

What is the role and function of the mobile phone in the life world of the adolescent?

The majority of teenagers today are in possession of his or her own cell phone and because they grew up in the digital age, they exhibit many characteristics of the Net Generation. Of the 190 respondents who completed the questionnaire, only three did not possess a phone. The hours spent on their phones differed from person to person with the majority spending between three to six hours per day on their phones after school hours. It was interesting that the younger adolescents do not spend as much time on their phones as the older adolescents. Mobile phones are mainly used for communication with family and friends. The respondents also indicated that they use their phones regularly to listen to music, play online games and to take pictures. Furthermore, they use their phones to surf the Internet. These findings confirm the fact that youngsters use their phones for many different purposes, depending on the variety of functions their mobile phones provide and on their individual needs.

The participants in the experiment and individual interviews indicated that they always have their mobile phones with them. They offer easy access to the outside world and help them to keep in touch with others. A very important aspect to them is that their phones help them to stay informed about schoolwork and homework. Another feature is that if they do not have their phones with them, they will search for them physically. This indicates not only an emotional and social attachment to the phone, but also a physical attachment. Furthermore, their phones are used quite often to entertain themselves in their spare time. When they are bored, it is convenient to quickly scroll through the SNS, watch videos on YouTube or listen to music. The participants also mentioned that their phones are a huge distraction when they have to study or do homework. Some would give their phones to their parents voluntarily so that they can focus better on their schoolwork. To some, their mobile phones are status symbols and make them feel important.

According to the data acquired, it was evident that mobile practices among adolescents differ from individual to individual, therefore, a mobile phone and how it is used, is a highly personal phenomenon. Some use their phones much more than others and are much more attached to their phones than others are. It was found that the most important usage of the mobile phone among adolescents is to keep in contact with

others socially and to stay informed about homework and schoolwork. They all use their phones to stay in touch with the outside world and to prevent the feeling of isolation. Their phones are regularly used to entertain themselves in their spare time due to the easy Internet access and the multi-variety of functions their phones offer.

How do mobile phones open up the world of social media, social networking and digital technologies to adolescents?

Based on the empirical study, it was evident that the above findings in the literature study correlate with the way adolescents utilise social media today. The participants regularly post photos or comments on social media or SNS. They use these platforms to stay in touch with their online and offline friends and to stay connected with and informed about things that are happening in their life worlds. The participants indicated that they use WhatsApp and Facebook the most. They all have much wider friendship circles online than offline. Some participants have up to 1000 online friends, but they do not share close friendships and interactions with them all. They prefer to call these huge numbers of online friends, acquaintances. The average amount of friends the participants have frequent contact with via social media and SNS varies between 50 and 150. SNS are mainly used to communicate and socialise and organise, whereas social media is used to express themselves online, mainly through posting pictures, quotes or by commenting on what a friend has posted. All the participants agreed that this is an easy and convenient way to let others know who you are, because it is physically and practically impossible to connect with all your friends at once in a face-to-face situation. It was, accordingly, noticeable that having online friends, means that there is basically no limit on the number of friends they want to connect with. Messages are sent with tremendous speed and will reach all your friends in an instant. This correlates with the Net Generation's functioning. It is all about speed and immediate feedback.

What is the impact of the mobile phone on the adolescent's identity formation, social development and communication skills?

Identity formation

All the participants belonged to a group consisting of friends, homework groups, sports teams, cultural groups and committees. The purpose of the groups is mostly to organise events and communicate arrangements quickly and easily to the group as a whole. The

participants all said that if they do not have contact with their groups, they feel left out and they do not know what is going on in their groups or the planning of social events and sport practices. To some, these experiences can easily lead to anxiety. Being part of a group thus reinforces the feeling that they belong and that they have shared interests in the group. This strengthens and correlates with the idea of a collective identity. Some participants act differently according to the group they are communicating with online and some participants play a different role than the one they would play in a face-to-face situation.

The impact of the mobile phone on the identity formation of the adolescent is, therefore, twofold. It definitely reinforces a social and collective identity for the adolescents belonging to a group. An important aspect is that the groups they belong to online, make them feel more part of that group offline. The online group identity strengthens the offline group identity. The impact on personal identity differs from person to person depending on the personality characteristics. To some participants, it was easier to form an identity online while others felt it was easier for them in a real life situation. The mobile phone equips an adolescent with endless opportunities and with the space to try out different roles and different methods of communication, which mainly depends on the audience or the group to which they belong. To many adolescents, it is easier and safer to function in virtual space, because they are at a stage in their development where they are usually very self-conscious. They make use of a mobile phone as an extension of the self to absorb and soften this type of self-awareness, because they are not put on the spot via mobile communication as in a real life situation. They have more time to decide how they want to respond and how they want others to perceive them.

Social development and communication skills

The participants made it clear that via their mobile phones it is extremely convenient to be able to communicate with others whenever they want to. Their friends are always close even though they are not all physically in one place. This means that they never feel completely alone when they have their phones with them. The impact of the mobile phone on the adolescent's communication skills is a complex one, seeing that contradictory findings emerged from the study. Some participants felt that they prefer to communicate online when sensitive and difficult topics needed to be discussed, while others prefer offline conversations for such situations. To be able to have the option to

communicate mainly online can inhibit the teenager's ability to handle difficult situations as well as conflict. They can easily just block or delete an online friend if that friend has annoyed them. They have time to contemplate a response or sometimes choose not to respond at all. This is not so easy in real life, if you have to face a person when dealing with conflict, difficult or sensitive topics. By doing this, they can easily hide their true feelings online due to non-verbal cues that are absent during online communication but will be out in the open in a face-to-face context. Sometimes they are not interested in resolving a conflict of interest; it is much easier just to block that person. This is a much easier practice than in real life, where you have to inform a person face-to-face that you are ending the friendship. Consequently, it can be said that online communication inhibits adolescents' emotional and social intelligence, because they often choose to avoid confrontation online and so they will never learn how to cope with such situations in real life.

