

**THE INFLUENCE OF CELLPHONE USAGE ON TEENAGERS' SOCIAL
INTERACTIONS WITHIN THE COMMUNITY: A CASE OF NGUMMO,
NAIROBI COUNTY**

By

Elizabeth W Gichovi

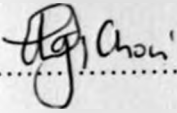
**UNIVERSITY OF NAIROBI
KIKUYU LIBRARY
P. O. Box 92
KIKUYU**

**A Research Project Report Submitted in Partial Fulfillment of the Award of
Master of Arts Degree in Project Planning and Management, University of
Nairobi.**

2012

DECLARATION

I declare that this is my original work and has not been presented in any other university or any institution of higher learning for an award



Elizabeth W Gichovi

12 NOVEMBER 2012

Date

Reg No: L50/65531/2010

This project work has been submitted for examination with my approval as the university supervisor.



Mrs Ruth Njora

13/11/2012

Date

Department of Extra Mural Studies,

University of Nairobi

DEDICATION

This research project is dedicated to my family. My husband Gichovi, daughters Mumbi and Nduta, for the encouragement and support they have given me while undertaking this research. They have been a great source of motivation and inspiration throughout the research work.

ACKNOWLEDGEMENT

My sincere thanks go to all lecturers and staff of University of Nairobi, and especially the Nairobi Extra Mural Centre for their support throughout the Master's program in general and in particular this project.

I deeply appreciate Mrs Ruth Njora, my supervisor for her unwavering support and advice as my supervisor. Her efforts and sacrifice really challenged me to learn more. She inspired me to conduct ever-better research through her constructive feedback.

Special thanks go to all my colleagues in the Master's class, especially the Group Seven (7) members for their encouragement and support.

Lastly, I wish to sincerely thank my sister Lucy Kiruthu who is always just a call away and cousin Patrick Mbataru, for their encouragement especially during critical points when the road seemed rough.

TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF FIGURES.....	viii
LIST OF TABLES	ix
LIST OF APPENDICES	x
ABBREVIATION AND ACRONYMS	xi
ABSTRACT.....	xii
CHAPTER ONE:INTRODUCTION	1
1.1 Background to the Study	1
1.2 Statement of the Problem	2
1.3 Purpose of the Study	4
1.4 Research Objectives	4
1.5 Research Questions	4
1.6 Significance of the Study	5
1.7 Limitations of the Study.....	5
1.8 De-limitations of the Study	6
1.9 Assumptions of the Study	6
1.10 Definition of Significant Terms	6
1.11 Organization of the Study	8
CHAPTER TWO: LITERATURE REVIEW	9
2.1 Introduction	9
2.2 Background Information	9
2.3 Communication through Cell phone	12
2.4 Socialization through Cellphone	15
2.5 Entertainment through Cell Phone	17

2.6 Symbolic Interaction Theory..... 19

2.7 Conceptual Framework 21

2.8 Summary 22

CHAPTER THREE:RESEARCH METHODOLOGY..... 23

3.1 Introduction..... 23

3.2 Research Design..... 23

3.3 Target Population 23

3.4 Sampling and Sampling Procedure 24

3.5 Methods of Data Collection 27

3.6 Validity..... 27

3.7 Reliability 28

3.8 Methods of Data Analysis..... 28

3.9 Operational Definition of Variables..... 29

3.10 Ethical Issues..... 30

**CHAPTER FOUR: DATA ANALYSIS, PRESENTATION OF FINDINGS AND
INTERPRETATION 31**

4.1 Introduction 31

4.2 Results and Discussion..... 31

4.2.1 Response Rate..... 31

4.2.2 Gender Composition..... 32

4.2.3 Age of the Respondents..... 33

4.3 Communication through the phone 33

4.4 Socialization through the phone 39

4.5 Entertainment through the phone 43

**CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND
RECOMMENDATIONS..... 46**

5.1 Introduction..... 46

5.2 Communication through the phone..... 46

5.3 Socialization through the phone 47

5.4 Entertainment through the phone 48

5.5 Conclusions 49

5.6 Recommendations 50

5.7 Areas for Further Research 50

REFERENCES 51

APPENDICES 55

LIST OF FIGURES

CONTENT	PAGE
Figure 1 A Conceptual Framework	21
Figure 2 Call Identifier Function	38

LIST OF TABLES

CONTENT	PAGE
Table 3.1 The Population of the Study	24
Table 3. 2: Sampling Procedure of Cell phone Usage	25
Table 3.3 Sample Size	26
Table 3.4 Operational Definition of Variables	29
Table 4.1: Questionnaires Response Rate.....	32
Table 4.2 Gender Composition.....	32
Table 4.3 Age of the Teenage Respondents	33
Table 4.4 Motivation to Purchase cellphone	34
Table 4.5 Age Started Using the Cellphone	35
Table 4.6 Amount of Airtime Spent Per Week.....	36
Table 4.7 Primary Usage of Cellphone.....	37
Table 4.8 Medical Side Effects of Using Cellphone	39
Table 4.9 Number of Active Social Network Accounts Held	40
Table 4.10 Socialization through the phone using social media sites	41
Table 4.11 Socialization through the phone using network friends and contacts.....	42
Table 4.12 Average Number of Hours Spent on phone and other activities during weekends	42
Table 4.13 Best Source of Entertainment	43
Table 4.14 Cellphone Usage Patterns among teenagers	45

LIST OF APPENDICES

CONTENT	PAGE
Appendix 1: Introduction Letter	55
Appendix 2: Focus Group Questions	56
Appendix 3: Community Respondent Questionnaire	57
Appendix 4: Teenage Respondent Questionnaire	61
Appendix 5: Tentative Budget	69

ABBREVIATION AND ACRONYMS

AABS	:	American Association of Behavioral and Social Sciences
BBC	:	British Broadcasting Corporation
CCK	:	Communications Commission of Kenya
ICT	:	Information, Communication Technology
LCVR	:	Loreto Convent Valley Road school
SMS	:	Short Message Service