Another important aspect of online communication is that adolescents do not only communicate through texting, but they often just post a picture that will describe what they are doing currently or that tells the others more about themselves. This influences their abilities to verbally and accurately describe things and will negatively affect their verbal abilities when they are in a real life situation where they can only use words to accurately express themselves.

In what way does the mobile phone enable the development of the sense of the self (self-confidence, self-esteem, self-knowledge and self-worth)?

A very important finding was that all the participants felt that their phones contribute to a feeling of belonging and support them to effortlessly keep in touch with what is happening in the outside world. This enhances and strengthens their self-confidence and self-worth. The fact that they have constant connections and contact with many friends online also contributes to the reinforcement of self-confidence and self-worth by making them feel less lonely and more part of something that is important to them. The feedback and responses they receive constantly on their mobile phones increase their self-awareness and self-knowledge that can contribute positively to healthy identity formation.

With regard to self-presentation, the participants made it clear that they are very careful not to post personal and private information online. This is contrary to Tapscott (2009:40) who stated that teenagers post private information far too easily without thinking about the consequences. All the participants claimed that they are aware of the dangers of posting personal information online, but the question still remains what exactly teenagers regard as private and personal. The parents and teachers who took part in the survey agree with Tapscott's view that adolescents are not aware of the boundaries between private and public information.

5.7 CONCLUSION

In this chapter, the results, findings, analysis and interpretation of the empirical study were put forward and discussed. It became evident that, due to the many different research instruments and research methods used, the results were rather complex and complicated just like the phenomenon that was studied in this research. Many aspects of mobile phone usage and the impact thereof on adolescents' view of the self were identified and analysed. These aspects are all intertwined and interlinked and cannot be separated from the individual's personality and identity. The findings of the empirical study were integrated with the literature study and linked to the research questions. In Chapter 6 a synopsis of the study will be presented.

CHAPTER 6

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

"Facebook is a place where you could be yourself, a real person, and feel free to talk with your close friends or your wider circle of friends."

- Don Tapscott

6.1 INTRODUCTION

This chapter presents a final overview and synopsis of the study. The aim, findings and implications of the study were put forward. Guidelines were provided to teachers and parents in order to decrease the gap that currently exist between adults and teenagers with regard to mobile practices. In addition to this, the chapter provided recommendations for future studies based on the findings and results that emerged from this research, as well as the limitations and contributions of the study.

6.2 AIM OF THE INVESTIGATION

The aim of the study was to gain knowledge and to investigate current mobile usage among adolescents and the impact thereof on the development of the self. A psycho-educational perspective was applied to analyse the findings and to reach a conclusion. The intention was to make a contribution and to reach a better understanding of how mobile phones are utilised in the life worlds of adolescents and how they influence the development of the adolescent's personality, identity, social skills and the sense of the self. A literature research was conducted with the objective to determine adolescent mobile practices and the impact thereof on the development of the adolescent. In addition to this, the literature study included the process of the adolescent's development of the personality, identity, the self and social interactions. By means of the empirical research, an attempt was made to provide answers to issues concerning the phenomenon of mobile phone usage with a specific focus on the research question and sub-research questions.

Chapter 1 served as an introduction to the study and background information was provided with regard to mobile technology and the holistic development of the adolescent. Furthermore, the chapter included the formulation of the main research problem and sub-questions, the aims and motivation of the investigation and a brief outline of the research methods and design. Key concepts and terms as well as ethical considerations were also presented.

Chapter 2 contained a literature study on all the aspects of the usage of mobile phones, especially by teenagers. The study involved specific areas of interest like new media,

digital technologies, social media, SNS, the Internet and mobile technology. Emphasis fell on the effect of everything mobile technology encompasses, on the development of the identity, social and communication skills and the sense of the self of the adolescent.

Chapter 3 explored the development of the adolescent's holistic self with emphasis on personality and identity development, the sense of the self and social development.

A complete description of the methodology of the empirical study was put forward in Chapter 4 and included the following: a mixed method design, the aim and objectives of the investigation, the research design and method, the sampling techniques, data collection techniques and the method of data analysis.

Chapter 5 contained the findings, analysis and discussions of the empirical research (quantitative and qualitative studies). The data was integrated with the literature study that was presented in Chapters 2 and 3. The following aspects were discussed: the parent, teacher and learner questionnaires, the individual interviews, the experiment and the focus group discussion. A final discussion was presented that included a link between the empirical findings and the literature study, additional information and how the research questions were answered.

The final chapter presents the study with regard to the aims, process and implications of the findings of the study. Guidelines for parents and teachers, recommendations for further studies, the limitations and contributions of the study are all presented in this chapter.

6.3 IMPLICATIONS OF THE FINDINGS OF THE STUDY

Implications of this study are based on the fact that this research is rather new in a South African context and will hopefully contribute to a better understanding of mobile practices and the influence of mobile usage on the adolescents living in South Africa. The implications of the study are divided between expected findings and unexpected findings as explained below:

6.3.1 Expected findings

The complexity of the phenomenon of mobile usage

From the findings and discussions in Chapter 5, it is evident that this field of study is a severely complex and complicated phenomenon. The differences in personalities, character traits, temperaments, identities and individuation of adolescents contribute to various ways in which they experience their surroundings, environment and interaction with others. Because adolescence is a phase where a person is still developing on various levels, he is rather vulnerable to outside influences like for instance the explosion of technology and its impact on his reality. What is more, is that adolescents grow up in the digital age, so one can say that technology has been part of their surroundings and environment from birth and they cannot imagine their worlds without it. Table 2.1 summarised the positive and negative effects of media use by adolescents emphasising that the negative effects outweigh the positive effects. In addition to this, Figure 2.1 pointed out how the Internet can be effective in the learning process by providing active engagement, group participation, frequent interaction and feedback, connections and real-world contexts. Seeing that a smart phone is an important gateway tool to endless online activities and functionalities, it opens up a world of Internet access, social media and social networking sites to its user. Table 2.6 described the benefits and risks of young people using social media and it was emphasised that social media had changed the way youngsters communicate.

As mentioned above, mobile usage and everything else it entails, is a complex and complicated phenomenon. Consequently, it was impossible to generalise all themes or to identify patterns that correlated to all participants and respondents in the empirical study. This research revealed that mobile practices are highly personal and are closely related to the personality, temperament and nature of the adolescent user. Differences in personality result in different mobile practices and will, as a result, have different individual implications on the development of the sense of the adolescent self. One can say that mobile usage can influence the adolescent's personality, but the opposite is also true: personality influences the adolescent's mobile usage.

The mobile phone and the adolescent

Even though certain themes were intricate and complex in this study, the basic role of the mobile phone in the life-world and functioning of the teenager was similar. It was concluded that adolescents use their mobile phones as a social tool, a convenience tool and a planning tool. Firstly, the mobile phone contributes to their social network systems, because it offers constant contact with friends, family and the outside world. The adolescent in this day and age does not have any boundaries where online socialising and communication are concerned resulting in a feeling that they are never alone; someone is always just a click away (see sections 2.4.2 and 2.4.3). In addition to this, Table 2.10 pointed out the impact of the mobile phone on the forming of relationships and the adolescent's social development. Secondly, the mobile phone is a convenience tool, because it provides fast and easy access to many different features that form part of mobile phones' functionalities, like the Internet, YouTube, SNS and social media. Furthermore, the mobile phone offers entertainment to the adolescent by means of music, online games and advanced camera functions with which they can keep themselves busy when they are bored. In section 2.3 it was emphasised that the mobile phone nowadays provides easy access to the Internet, which makes all the above-mentioned activities and functions available. It was also pointed out that online activities of adolescents are done alone, in an anonymous context and mostly without parental supervision. Easy access to a variety of materials is now obtainable with the power of search engines and can lead to exposure to content the adolescent is not psychologically or emotionally ready to absorb and process. Lastly, the mobile phone is a planning tool, seeing that it supports adolescents in their day-to-day organisation and planning. The device is used as an alarm clock, a diary and most importantly to stay informed about schoolwork, projects and homework that are due. Table 2.6 stated that through social media, adolescents can connect with others on homework any time, any place. Social media provides a space for gathering outside of class to collaborate and exchange ideas.

The literature study and the empirical study both pointed out that all teenagers get attached to their phones and they all personalise their phones. They all have their phones with them all the time, resulting in a physical and an emotional attachment. It was evident from the research that this one little device encompasses much more than just a digital tool, it involves and opens up a world full of challenges, entertainment and

communication to the youngsters of today. It can, therefore, be concluded that there is a close link between the mobile phone and the adolescent's emotional and psychological well-being, because the mobile is completely intertwined with the teenager's day-to-day functioning. The mobile phone leads to the manifestation of the forming of a personal identity and a social identity (see section 2.4.1). Furthermore, the mobile phone contributes strongly to the sense of the self by influencing the self-concept, self-esteem, self-confidence and self-worth of the teenager as described in section 2.4.5. The empirical studies confirmed these findings in the literature and determined that the picture the adolescent have of himself includes his mobile phone and that the sense he has of himself is not complete without his mobile phone, because it plays a crucial role in his social functioning, communication and individuation. In section 3.4 it was stated that the self is seen as a person's capacity to make contact with his environment and this statement is confirmed by the findings that, by means of his mobile phone, the adolescent can express himself and present himself in multiple dimensions and on various levels. With all the responses and feedback different adolescent mobile practices evoke, the forming and developing of the sense he has of himself will lead to the concept that the mobile device undoubtedly forms an extension of the adolescent self.

6.3.2 Unexpected findings

Online versus offline behaviour

A significant finding was that teenagers' realities do not only consist of a one-dimensional offline life like those of previous generations. Their daily functioning is a constant fluctuation between online and offline behaviour that results in them functioning in two contexts and two spaces most of the time. With regard to their communication, they do not communicate on one level only, but their online communication is often closely linked to their offline communication and vice versa. Teenagers have a much wider choice as to how they want to communicate with others, as well as with whom they want to communicate. Their relations to others are also multi-dimensional, because a relationship with someone does not only exist of face-to-face interactions and real life contact, but also the time they spend with each other online. It was found in the research that many teenagers behave differently online as opposed to offline behaviour. To some, it is much easier to confront people and to communicate online

rather than in a face-to-face situation, but to others the opposite suited them better. Fact is, that they constantly move between online and offline interactions and this fluctuation can be considered to be an enormous challenge for the adolescent, seeing that he is still developing his identity and his sense of the self. The multi-faceted context in which the adolescent functions today can induce a modern 'identity crisis' he is faced with every day. When he has resolved this conflict, he will be able to move on to be an emotionally and psychologically well balanced adult.