**UNIVERSITY OF NAIROBI
KIKUYU LIBRARY
P. O. Box 92
KIKUYU**

ABSTRACT

We live in a world where we are faced with rapid and dynamic changes in communication technologies. The cell phone is one of the rapidly growing communication tools in the world. The number of mobile phone users in Kenya currently stands at 29.7million (Communications Commission of Kenya, 2012). Statistics show that 44% of teenagers aged between 15-19 years own a mobile phone while 85% of those aged between 12-19 years are cell phone users. These statistics provide an important background for undertaking a research on teenagers and cell phone. This study looked into the influence of cell phone usage among teenagers on social interactions in communities. There have been a number of suggested theories and studies that have been contributed to the rising popularity and commonality of cell phones as to how they are affecting the way individuals are interacting in society. The advent of the mobile phone has denied people the opportunity to interact more socially including face to face interactions. People are spending more time on their phones communicating to those within their social circles and ignoring proximate others and adjacent surroundings. A disconnect however exists between the level of social investment in social interactions and cell phone usage occasioning to loss of social capital. This therefore led to the need of undertaking a study to establish and determine how the cell phone usage among teenagers has affected social interactions in communities with a view of coming up with recommendations on how to overcome them. Specifically the study established how independent variables like socialization, communication and entertainment through the phone, had an influence on the social interactions in communities, which is the dependent variable in Ngummo, Nairobi County. Descriptive survey design was used and a sample of 3 estates and 2 schools in Ngummo were selected through stratified sampling and simple random sampling methods. Teenagers including students, teachers, parents and community members of the sampled schools and estates formed the study respondents. Questionnaires with both closed and open ended questions were used to collect data as well as observation and interview methods. The findings from this study established that most of the cell phone usage among teenagers has a negative influence on social interactions within the community.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The cell phone has become one of the most important modern technologies. It is one of the most rapidly growing new technologies in the world (Rebello, 2010). In 2001, cell phone subscriptions were less than a billion worldwide with the majority of the subscriptions from the developed countries. At the end of 2010, however, cell phone subscriptions had reached five billion worldwide with subscriptions from developing countries outnumbering those of the developed countries (Rebello, 2010) (Kelly, 2009).

Many people today cannot leave the house without the cell phone, some allude that without their cell phones they feel empty and insecure (Haddon, 2004; Katz & Aakhus, 2002; Ling, 2004). Thus we are experiencing some form of a dependency to the use and possession of a cellular phone (Banjo, Hu, & Sundar, 2008).

Mobile phone companies have practically created a youth market by launching cell phones with features such as cool ring tones, cameras, games music (Wang, 2005). This has led to a large number of the younger generation demanding from parents and guardians a cell phone on attaining the age of 10-12 years (LCVR, 2012). This has led to a rapid increase on the number of people using the mobile phones.

A number of studies carried out, (Banjo, Hu, & Sundar, 2008) (Wilska, 2003) (Torrecillas, 2007) have shown that while on the cell phone, we are cognitively less accessible to our immediate external surroundings. Therefore, when we are on the phone we ignore all other surroundings and significant others and get engrossed in the conversations with the caller (Aoki & Downes, 2003). These studies and observations have also found out that many people are likely to cause accidents while on the mobile phone. A number of countries including Kenya have banned the use of mobile phones while driving due to the number of accidents in Kenya and in a number of other countries.

Many teenagers are spending more and more hours on their cell phones thus alienating them from families and friends. (Madrid, 2003) Social interactions have as a result suffered (Taylor & Harper, 2003) The cell phone has also contributed to younger people becoming more financially dependent on their parents for the purchase of airtime and replacement of lost phones. (Garcia-Montes, Caballero-Munoz, & Perez-Alvarez, 2006)

While it is beyond the scope of this study, many issues related to the cell phone use are yet to be examined. The use of the cell phone while driving has taken lives of many teenagers. Many scholars (Katz & Sugiyama, 2006; Katz, 1997, 2006; Katz & Aakhus, 2002; Ling, 2004) have questioned the public manners among the frequent cell phone users. Obsession to text messaging has created issues such as poor concentration on their homework especially among teenagers, resulting in them gradually becoming anti-social (Fernando, 2007).

1.2 Statement of the Problem

Mobile phone usage is a compulsive and addictive disorder which looks set to become one of the biggest non-drug addictions in the 21st Century (Madrid, 2003). In 2001, cell phone subscription was less than a billion worldwide with the majority of the subscriptions from the developed countries (AABS, 2011). At the end of 2010, cell phone subscriptions had reached five billion worldwide with the subscriptions from developing countries outnumbering that of the developed countries (Kelly, May 2009; Rebello, 2010)

Cell phone usage gives people independence and enabling one to keep in touch, but they also have drawbacks, such as its cost and other complications (AABS, 2011). Like all technology, what is current today will not be current six months from now. Teenagers gets bullied because of what their peers see as outdated cell phone, or they feel they must have the latest devices to be socially accepted (Wilska, 2003). Due to the fear of getting excluded by their peers, teenagers will often withdraw and refuse to interact with others until they get an acceptable phone (Block, 2008).

There are many problems associated with the advent of the mobile phone in Africa (Taofeeq, 2010). Teenagers who excessively use their cell phone are more prone to disrupted sleep, restlessness, stress and fatigue. "Addiction to cell phone is becoming common, youngsters feel a group pressure to remain inter-connected and reachable round the clock"(Medicine, 2008). Children start to use mobile phones at an early stage of their life. According to Badre of the American Academy of Sleep (Medicine, 2008), there seems to be a connection between intensive use of cell phones and health compromising behaviour such as smoking, snuffing and use of alcohol.

Dinnertime is often the only opportunity busy families have for conversation; however, this has been encroached by the emergence of the mobile phone (Corbett, 2009). Instead of having healthy conversations around the table, any opportunity that presents itself find family members busy texting or chatting on their phones (Humpherys, 2005). To keep this time sacred, dinner table should be made a phone-free zone.

Children and teenagers who tend to use their phones late at night, research studies (Kopomaa, 2000; Ling, 2004; Oksman & Rautiainen, 2002; Rakow & Navarro, 1993), have found that the sleep disturbances caused by the radiation can trigger depression, mood swings, personality changes, impair concentration and academic performance. Many parents are reporting migraine headaches, impaired hearing and ear-aches which doctors are attributing to over-use of the mobile phone (LCVR, 2012). These conditions are likely to pause long term medical conditions such as insomnia, depression and even loss of hearing (Medicine, 2008).

Using everything from instant messaging on the Internet to text messaging on private mobile phones, teenagers have found more ways than ever to use technology and to assert their independence whilst keeping their parents out of the loop (Wilska, 2003). This is arguably related to their need to assert their individuality. Parents today, in response, are by and large manifesting a backlash from more permissive times, as they attempt to curb the freedoms that digital communication technologies invite (Davie, Panting, & Charlton, 2004) The appetite of

the youth market for technology is manifested in various ways and mobile phones are being increasingly seen as essential communications gear among teens worldwide (Corbett, 2009).

Learning for any child begins at home through the socialization process. Engagement with the mobile phone disconnected people from physical connections and co-present activities, activities occurring around them (de Gournay, 2002). It is evident that the mobile phone has found its way into many homes with children as early as eight (8) years owning and using a mobile phone. (Lenhart & Campbell, 2010). Being socialized this way will definitely have an impact on their social interactions (Gergen, 2002).