The adolescent and his environment

In the light of the fact that the mobile phone opens up a world of endless communication opportunities, challenges, knowledge and entertainment, it leads to an extended multiple and interactive environment in the life-world of the adolescent. Due to the fact that the mobile phone is not bound to time and space, a person can easily move between presence and absence, as well as between different contexts in the blink of an eye. These extended virtual surroundings can effortlessly assimilate a teenager so that he becomes unaware of his immediate real life environment. He will seem completely absorbed and will appear as if he is isolating himself from everything and everyone around him. This virtual milieu is infinite and one can painlessly get obsessed with the idea of finding out more or wanting more. Contributing to this point of view is the fact that no one can keep up with the speed with which technology develops today. There is basically something new to find out every second of the day by means of digital technology. This is in line with the Gratification Theory that was discussed in section 2.2.3 where it stated that being exposed to digital technologies, provides uninterrupted gratification and the secretion of dopamine in the brain. It can be seen as one of the reasons why adolescents are too attached to their mobile devices: the mobiles provide gratification to the teenager on various levels in the course of one day. The extended environment adolescents are exposed to, is a world filled with entertainment, challenges, knowledge, stimulation and endless communication and this world is exploited by adolescents every day, contributing to a multi-faceted life-world where he develops a sense of the self.

6.4 GUIDELINES FOR PARENTS AND TEACHERS

The syntheses between the literature study and the empirical study revealed that certain serious gaps exist between parents and teachers on the one hand, and teenagers on the other hand with regard to mobile phone usage and digital technology. The fact that technology is ever-present in our lives, results therein that we all use digital technologies, mobile phones and digital media almost every single day. Accordingly, technology has become part of not only a teenager's life world, but also those of adults. There is, however, a difference in the usage of technology between the two groups. Bearing this in mind, it is important that parents and teachers need to change their mind-sets in connection with how teenagers use their mobile phones and the effect thereof on their sense of the self. The following guidelines can contribute to making the changes more tolerable:

- Parents and teachers need to accept the fact that mobile technology is part of the world in which children grow up and that it has become a social tool, communication tool and a tool for planning and organising their daily lives. It has become a tool to help teenagers cope with all the many challenges they have to face in the twenty-first century, for instance preparing them and supporting them to easily adapt to the fast pace they are faced with every day. Additionally, it teaches their brains to quickly scan and switch to deal with the overflow of information surrounding them.
- Parents need to be familiar with the content of their children's mobile phones and what they are used for. Parents should be proactive rather than reactive where their children's mobile practices are concerned and should teach their children how to be safe in cyberspace. Parents need to work together with their children to try and understand what they are doing online.
- Parents should try to get a sense of how the adolescent presents himself online, by looking at their list of friends, posts and comments and special attention should be given to personal information disclosure and what is considered private and public in virtual space.

- Parents and teachers should get more mobile literate. If they gain knowledge, it will lead to a better understanding and awareness of why children are so attached to their phones nowadays as well as provide insight into their online behaviour.
- Communication with regard to online activities, between parents/teachers and children is essential to try to decrease the gap that currently exists between them.
- Teachers need to adjust by incorporating technology more into the classroom because technology has aided the Net Generations' learning processes and the way they develop. Today's adolescents have access to much of the world's knowledge literally through their fingertips and can contribute in many ways to subject content in schools.

6.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The aim of this study was to achieve the proposed objectives, but it opened up a number of areas or topics for further research. This field of study is extremely dynamic, because in this instant new developments in digital technology and new media are emerging. The following recommendations are provided for further studies to ensure a more extensive understanding of adolescent mobile practices:

- More research should be carried out in a South African context. Due to the multi-cultural composition and socio-economic divide in South Africa, further studies promise to be even more interesting, complex and multi-faceted if they are based on these differences in South Africa.
- The above-mentioned socio-economic divide results in a digital divide, not only worldwide, but also in South Africa. The impact of this digital divide must be investigated further, especially with the focus on possible different approaches in education to ensure that all children receive the same opportunities to develop and to reach their full potential.
- A very insightful study will be the effective use of cyberspace, digital technology, communication technology, new media and especially the use of mobile phones/tablets to all in the South African educational system.
- Research on the difference in mobile practices and the emotional impact thereof between any of the following groups will definitely contribute to this field of study:

rural and urban adolescents; male and female adolescents; different races/cultures and different ages.

- Another study that can be conducted is how the mobile phone has changed the family dynamics and communication.
- The nature of online adolescent romantic relationships and online dating may also prove to be an interesting study.
- Further investigation into the role of the mobile phone in the life world of a disabled person, for instance, those with physical disabilities like being deaf, mute or blind, as well as for those on the Autism Spectrum.
- Research on the role of *Selfies* in the teenager's identity formation, personality development and sense of the self.
- In what way do individuation, identity, personality and the sense of the self influence mobile usage and mobile practices among adolescents?

6.6 LIMITATIONS OF THE STUDY

It is always necessary to evaluate a study to gain a subjective view of the assumptions, conclusions and implications of the research. This study presented the following limitations:

- The research was a case study, because only one secondary school was utilised for the research. Consequently, the study was restricted to one geographical area.
- The sample used for the study came from the school mentioned above, thus, it may not be completely representative of learners from other areas, especially more urban regions in South Africa.
- If a larger sample had been put to use that might have included more racial groups, the research might have been more representative of the learner population of South Africa.
- Even though all the participants and respondents were enthusiastic to take part in the research, the logistics with regard to the learners' busy schedules proved to be a problem. It was a challenge to find the time in their busy programmes to meet for the individual interviews and the focus group interview.