This study is therefore an attempt to assess the influence the cell phone, during its few years of existent, has had on social interactions among teenagers at family level.

1.3 Purpose of the Study

The purpose of this study was to determine of how the cell phone usage has affected social interactions in communities with a view of coming up with recommendations on how to overcome them.

1.4 Research Objectives

The general objective was to determine how cell phone usage among teenagers has influenced social interactions within communities.

The specific objectives of this study are:

- i) To establish the influence of communication through cellphone among teenagers on social interactions within the community.
- ii) To establish the influence of socialization through cellphone among teenagers on social interactions within the community.
- iii) To determine the influence of entertainment through cellphone among teenagers on social interactions within the community.

1.5 Research Questions

The study sets out to answer the following questions:

- i) How does communication through cell phone among teenagers influence social interactions within the community?
- ii) How does socialization through cell phone among teenagers influence social interactions within the community?
- iii) How does entertainment through cell phone among teenagers' influence social interactions within the community?

1.6 Significance of the Study

The convenience brought by the mobile phone technology has indeed changed the life of many people and society. The mobile phone is becoming the primary personal communication mechanism worldwide (Leung & Wei, 2000). Not only is it a talking device on the move, but it is also a social accessory (Peters & Alluoch, 2005). Its use has become a social phenomenon, taking place within a social context and influenced by perceptions of products, services and social norms (Roos, 2003)

This study is significant in assisting communities to stay socially active maintaining interpersonal relationships and therefore enriching the social capital (Chou & Hsiao, 2000). Healthy social interaction helps one maintain good physical and emotional health and cognitive function (Lloyd & Devine, 2009). Although social interaction is complex, it is vital to human health, both mentally and physically. It provides many learning opportunities (Roos, 2003). Teenagers who learn appropriate social interaction skills often have a higher self-esteem and show a greater willingness to interact with their environment as they grow (Reid & Reid, 2007). This learning starts at the family level.

1.7 Limitations of the Study

Limitations envisaged in this study are that it is not possible to visit and interview all the teenagers due to time and resource constraints.

1.8 De-limitations of the Study

To overcome the anticipated limitations, the scope of the research is reduced to just dealing with a representative sample drawn from the target population in Nairobi County to save on time and money.

1.9 Assumptions of the Study

This study assumes that the respondents will provide reliable and valid data that could be used to make conclusions in relation to the study. It is also assumed that the questionnaires will be returned in time and duly completed.

1.10 Definition of Significant Terms

Cell Phone	A portable wireless electronic device used to but not limited to communicate, socialize, entertain. It is also referred to as a mobile phone.
Cell phone usage	Any application of the cell phone as a tool, including talking, text messaging, game playing or the sheer accessibility of the instrument. Originally the cell phone served as a tool for business management. Now, cell phones serve as a tool for social connection, in other words, managing social relationships.
Social Interactions	Refers to how people communicate, relate, connect, make exchanges and make contacts. Social interactions are the acts, actions, or practices of two or more people mutually oriented towards each other's selves, that is, any behavior that tries to affect or take account of each other's subjective experiences or intentions. This means that the parties to the social interaction must be aware of each other and have each other's self in mind

Socialization	This refers to access to the network of social connections, institutions, relationships, that exist between people, and their shared values and norms of behaviour, which enable and encourage mutually advantageous social cooperation that shape the quality and quantity of a society's social interactions
Communication	This refers to the use of cell phone to send text messages, email, and instant access to news.
Entertainment	It refers to use of mobile phones for various media-related activities such as chatting, watching video clips, TV or listening to radio, music and taking pictures
Cell Phone Addiction	An irresistible and compulsive cell phone over-use by someone. You feel the urge to be on the phone always and a sense of insecurity and irritableness when without the cell phone
Teenager	Refers to all those in a transitional stage of physical and mental human development that occurs between childhood and adulthood. Teenagers in this study will include all those in ages 12-20 years. It will also be used interchangeably with the words younger generation and adolescents to mean the same thing.
Family	The family in this context is defined as a group of people who are united by ties of partnership and parenthood and consisting of a pair of adults and their socially recognized children. These include parents, brothers, sisters, grandparents and all those relatives living in one house

Texters

People who regularly use the Short Messaging Service (SMS) to communicate with others through the mobile phone

1.11 Organization of the Study

This study is organized in three (3) chapters. Chapter one gives a background to the study, statement of the problem, its significance, as well as outlining the general and specific objectives as envisaged by the researcher and the research questions. The definition of significant term used in the study is also found in this chapter.

Chapter two reviews literature related to the influence of the cell phone on social interactions. It starts by looking at background information on the globally, then regionally and the finally narrows down to its usage in Kenya. The chapter is dividend further into three sub-sections each reviewing literature on the specific objectives under study namely; communication, socialization and entertainment through the phone. The chapter also reviews Herbert Mead's symbolic interaction theory which relates to social interactions and finally looks at the conceptual framework outlining the various variables to be considered by the study.

The third chapter highlights the descriptive survey design the study will adopt. It also outlines the target population, sample size and sampling procedure, methods of data collection and analysis. The chapter further also focuses on issues of validity, reliability, operational definition of variables and concludes by looking at ethical issues.

Data analysis, presentation of research findings and interpretation are found in the fourth chapter. The data collected from the sampled communities is presented in the form of frequency tables, percentage charts and bar charts in this chapter. Finally chapter five looks at the summary of findings, conclusions reached and gives recommendations as deduced from the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter aims at identifying what other researchers have done in the area of cell phone usage among the teenagers. The review is meant to enhance an understanding of the previous contributions to the problem. The findings of the review will help the researcher to note the gaps in knowledge and create the entry point for this study. To this end, the chapter looks at the background information on the history of mobile phones internationally, regionally as well as in Kenya. It also looks at the factors influencing teenagers' cell phone usage such as socialization, communication and entertainment through the mobile phone.

The area of cell-phone usage is fairly a new subject matter. As such there is not much literature available for review especially in the local libraries (Chabossou, Stork, & Stork, 2009). The research has relied heavily on reviewing literature that is available online

2.2 Background Information

Technologies are ever-changing. New gadgets and ideas are always trying to simplify life and bring people together (Corbett, 2009). Technological advancements have dramatically changed the way people communicate. People have more modes of communications than ever before, many of which operate at high speeds and even facilitate instantaneous multiparty communication (Feigenbaum, 2011). The choices, accessibility and affordability of communication technology have naturally changed social habits and styles. Many worry that although the amount of communication has increased, the quality may be decreasing.

With the proliferation of technologies that are able to overcome the obstacles of time and space such as the internet, one would think that these tools would be used to gain an understanding of other cultures, meet people all over the world, maintain and strengthen familial relationships, communicate effectively with others, and help people to become more socially adept (Human Kinetics, 2012). However, some technological advances cause people to be distracted, overly stressed, and increasingly isolated (Banjo, Hu, & Sundar, 2008). Many people are involved in an

abundant number of relationships through technology, but sometimes the quantity of these associations leaves people feeling qualitatively empty (Humpherys, 2005). Obviously, technology has had a profound impact on what it means to be social.

The mobile phone, also known as cellular phone, has become one of the most successful inventions our times. It is one of the most rapidly growing new technologies in the world (Rebello, 2010). Each stage of development has provided a big improvement to the industries. From early stages of voice to voice simple communication, to the Wireless Application Protocol (WAP) and General Packet Radio Service(GPRS) internet connection and now the high speed internet connection through the internet, it shows that mobile phones is one of the leading technology in the high technology industry (Kelly, 2009).

Cell phones are becoming increasingly popular among the general population. Many researchers (Bianchi & Phillips, 2005) (Pragas, 2003) (Monk, Fellas, & Eleanor, 2004) have emphasized on the harmful and problematic aspects of using cell phones excessively among youngsters such as emotional stress, financial costs, falling literacy and damaged relationships.

New generation seem to be so obsessed with using cell phone that they it even at places where usage is prohibited such as places, hospitals and petrol stations (Bianchi & Phillips, 2005). Statistics reveal the 75% of teenagers aged 12-17 possess a cellular phone in the United States (Leung L. , 2008). This number is likely to even be more in Africa; unfortunately statistics on this are scarce.

It is evident that more people are relying on cell phones even for basic day to day activities. Many people develop dependency to new technological devices as they become increasingly integrated into their daily lives (Block, 2008). Excessive use of and dependency on the cell phone may be considered an addictive disorder (Choliz, 2010). A person suffering from such a phenomenon is referred to as a cell phone addict. He relies over his cell phone for all the various day to day activities not concentrating on anyone else near him.

In the last ten years the Information & Communication Technology (ICT) community has witnessed the explosive growth of mobile telephony in Africa (Peters & Alluoch, 2005).

Nowadays, mobile phone has become the first communication technology having more users in Developing Countries than in the Developed ones; in particular, looking at the mobile subscriber numbers, Africa is showing the highest growth rate worldwide (Ahmed, 2011). At the end of 2007 (Chabossou, Stork, & Stork, 2009) the number of mobile users in Africa has gone beyond 225 million, double the number registered just two years before and almost ten times with respect to 2000 and with respect to the number of fixed-lines.

Mobile telephones were first introduced in the Kenyan market in 1992 with the analogue system that was widely known as the Extended Total Access Communication System (ETACS), which was commercially launched in 1993 (CCK, 2008). During this entry period the services were so expensive that it was only a few within the upper rank of the society that could afford them. The cost of owning a mobile handset was as high as Kshs.250, 000. The enactment of the Kenya Communications act, 1998 led to the introduction of competition in the cellular mobile industry. The real diffusion of this technology and of affordable services started in 1999 when the Communications Commission of Kenya (CCK) was established and the newly privatized company Safaricom and Celtel Kenya (previously known as KenCell Communications) were licensed by CCK to provide mobile services.

Currently there are 4 mobile phone operators in Kenya, namely: Safaricom, Airtel, Essar Telecom and Telkom Orange. There are 26.4 million mobile subscriptions compared to 355,493 the number of main fixed lines (CCK, November 2011). In terms of market share Safaricom limited controls 67.7%; Airtel Networks Kenya Limited 15.7% while Essar Telecom and Telkom Kenya limited control 6.2% and 10.4% respectively. (CCK, November 2011). According to industry estimates, there are more than 500 million mobile phone subscribers in Africa now, up from 246 million in 2008 (Rao, 2011). In 2000, the number of mobile phones first exceeded that of fixed telephones. The four biggest mobile phone markets in Africa facilitating the rise of the use of cell phones are in Nigeria, South Africa, Kenya, and Ghana (Taofeeq, 2010). Strategic investors in Africa's mobile industry include South Africa's MTN, India's Bharti Airtel, France Telecom through its Orange brand, Britain's Vodafone and Luxembourg's Millicom (Chabossou, Stork, & Stork, 2009).

The mobile phone provides a fast and immediate communication for people, which has built up a much closer relationship within each another (Ahmed, 2011). The negative views of mobile phone have become a popular discussion now. Symptoms such as radiation which causes cancer from the mobile phones and mobile phone addiction are now argued to be the disadvantages of the technology. The danger brought by using mobile phones such as the unsafe of using mobile phone during driving or radiation of mobile phone causing danger to certain places such as the gas station are also problems for mobile phone users . This represents a very high growth rate of the mobile phone usage. The introduction of affordable phones in the market and marginal reduction in calling costs are some of the factors influencing this (CCK, 2011).

It is evident that the growth of mobile phone usage and subscription is on upward trend with mobile handsets not only becoming the medium of communication but also for accessing other value added services like data and internet, entertainment, mobile money transfer among others (Leung L. , 2008). This trend is likely to continue as new innovations emerge.

2.3 Communication through Cell phone

Recent studies suggest that cell phones have evolved into something more than a simple communication tool, gaining its own place in various aspects of social interaction (AABS, 2011). For instance, a qualitative study on Australian adolescents revealed that cell phones play an integral part in the lives of young Australians (Walsh, White, & Ross, 2008). Some of the participants in the study reported very strong attachment to their cell phones; they felt as though their cell phones were part of them. In another qualitative study, Bond (2010) examined children's cell phone use and concluded that cell phones were fundamental tools with which the children maintain and manage their relationships contributing to reinforced peer ties.

Cell phone communication lacks non-verbal communication cues, such as facial expressions and body language (Bianchi & Phillips, 2005). Without these non-verbal communication cues, communication becomes less personal and more vulnerable to misinterpretation. It is evident that cell phone communication has gained popularity in recent years especially in developing countries (Lenhart & Campbell, 2010). The advancement of mobile phone technology has

created a variety of ways to communicate using cell phones. Cell phone communication can include text messages, email, and instant access to news.

Becoming oblivious to your direct surroundings can be a serious consequence of mobile phone technology. Using your cell phone too much can prevent you from making new friends and noticing small details in everyday life (Boase, 2008). According to Banjo and Sundar (2008), the concept of being accessible anywhere and anytime has shown to have both positives and negative results in a social setting; older generations for example have typically been scornful of younger generations pulling out their cell phones in restaurants, classrooms, public transportation and other public spaces. Cell phone usage in a public place typically generates a negative response when used in close approximation to other individuals, as it is seen as a disturbance to their personal space, with little or no consideration from the cell phone user (Fortunati, 2008).