- After the volunteers for the experiment were informed that they need to function without their mobile phones as an intervention, a few decided to withdraw and other volunteers had to be found instead. This took extra time that was not planned for to complete the experiment.

6.7 CONTRIBUTIONS OF THE STUDY

The study contributes to a pool of knowledge with regard to adolescent mobile usage in a South African context with regard to the following:

- The study forms a sound basis that can be used as a platform for future studies.
- The literature was synthesised to contribute to the study as a whole, resulting in insightful findings and conclusions.
- This is the first study of its kind in South Africa where the idea of the mobile phone as an extension of the self, was investigated.
- New concepts were introduced that can be linked directly to mobile phones in the life world of the adolescent, namely the 'self', 'self-worth', 'self-expression', 'self-awareness', 'extended environment' and 'two dimensional interpersonal relationships and communication'.
- The fact that parents and teachers' perceptions were also investigated, broadened the study as a whole and provided depth to the findings and conclusions of the study. This can be helpful as to how parents and teachers can change their mind-sets with regard to the 'mobile phone reality' that irrevocably forms part of who the teenager is today.

6.8 CONCLUSION AND REFLECTION

The research analysed adolescent mobile practices and the impact on the development of the sense of the self. The study proved to be extremely interesting, but at the same time also complicated and a huge challenge, because of the fact that the phenomenon is so dynamic due to the fast development on the technology front. The continuous exposure to digital media includes a wide range of aspects and features that can be linked to the adolescent's development.

Adolescents are part of the Net Generation and their day-to-day functioning is closely connected to digital technology via their mobile phones. Their mobile phones open up a world of digital and communication technology, social media, SNS and the Internet. All functionalities a mobile device provides, form an intricate part of the adolescent's life world, seeing that he grew up amidst this technological explosion. It can, thus, be concluded that the adolescent development of the sense of the self, his identity formation, communication and socialising is directly influenced and impacted by their mobile devices and can, therefore, be regarded as an extension of the self.

Valuable information was provided, through this research on the topic within a South African context. The research answered the primary research question and offered insight into the sub-research questions, thus contributing to this field of study. Hopefully, this contribution will be valuable and beneficial to better understand exactly what adolescent mobile phone usage entails and the effect it has on the development of the self.

Adolescents grow up in a completely different environment due to the fast moving changes that are part of the digital age. They have to face complex challenges every day based on their world that is literally and figuratively moving as fast as technology develops. They have to live their lives on more than one level, because they exist in a virtual and a physical world simultaneously. As a final conclusion, the following words by Miller and Arnold (2001:74) describe the core findings of this research and emphasise the fact that this field of study is and will remain a complex one:

'With this confluence of changing conditions, it becomes increasingly difficult to determine precisely what the contents of the psychological self may be.'

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ADDENDUM A: PARENT QUESTIONNAIRE

QUESTIONNAIRE: CELL PHONE USAGE AMONG ADOLESCENTS

Dear respondent

This questionnaire forms part of my doctoral research entitled: *The mobile phone as an extension of the self: a psycho-educational perspective* for the degree of DEd at the University of South Africa. You have been selected by a convenience sampling strategy from the population of teachers in Mpumalanga. Hence, I invite you to take part in this survey.

The aim of this study is to investigate cell phone usage among teenagers and the impact thereof on the development of the self. The findings of the study will benefit parents, teachers and learners all over the country.

You are kindly requested to complete this survey questionnaire, comprising three sections, as honestly and frankly as possible and according to your personal views and experience. No foreseeable risks are associated with the completion of the questionnaire which is for research purposes only. The questionnaire will take approximately 5 minutes to complete.

You are not required to indicate your name or organisation and your anonymity will be ensured; however, indication of your age, gender, occupation position etc. will contribute to a more comprehensive analysis. All information obtained from this questionnaire will be used for research purposes only and will remain confidential. Your participation in this survey is voluntary and you have the right to omit any question if so desired, or to withdraw from answering this survey without penalty at any stage. After the completion of the study, an electronic summary of the findings of the research will be made available to you on request.

Permission to undertake this survey has been granted by the Principal and Governing Body of Lydenburg Hoërskool and the Ethics Committee of the College of Education, UNISA. If you have any research-related enquiries, they can be addressed directly to me or my supervisor. My contact details are: 0832320773, e-mail: coriena@lantic.net and my promoter can be reached at Unisa, Department of Psychology of Education, College of Education, UNISA, at 0833020590 or e-mail: roetshe@unisa.ac.za

By completing the questionnaire, you imply that you have agreed to participate in this research. Thank you for the time that you are willing to give up for this.

Coriena Davel

Read through the following questions and choose your answer by ticking in the appropriate circle:

SECTION A – GENERAL INFORMATION

1. Does your child/children have a cell phone?
 Yes
 No
2. At what age did he/she receive a cell phone:
 Under the age of 10
 11
 12
 13
 14
 15
 16
 17
 18
3. Does your child always have his/her cell phone with him/her after school hours?
 Yes
 No
4. How do you supervise your child's cell phone activities?
 Limit the times of day when child can use cell phone
 Use the cell phone to monitor child's location
 Limit the number of minutes your child may talk on the cell phone
 Limit the amount messages your child may send or receive
 Take away my child's phone as punishment
 Look at the contents of the cell phone
5. What does your child use his/her cell phone for:
 Keep in contact with you during school activities/events
 Keep in contact with friends
 Do research on the Internet for school assignments
 Join groups on social network sites
 Take pictures
 Make video recordings
6. How many hours a day (after school hours) is your child using his/her phone?
 1 – 2
 3 – 4
 5 – 6
 7 – 8
7. Is your child allowed to take his/her cell phone with him to bed?
 Yes
 No
8. Do you feel that a child should be allowed to take his cell phone to school?
 Yes
 No
 Maybe
9. Do you think students should be able to use cell phones during class activities for educational purposes?
 Yes
 No
 Maybe
10. What does your child's cell phone entail?
 Open contract
 Fixed amount contract
 Prepaid (fixed amount)
 Prepaid (as much as he needs)

SECTION B – THE EFFECT OF CELL PHONE USAGE ON ADOLESCENTS

Do you agree or disagree with the following statements about high school students?

11. Cell phone usage among teenagers has a negative impact on their face to face communication skills, especially with adults.
- | | | | | |
|----------------|-------|---------------------------|----------|-------------------|
| Strongly agree | Agree | Neither agree or disagree | Disagree | Strongly disagree |
|----------------|-------|---------------------------|----------|-------------------|
12. Today's teenagers cannot spell and write effectively due to texting.
- | | | | | |
|----------------|-------|---------------------------|----------|-------------------|
| Strongly agree | Agree | Neither agree or disagree | Disagree | Strongly disagree |
|----------------|-------|---------------------------|----------|-------------------|
13. Cell phone usage has a positive effect on a teenager's self-image, self-concept and self-confidence.
- | | | | | |
|----------------|-------|---------------------------|----------|-------------------|
| Strongly agree | Agree | Neither agree or disagree | Disagree | Strongly disagree |
|----------------|-------|---------------------------|----------|-------------------|
14. Cell phones play an important role in a teenager's identity formation and individuation.
- | | | | | |
|----------------|-------|---------------------------|----------|-------------------|
| Strongly agree | Agree | Neither agree or disagree | Disagree | Strongly disagree |
|----------------|-------|---------------------------|----------|-------------------|
15. Today's teenagers don't know the meaning of privacy due to cell phone usage.
- | | | | | |
|----------------|-------|---------------------------|----------|-------------------|
| Strongly agree | Agree | Neither agree or disagree | Disagree | Strongly disagree |
|----------------|-------|---------------------------|----------|-------------------|

ADDENDUM B: TEACHER QUESTIONNAIRE

QUESTIONNAIRE: CELL PHONE USAGE AMONG ADOLESCENTS

Dear respondent

This questionnaire forms part of my doctoral research entitled: *The mobile phone as an extension of the self: a study among adolescents in a secondary school* for the degree of DEd at the University of South Africa. You have been selected by a convenience sampling strategy from the population of teachers in Mpumalanga. Hence, I invite you to take part in this survey.

The aim of this study is to investigate cell phone usage among teenagers and the impact thereof on the development of the self. The findings of the study will benefit parents, teachers and learners all over the country.

You are kindly requested to complete this survey questionnaire, comprising three sections, as honestly and frankly as possible and according to your personal views and experience. No foreseeable risks are associated with the completion of the questionnaire which is for research purposes only. The questionnaire will take approximately 5 minutes to complete.

You are not required to indicate your name or organisation and your anonymity will be ensured; however, indication of your age, gender, occupation position etcetera will contribute to a more comprehensive analysis. All information obtained from this questionnaire will be used for research purposes only and will remain confidential. Your participation in this survey is voluntary and you have the right to omit any question if so desired, or to withdraw from answering this survey without penalty at any stage. After the completion of the study, an electronic summary of the findings of the research will be made available to you on request.

Permission to undertake this survey has been granted by the Principal and Governing Body of Lydenburg Hoërskool and the Ethics Committee of the College of Education, UNISA. If you have any research-related enquiries, they can be addressed directly to me or my promoter. My contact details are: 0832320773, e-mail: coriena@lantic.net and my supervisor can be reached at Unisa, Department of Psychology of Education, College of Education, UNISA, at 0833020590 or e-mail: roetshe@unisa.ac.za

By completing the questionnaire, you imply that you have agreed to participate in this research. Thank you for the time that you are willing to give up for this.

Coriena Davel

Consent form:

I _____

herewith give my consent to participate in the research as described above. The above will be conducted at a time that will be convenient for me.

Teacher

C. Davel

Date

Read through the following questions and choose your answer by ticking in the appropriate circle:

SECTION A – PERSONAL INFORMATION

1. What age are you?
 20 – 30
 30 – 40
 40 – 50
 50 – 60
 60 – 70
2. Choose your gender:
 Male
 Female
3. How many years have you been teaching:
 1 – 10
 10 – 20
 20 – 30
 30 – 40
4. Choose the grades you are currently teaching:
 8
 9
 10
 11
 12
5. Socio-economic status of the majority of pupils you teach:
 High income
 Average to high income
 Average income
 Average to low income
 Low income
 Below the poverty line

SECTION B – CELL PHONES USE IN THE CLASSROOM

6. Do you think learners should be allowed to use their cell phones for educational purposes during school hours?
 Yes
 No
7. Do you think your students will be distracted by a cell phone being used during instructional time for instructional activities?
 Yes
 No
 Maybe
8. Most cell phones now have access to the Internet. Do you think this can be used meaningfully in your subject as part of class activities?
 Yes
 No
 Maybe
9. Do you think students should be able to use cell phones during school events such as sporting events or field trips?
 Yes
 No
 Maybe
10. Do you think learners ever use their cell phones to complete school assignments?
 Yes
 No
 Maybe

SECTION C – THE EFFECT OF CELL PHONE USAGE ON ADOLESCENTS

Do you agree or disagree with the following statements about high school students?