Social interaction signifies that we are aware of the existence of others, as well as implies active engagement between two or more parties (Banjo, Hu, & Sundar, 2008). Cell phones have allowed individuals to surpass time and space and have any conversation that they choose, wherever they choose (Ling, 2004). With public conversation comes public invasion, meaning that you are invading into other's personal spaces by talking out loud about your own personal spaces coming off as inconsiderate and/or rude which links to alienation of oneself (Reid & Reid, 2007).

A trend that is becoming more apparent is present absences; this is the concept of how an individual's presence in a social setting changes regardless of their physical presence, they are only half-present (Fortunati, 2008). After a ring or buzz of their mobile phone, they are drawn away somewhere else, away from their present situation and/or conversation (Gergen, 2002). Through observation, researchers have found that individuals typically will not hesitate to interrupt an ongoing conversation to answer the ringing of their cell phone (Davie, Panting, & Charlton, 2004). This has several repercussions. In answering the ringing cell phone, the individual who is presently being conversed with, has described feeling a sense of being left alone, which can cause social anxiety, as well as resentment/annoyance towards the individual who answered the phone call (Humpherys, 2005).

The change of space and time through the use and accessibility of cellular phones has changed the way in which people communicate with other individuals (Corbett, 2009). With the ease of being accessible anywhere at any time, individuals are finding that they are becoming dependent on their cell phone on a day-to-day basis. Cell phones are allowing individuals to stay in a constant connection with anyone and everyone in their social network as and when they choose to (Leung L. , 2008).

The Short Message Service (SMS) was first developed in 1990 in an effort to allow operators to notify customers when there was some type of service issue or a network problem. Over the years, this has become one of the most common ways in which individuals use their cell phones to communicate with others (Fernando, 2007). In the United States, daily text messaging by teens to friends increased rapidly from 38% of teens who were daily texters in February 2008, to 54% of teens who used text daily in September 2009. Of the 75% of teens who owned cell phones, 87% used text messaging at least occasionally (Lenhart, 2010).

In Kenya, SMS is one of the most widely used mobile phone services. Last year's statistics by the Communications Commission of Kenya showed an increase from the 8.5 SMS per subscriber per month to 18.99 SMS per subscriber per month. (CCK, November 2011). Many social scientists and researchers (Pragas, 2003; Thurlow, 2003; Hafner, 2009) have expressed concern that the increased use of SMS messaging will cause face-to-face interaction to become non-existent, as well as poor grammar by frequent users. Research has shown that text messaging between individuals can actually create stronger ties as well as act as a buffer to face-to-face interactions with a new individual. Teenagers are spending hours' texting each other even when they are just a few meters away alleviating the pressures that accompany a face-to-face meeting.

With the SMS gaining popularity, a new language is being created making experts worried that grammar will be overlooked. In an effort to get their point across faster, regular texters have created new acronyms for various words such as LOL (Laughing Out Loud), OMG (Oh My God) (Corbett, 2009; Plester, Wood, & Bell, 2008). Infact a number of students are making grammatical errors in composition writing which can be attributed to the uses of SMS (Njuki, 2012).

Text messaging can be very secretive and discreet among the younger generations. This therefore means that parents and teachers cannot intercept nor have access to what is being exchanged (Hafner, 2009). A survey conducted by Nokia worldwide showed that over 80% of 3,300 mobile phone users, under the age of 45, reported that text messaging was the most used function on their mobile phone (Reid & Reid, 2007). The mobile phone offers the users the freedom to make calls directly to the intended recipient. According to Wilska (Wilska, 2003), the mobile phone has reduced the possibility of parents being able to control their children's communication. Teenagers conversations can now be more private giving them the freedom (Wilska, 2003), even emancipation (Leung & Wei, 2000). There is no filtering by parent or siblings as is the case with a landline. With freedom comes responsibilities, however many young teenagers are abusing this freedom. In conclusion there is emerging a clear but untested assumption that young people are both the driving force behind and at the same time the slaves of a growing text messaging (Thurlow, 2003).

2.4 Socialization through Cellphone

The mobile phone is helpful for students to gain social skills, coordinate with their families, and remain vibrant participants in a social network (Chen, 2007) Studies on the mobile phone and socialization found that teens used the mobile phone to negotiate their social life with their parents at home (Castells et al., 2007; Ling, 2004, Ito, 2005)

Scholars such as Ling (2004), have explored how younger teens use the mobile phone to create their external social networks from home. The advent of social networking sites and platforms such as Facebook, MySpace, Twitter and Linked In has changed not only interpersonal communications, but also marketing and business strategies (Feigenbaum, 2011). Through social networks, teenagers stay connected to family and everyday friends and often reunite with long-lost friends from childhood, high school and college. (Feigenbaum, 2011).

Social networking also allows people to share their daily lives and thoughts with one another through outbound messages and walls that signal all of their connections.(Chou & Hsiao, 2000) Although some use social networking sites for limited communication, others spend large periods of their day communicating with contacts though both computer and mobile social networking interfaces. Several political demonstrations and uprisings in 2011, including those in

Iran, Egypt, Libya and Bahrain, have used social networking as a means of organization (Pew, 2011). The convenience brought by the mobile phone technology has indeed changed the life of many people and society. The mobile phone is becoming the primary personal communication mechanism worldwide (Leung & Wei, 2000). Not only is it a talking device on the move, but it is also a social accessory (Peters & Alluoch, 2005). Its use has become a social phenomenon, taking place within a social context and influenced by perceptions of products, services and social norms (Roos, 2003)

Previous research has shown that many younger children are using social networking websites intended for older users (BBC, 2008). This is despite the fact that the terms and conditions set out by the providers, such as Facebook state that children using these sites must be aged thirteen (13) years and above. Lack of face-to-face interaction can be seen as negative because it may prevent children from developing sound interpersonal skills. (Klorer, 2009)

Mobile-addicts tend to neglect obligations of important activities such as job or studies, drift apart from friends and close family, deny the problem and think about the mobile phone constantly when they do not have it with them (Block, 2008). Most mobile-addicts are people with low self-esteem and problems to develop social relations, who feel the urge to be constantly connected and in contact with others (Bianchi & Phillips, 2005). Francisca Lopez Torrecillas (2007) says that phone addicts can become totally upset when deprived from their mobile phones for some time, regardless of the reason. Switching off their phones causes them anxiety, irritability; sleep disorders or sleeplessness, and even shivering and digestive problems.

Many parents have noticed changes in behavior with their teenage offspring, including paranoia as it relates to missing a call or text message (LCVR, 2012). Some teens show signs of depression and anxiety when they do not have access to their cell phone (Aoki & Downes, 2003). Others are facing problems in school as it relates to their cell phone obsession. While not everyone is jumping at the bit to label this obsession as a "disease", there are an increasing number of clinics in America and Europe that are now treating this in the same fashion as they would alcoholism or a gambling addiction (AABS, 2011).

According to Leung (2007), nearly one third of the students in china have shown signs of addiction as they felt uneasy and displayed abnormal behavior in case their cell phone went missing. The rest two third also consider their cell phone to be a very essential item for them; this is true of teenagers and students found in many other countries. The teenagers suffering this addiction become really obsessed with the device and the usefulness it provides. They tend to ignore other important activities such as studies and sports (AABS, 2011). This leads to poor performance and depletion in their health. They take unnecessary risks by using their cell phones at the time of driving leading to many accidents. Excessive cell phone usage also increases problems on an interpersonal level (Bond, 2010)

In Kenya, most places of worship have conveniently pasted signs on their walls prohibiting the use of cell-phones. Hospitals and banks also have signs warning against the use of cell-phones. Many schools have rules and regulations that bar students from bringing cell phones to school. This is because excessive mobile phone usage gives rise to social, health and educational hazards (Ahmed, 2011). Common sense would dictate switching off the mobile phone or putting it on a silent mode while in public places. However, cell phone addicts are known to be on their phones even when in Church. The teenagers are especially most affected by this type of behaviour; they are on their mobile phones even in church during the service, texting their friends. Psychiatrists have proposed that feeling an overwhelming need to use the cell phone for more than half an hour per day is the symptom of being a mobile phone addict (Ahmed, 2011).

2.5 Entertainment through Cell Phone

Today, cell phone are portable entertainment devices, users gain more opportunities to interact with their preferred program. As media devices, mobile phones can be used for various media-related activities such as accessing news alerts and video clips or listening to music and taking pictures. Many teenagers are using the mobile phone to entertain themselves through games, social media networking, cameras, browsing, watching and downloading movies, mobile TV among other thing.

According to Wang (2005), music is the fastest way into the minds and souls of today's youth, it is the global language of the 'now generation'. That explains why teenagers will spend airtime to download cool ring tones and music. A number of TV reality shows are using the mobile phone to reach the target audience the youth. Locally, reality TV shows such as Big Brother and Tusker Project Fame are some of the most popular programmes that have kept the teenagers entertained. In order to vote for the winners, one is supposed to send messages using their mobile phone or by accessing the internet.

According to Parker (2009), teenagers are increasingly using the mobile phone or internet to send and post sexually suggestive text messages and images for entertainment purposes. This practice is referred to as sexting, a new phenomenon which has recently gained significant momentum. In fact, according to a recent study, almost twenty-percent of all teens have participated (Parker, 2009). This is a behavior that is likely to erode the morals of teenagers.

Teenagers love to chat. They especially love to chat when they are bored or need to be doing something they do not want to do such as homework (Leung & Wei, 2000). Having a cell phone can tempt your teen to spend all day texting or talking instead of spending time in a more worthwhile manner.

Leisure boredom is a motivating factor among teenagers on the use of mobile phone (Leung & Wei, 2000). Perceptions of leisure as boredom are associated with negative effect and can be manifested as beliefs that available leisure experiences are not sufficiently frequent, involving, exciting, varied or novel (Gergen, 2002). People are most satisfied with their life and leisure when they feel that they had an optimal amount of discretionary time for their activities (Iso-Ahola & Weissinger, 1990). Leisure boredom is a likely consequence of conflicting perceptions of having too much time available with too little to do. Many teenagers turn to their phones for texting, playing games or surfing the internet when they say they are bored and having nothing else to do. (LCVR, 2012). Thus the hypothesis posed that the higher the level of leisure boredom one experiences the high the likelihood one will be addicted to the mobile phone (Leung L. , 2008) is area that should attract further research.

Gossip is part of our identity and an essential part of what makes groups function as well as they do (McAndrew, 2008). For many mobile phone owners, the phone is not simply for keeping in touch, but for more extended gossiping with friends and family (Peters & Alluoch, 2005). According to researchers (Peters & Alluoch, 2005), gossip is essential to social, psychological and physical well-being, almost like a vital 'social lifeline'. It is interesting to note the number of teenagers who turn to their phones to get the latest gossip from their friends or from the media. According to Lloyd and Devine (Oct 2009), many teenagers are resulting to unsupervised access to the internet, which can leave them vulnerable to sexual predators and 'cyber' bullying.

Playing online games and using social networking sites involve children interacting with their peers and forming friendships, which is an important part of the socialization process (Bond, 2010). However, researchers (Castells, Fernandez-Ardevol M, J, & Sey, 2007) have begun to question the value of these 'virtual' friendships where personal connections are made without face-to-face contact, meaning that many children may not be developing sound interpersonal skills. Instead, online friendship means that children and teenagers can have hundreds of 'friends' without having to leave their homes or open their mouths which is a worrying trend (Walsh, White, & Ross, 2008). In a poll carried out among children and young people aged between 8 and 18 years in 2006 in Japan, one third said that their social network includes 'friends' they have never met (Klorer, 2009).

2.6 Symbolic Interaction Theory

Symbolic Interaction Theory suggests that people are motivated to act based on the meanings they assign to people, things, and events. Further, meaning is created in the language that people use both with others and in private thought. Language allows people to develop a sense of self and to interact with others in community.

George Herbert Mead (1934) is often cited as the main contributor to symbolic interactionism. Although he never published his theory, his student Herbert Mead (1969) published it after his death. The Core Principles of Social Interaction Theory include meaning, thought and language. Meaning itself is not inherent in objects, it arises in the process of interaction between people; it takes place in the context of relationships when with family or community. Meanings are

handled in and modified through an interpretive process used by the person in dealing with things one encounters.

As children interact with family, peers and others, they learn language and concurrently, they learn the social meanings attached to certain words. Language is the source of meaning; meaning arises out of social interactions with one another, and language is the vehicle. In Mead's view, social life and communication between people are possible only when we understand and can use a common language. (Wood, 1997)

Human beings have the distinctive ability to think about things rather than simply reacting instinctually. This may be through an inner conversation with oneself, a reflective pause or the ability to take the 'others' role.