11. Compared to previous generations, today's learners have fundamentally different cognitive skills, because of digital technologies they have grown up with.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
12. Today's digital technologies are creating an easily distracted generation with short attention spans.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
13. Today's learners are more media savvy than previous generations.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
14. Today's learners are more literate than previous generations.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
15. Today's learners are very skilled at multitasking.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
16. Today's learners are used to immediate feedback when they need new information?
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
17. Today's learners are too "plugged" in to digital technologies and need more time away from them.
- Strongly agree Agree Neither agree or disagree Disagree Strongly disagree

How important do you think are the following for the teenagers of today?

18. Writing effectively.
- Extremely essential Essential Important, not essential Somewhat important Not important
19. Finding information quickly:
- Extremely essential Essential Important, not essential Somewhat important Not important
20. Communicating ideas in creative, engaging and interesting ways:
- Extremely essential Essential Important, not essential Somewhat important Not important
21. Presenting themselves in social network sites:
- Extremely essential Essential Important, not essential Somewhat important Not important

What do you think is the impact of cell phone usage on adolescents today with regard to the following?

22.	Writing skills and spelling.	Negative	Slightly negative	No impact	Slightly positive	Positive
23.	Concentration and attention span:	Negative	Slightly negative	No impact	Slightly positive	Positive
24.	Multi-tasking.	Negative	Slightly negative	No impact	Slightly positive	Positive
25.	Face to face communication skills.	Negative	Slightly negative	No impact	Slightly positive	Positive
26.	Social skills and social development.	Negative	Slightly negative	No impact	Slightly positive	Positive
27.	Peer pressure.	Negative	Slightly negative	No impact	Slightly positive	Positive
28.	Their perceptions of privacy.	Negative	Slightly negative	No impact	Slightly positive	Positive
29.	Self-concept and self-confidence.	Negative	Slightly negative	No impact	Slightly positive	Positive
30.	Identity formation.	Negative	Slightly negative	No impact	Slightly positive	Positive

ADDENDUM C: LEARNER QUESTIONNAIRE

LEARNER QUESTIONNAIRE: CELL PHONE USAGE

This questionnaire is part of research that is done by me for my doctoral study. Please complete the form below. It is important to be as honest as possible when you answer the questions.

INSTRUCTIONS

Complete the questionnaire by answering the following questions as accurately and honestly as possible. There is no right or wrong answer, but your own opinion is important. The questionnaire consists of different sections and instructions will be provided at the beginning of each section.

SECTION A - GENERAL

Choose the correct answer by making a tick in the appropriate circle.

1. How old are you?
 - 12
 - 13
 - 14
 - 15
 - 16
 - 17
 - 18
 - 19
2. In which grade are you?
 - 8
 - 9
 - 10
 - 11
 - 12
3. Do you have as cell phone?
 - Yes
 - No
4. How many hours per day do you use your cell phone after school hours?
 - 1 – 2
 - 3 – 4
 - 5 – 6
 - 7 – 8
 - 9 – 10
 - More than 10
5. What do you use your cell phone for most? (You can choose more than one)
 - Making calls
 - Chatting with friends
 - Chatting with relatives
 - Sending text messages (SMS)
 - Surfing on the Internet
 - Taking pictures
 - Posting pictures
 - Making video recordings
 - Posting video recordings
 - Listening to music
 - Playing games

SECTION B – THE IMPACT OF CELL PHONE USAGE

6. How will you describe yourself?
 - Shy
 - Unsure
 - Confident
 - Outgoing
7. Do you find it easier to communicate with others via your cell phone than in person?
 - Yes
 - No
 - Sometimes
8. Do you share your feelings on your cell phone easier than in person?
 - Yes
 - No
 - Sometimes
9. Do you reveal confidential matters to your friends on your cell phone?
 - Yes
 - No
 - Sometimes
10. Do you have more friends online than in person?
 - Yes
 - No

For questions 11 – 15 a statement is provided with different responses for each statement. Choose your answer by encircling the number that corresponds with your response.

	Always	Often	Seldom	Never
11. It boosts my self-confidence when I communicate with my cell phone	3	2	1	0
12. I get a better picture of how others perceive me through my cell phone	3	2	1	0
13. I can identify with the groups I communicate with on my cell phone	3	2	1	0
14. My cell phone helps me to stay informed about schoolwork and homework	3	2	1	0
15. My cell phone helps me to stay informed about social events in my peer group	3	2	1	0

	Strongly agree	Agree	Disagree	Strongly disagree
16. My cell phone boosts my self-confidence	3	2	1	0
17. My cell phone is my contact with the outside world	3	2	1	0
18. I feel secure when I have my cell phone with me	3	2	1	0
19. I feel more part of my peer group through my cell phone	3	2	1	0
20. I cannot function optimally without my cell phone	3	2	1	0

ADDENDUM D: PRE-TEST AND POST-TEST FOR SINGLE-GROUP EXPERIMENT

QUESTIONNAIRE: PRE-TEST/POST-TEST

The following questionnaire will be completed before the experiment start and will be completed again after the experiment. The experiment entails that you have to give up and function without your cell phone for 4 school days. The purpose of this experiment is to determine what the effect of cell phone usage is on the general development of the self/personality of a teenager.