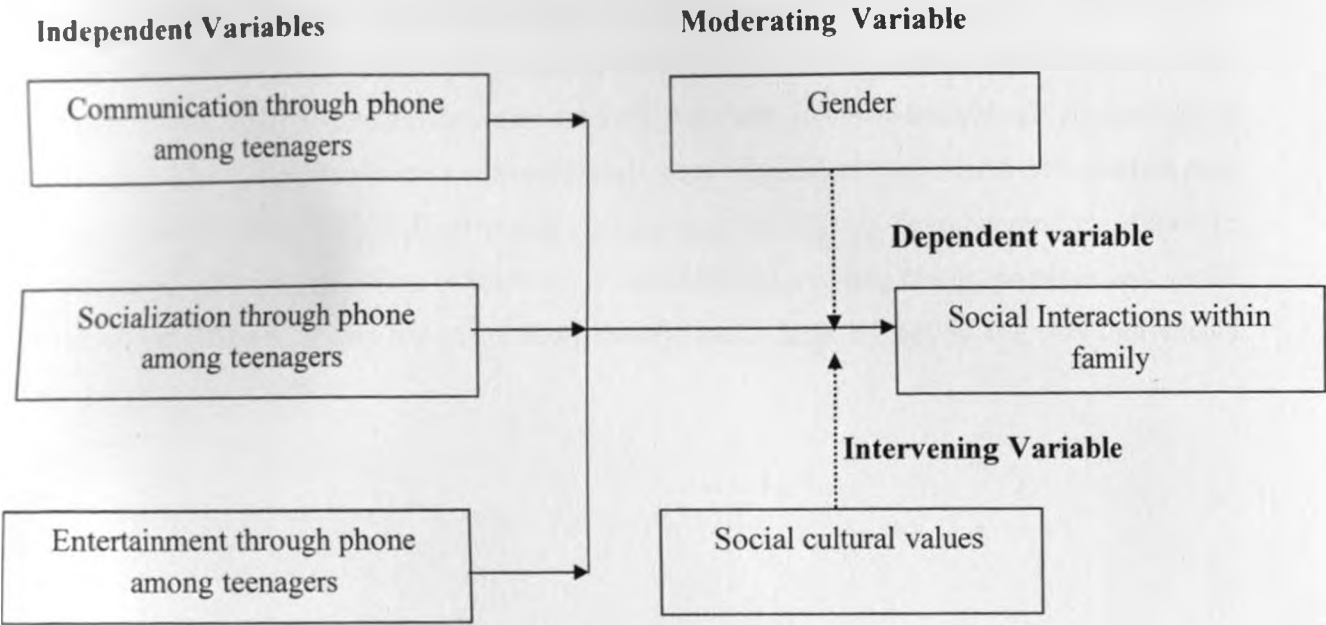
The major premises of Symbolic Interaction Theory

- i) Human beings act toward things on the basis of the meaning they have
- ii) The meaning attributed to those things arises out of social interaction with others; we do not learn these meanings simply through individual experiences, but rather through the interactions with others
- iii) These meanings are modified through an interpretive process; the meanings of the things we encounter, though formed by social interaction, are altered through our understandings

This theory emphasizes on the importance of social interactions especially at family level where the learning starts. This study aims at assessing how socialization, communication and entertainment among the teenagers through the cell phone influences social interactions in families.

2.7 Conceptual Framework

Figure 1 A Conceptual Framework of Variables affecting cellphone usage on social interactions



The social interactions within the family is conceptualized in this study as the dependent variable while communication, socialization and entertainment through the phone among teenagers, were viewed as the independent variables.

The variable communication through the phone will consider factors such as use of the phone to make calls, send emails and messages. In order to establish the influence of the cell phone among teenagers on social interactions, it is important to gather information on how teenagers are using this tool to communicate.

In this study, the variable socialization through the phone includes factors such as the use of social media and networks and how these influence social interactions. Social media such as Twitter, Instant Messaging and Linked as well as social networks such as Facebook and online dating are factors that will be considered under this variable.

Social interactions are also affected by how teenagers use the cellphone to entertain. This variable will be used to establish how factors such as music, video, online chatting and dating are affecting social interactions among teenagers.

2.8 Summary

Technology has greatly influenced the modern society. Technology as a whole will always have an effect on the way that individuals function in society, and while there has not been a lot of research on the effects of cellular phone use, it has both positive and negative consequences. Cell phones in their small time in existence have changed the way in which individuals are interacting with each other. Individuals are communicating more via text messages and cell phones than they are face-to-face, changing our social environment. Individuals have become enveloped in their cell phones and less aware of their social surroundings, missing out on possible new social interactions. The cell phone has in its short history, had a huge impact on the way individuals interact with one another.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a detailed outline of how the study was carried out. It describes the research design, the target population, the sample and sampling procedure, research instruments, validity and reliability of instruments, data collection and data analysis procedures used.

3.2 Research Design

This study used both qualitative and quantitative research paradigms. Qualitative research involved several methods of data collection, such as focus groups, field observation and interviews. In all of these methods, the questioning approach was varied. In other words, although the researcher entered the project with a specific set of questions, follow-up questions were developed as needed (Wimmer & Dominick, 2011).

The study adopted a descriptive survey design to assess the factors affecting social interactions due to cell phone usage. Descriptive survey design is used in preliminary and exploratory studies to allow the researcher gather information, summarize, present and interpret it for the purpose of clarification (Orodho 2002). Kothari (2003) recommends descriptive design as it allows the researcher to describe, record, analyze and report conditions that exist or existed.

This design allowed the researcher to generate both numerical and descriptive data that can be used in measuring correlation between variables. Descriptive survey research is intended to produce statistical information about aspects of sustainability of community water projects that interest policy makers. The location of the study is Ngummo in Nairobi County.

3.3 Target Population

Kombo, K. and Tromp (2006) define a population as a group of individuals, objects or items from which samples are taken for measurement. The study was carried out in Ngummo of Nairobi County. The target population were teenagers between the ages of 12-20 years and communities members aged 21 years and above drawn from the eight (8) Estates and five (5)

schools within the Ngummo. There are eight (8) Estates within Ngummo, namely: Ngummo Central, Golf Course, Highview, Magiwa, Nera, Newa, Sunview and West (Housing, 2010). There are also five (5) primary schools namely; Golf Course Academy, Jimcy School, Mbagathi Way, Peace Junior and Shadrack Kimalael schools. A total of 214 respondents were selected. Gender was taken care of by choosing equal number of male and female respondents where they were available.

Table 3.1 The Population of the Study

Category	Source	Target Population
Teenagers living in Ngummo	Estates within Ngummo	223 Teenagers living in Ngummo
Teenagers schooling in Ngummo	Schools within Ngummo	163 Teenagers school in schools within Ngummo
Teachers	Schools within Ngummo	89 Teachers
Community Members	Estates within Ngummo	237 Community members
Total		712

3.4 Sampling and Sampling Procedure

According to Orodho and Kombo (2002) sampling is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group.

Purposive (homogenous) and stratified random techniques were used to select respondents. Structured questionnaires, focus group interviews, personal interviews and observation were used to collect primary data. These were supplemented by secondary data. Collected data was processed to eliminate unusable data; analyzed, coded according to themes and objectives of the study and arranged in chapters.