Name _____ Grade _____ Date _____

Answer the following questions as openly and honestly as possible:

	Always	Often	Seldom	Never
IDENTITY				
1. I feel that I am part of a group				
2. I have regular contact with others				
3. I can easily share my feelings with others in my group				
4. Frequent contact with my friends/group strengthens my identity				
5. I can easily identify with my peer group				
SELF-CONFIDENCE				
6. I have confidence in myself				
7. I can achieve anything that I can set my mind on				
8. I need others to tell me that I have good qualities				
9. Being myself is important				
10. I easily state my opinion				
SELF-CONCEPT				
11. I compare myself to others				
12. I feel more secure in my group than being by myself				
13. I need to know what others think of me				
14. I can do most things better than my friends/peer group				
15. I am popular in my group				
COMMUNICATION AND SOCIAL SKILLS				
16. I communicate easily with others				
17. I reveal private matters to others				
18. I make friends easily				
19. I can easily communicate with people I don't know				
20. I feel alone				

ADDENDUM E: INDIVIDUAL AND FOCUS GROUP INTERVIEW SCHEDULES

Semi-structured interview (Individual and focus group)

A. Topics

The topics of the interview are planned in advance, but the sequence and wording will be decided on during the interview and will depend on the interaction between the different subjects. The researcher will act as facilitator. The following topics will be used as prompts for discussions among the participant. Seeing that this is a semi-structured interview, the questions provided below will be used as a guideline only within the interview:

1. **Mobile phone usage in general: social networking, social media and tools, time spent on social network sites, communication with friends.**
Which social network sites do you participate in?
How much time do you spend on social network sites and whom do you communicate with mostly?
How do you use social media and tools by means of your mobile phones?
2. **Relationships with online friends: quality, quantity, nature and trust.**
Approximately how many online friends do you have?
How close are these friendships?
Describe the nature of these online friendships?
Discuss the degree of trust that you have in your online friendships.
3. **Self-disclosure via chats on social network sites.**
What will you reveal about yourself on the social network sites?
How do you regard privacy when chatting on the social network sites?
4. **Communication and socialising.**
What do you chat about when you chat with online friends?
Explain how you communicate with each other.
What is the impact of the mobile phone on your social life and social skills?
5. **Influence on identity formation and individuation.**
What is the influence of the mobile phone on the feeling that you belong to a group?
What is the effect of the mobile phone on peer pressure?
How does the mobile phone define exactly who you are and the social roles that you play?

6. **Influence on: self-confidence, self-concept, self-knowledge, self-presentation and self-worth.**
 Explain how the mobile phone influences the way you see and evaluate yourself.
 What is the effect of the cell phone on your self-confidence?
 Describe what you have learned about yourself since you have been using your cell phone.
 How do you present yourself online through your cell phone?
 What is the impact of your cell phone usage on your worth as a person?
7. **Enhancing of ego-strength and positive self-talk.**
 Do you think that the cell phone strengthens you as a person? Explain your answer.
 How do you handle degrading comments and critique online?
 Is there a relation between your cell phone and positive thoughts, emotions and behaviour you have towards yourself? Explain your answer.
8. **Privacy.**
 How much will you reveal about yourself online?
 How much do your online friends reveal about themselves online?
 Have you encountered any situations that made you feel uncomfortable?
 Explain.

B. Focus

The focus of the abovementioned topics is depicted in the table below:

Type	Description
Experience/behaviour	To determine what the participants do or have done. Descriptions of experiences, behaviours, actions, activities.
Opinions/values	What the participants think about their experiences. The participants' intentions, goals and values.
Feelings	How the participants react emotionally to their experiences.
Knowledge	To determine the participants' factual knowledge.
Background/demographic	To elicit the participants' descriptions of themselves. To identify the participants' relations to other people.

C. Question sequence

The aim will be to group the questions by topic, but the researcher will be flexible and will also adhere to the participants' responses. The interview will start with

general questions and move towards more specific questions. The sequence of the questions will vary, but an attempt will be made to broadly follow the sequence below:

1. Statements of the purpose and focus.
 - Protection of the participant's identity and overview of possible discussion topics. Each participant will sign a confidentiality statement.
 - The importance of the data.
2. Demographic questions
 - To establish rapport and focus attention.
3. Interview probes.
 - For further explanations, elaborations and clarifications of responses throughout the interview.
4. Complex, controversial and difficult questions.
 - Towards end of interview.

ADDENDUM F: ETHICAL CLEARANCE



COLLEGE OF EDUCATION RESEARCH ETHICS REVIEW COMMITTEE

13 July 2016

Ref : 2016/07/13/07700180/43/MC

Student : Mrs C Davel

Student Number : 07700180

Dear Mrs C Davel

Decision: Ethics Approval

Researcher: Mrs C Davel
Tel: +2783 232 0773
Email: coriena@lantic.net

Supervisor: Prof. HE Roets
College of Education
Department of Psychology of Education
Tel: +2783 302 0590
Email: roetshe@unisa.ac.za

Proposal: The mobile phone as an extension of the self: A study among adolescents in a secondary school

Qualification: D Ed in Psychology of Education

Thank you for the application for research ethics clearance by the College of Education Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the research.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the College of Education Research Ethics Review Committee on 13 July 2016.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the College of Education Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for*



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the research participants.

- 3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

Note:

*The reference number **2016/07/13/07700180/43/MC** should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the College of Education RERC.*

Kind regards,



Dr M Claassens

CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za



Prof VI McKay

EXECUTIVE DEAN