The study adopted a Stratified Random Sampling method for the selection of teenage respondents. This is because teenagers using mobile phones were found in all the eight phases and the five schools in Ngummo. It was therefore important to give each and every household and school in the estates an equal chance of being in the study. According to Cochran (1977) Stratified random sampling technique is very common and preferred because stratification produces a gain in precision in the estimates of characteristics of the whole population. In addition, geographic stratification often increases precision because many factors operate to make people living in the same area show similarities in their principle characteristics. Another advantage of stratified sampling is that, it ensures the inclusion into the sample subgroups which would otherwise be omitted entirely by other sampling methods because of their small numbers in the population (Mugenda & Mugenda, 2003). In this case, stratified sampling ensured that all the teenagers from eight estates of Ngummo were given a chance to be in the sample.

The researcher selected at random thirty per cent (30%) of the eight estates and five schools under the study. A sample of three estates and two schools was then identified for the study. According to Cochran (1977) a sample of 30% of the population is sufficient for a study.

Table 3. 2: Sampling Procedure of Cell phone Usage

Category	Population	30% of the population
Estates	8	3
Schools	5	2
Total	13	5

To get appropriate information on cell phone usage, all the heads of schools and teachers of the two schools were purposively picked as respondents since they were best placed to understand

how the cell phone usage was influencing social interactions in schools. This gave the researcher a total of 27 respondents. Through purposive sampling, the researcher also selected a sample of 30% of heads of households and parents from the three (3) estates as respondents since they had a general overview of how teenagers were using cellphones at home for socialization, communication and entertainment since no other respondent in the target population could provide the same. This provided a total of 71 respondents from this category. Purposive sampling was also used to select the rest of the respondents; were 67 teenagers living in the three estates and 49 teenagers in the two schools who owned or were using a cellphone. According to Mugenda and Mugenda (1999), purposive sampling is used when information required can only be obtained from a specific source. This is supported by Kombo, K and Tromp (2006) who observes that the power of purposive sampling lies in selecting information rich cases for in-depth analysis related to the central issues being studied.

Table 3.3 Sample Size

Category	Population	30% of the Population
Peace Junior School	91	27
Golf Course School	72	22
Ngummo Central Estate	108	32
Ngummo West Estate	53	16
Ngummo High View	62	19
Teachers	89	27
Others (Community members)	237	71
Total	712	214

3.5 Methods of Data Collection

This study used questionnaires for the purposes of gathering information from the teenagers, teachers and community members (See appendix iii, iv and v). The researcher also used observation to enrich responses and fill in the information gaps.

Both the primary and secondary data was collected for the purposes of this study. The primary data was collected through the questionnaires and focus group interviews. This enabled the researcher to get firsthand information, attitudes and recommendations concerning the cell phone usage among teenagers.

The secondary tools included books, magazines, and journals, newspapers reports, concerning cell phone usage and social interactions. A questionnaire with both open and closed ended questions was used to collect the primary data. Open ended questions were used to seek in depth information.

The questionnaires with adequate instructions and easy to understand language were hand delivered to the already identified samples of the population by the researcher and the research assistants. Dates of collecting the filled in questionnaires were agreed upon at the point of delivery and follow-up was made over the phone during the process. Focus group interviews were organized around the bi-weekly estate welfare meeting. Some questions were used to guide the interview and the same was recorded to compare with answers given or filled in the information gaps in the study.

3.6 Validity

Mugenda and Mugenda (2003) define validity as the accuracy and meaningfulness of inferences which are based on the research results; it's the degree to which results obtained from analysis of the data actually represent the phenomenon under study. In order to improve validity the researcher ensured that the research instruments were accurate by making the necessary adjustments and ensuring the questions asked generated the right responses to measure what was intended. Information gathered was also crosschecked with other sources to ensure authenticity and accuracy. To this end, the researcher used triangulation, which is use of different data collection methods to gather the same information. The researcher used questionnaires, focus group interviews as well as observation to fill in the information gaps.

3.7 Reliability

Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. Reliability is important because it enables the researcher to identify misunderstandings, ambiguities, and inadequate items in the research instruments and make the necessary adjustments so that data collected can have more reliability. This was achieved by the researcher conducting a pilot study and making the necessary changes in the research instruments by way of reframing the questions to make them better understood, giving the necessary instructions and simplifying the language to ensure the correct interpretations were made.

3.8 Methods of Data Analysis

The data collected was analyzed using descriptive statistics. After collection the data was pre-processed to eliminate unwanted and unusable data which could be contradictory or ambiguous. The researcher organized the data to ensure that the raw data has been edited to free it from inconsistencies and incompleteness. This involved the scrutiny of the completed instruments in order to detect and reduce as much as possible, errors, incompleteness, misclassification and gaps in the information obtained from the respondents. Then the data was then coded to establish how possible answers would be treated by assigning to them numerical values.

For qualitative data analysis, a coding system based on samples or collected data was developed and decoded materials placed under their major themes. Inductive content analysis was used to identify themes and patterns. This was categorized in accordance with objectives of the study. This categorization formed the basis of the research chapters. The finding in each of the chapters was used to evaluate and justify the research questions. Both Microsoft Excel and the Statistical Package of Social Sciences (SPSS) were used to analyze the data.

3.9 Operational Definition of Variables

Table 3.4 Operational Definition of Variables

Variable	Indicators	Scale
1. Social Interactions	2. Number of hours spent on face to face interactions with family 3. Quality and depth of social interactions with family 4. The regularity of family times 5. Situations when the phone is off 6. The levels of confidence when without a cell phone	Ratio Ordinal Ordinal Ordinal Ordinal
2. Communication Calling, emailing and texting	1. Number of contacts 2. The nature of language used when communicating 3. Credit spent per week to communicate 4. Number of messages (SMS) sent per day 5. Preferred mode of communication	Ratio Ordinal Ratio Ratio Ratio
3. Entertainment Video Games, music, radio	1. Entertainment features on the phone 2. Amount of data downloaded per week 3. The frequency of social outings (to visit friends) as a family	Nominal Ratio Ordinal
4. Socialization by cell phone Facebook, twitter, linked, online dating	1. The importance of fashion on social status 2. Quality of Friends on social networks 3. The amount of time spent on the internet 4. The reasons for using the internet 5. Amount of megabytes spent per week 6. Number of friends on Facebook	Ordinal Ordinal Nominal Ratio Ratio

3.10 Ethical Issues

While this research has contributed to the knowledge of the influence of cell phone on social interactions, utmost confidentiality about the respondents was maintained. All the respondents freely participated and contributed voluntarily to the study. Necessary research authorities were consulted and permission granted while due explanations were be given to the respondents before commencement of the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION OF FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the findings of the data collected from the sampled communities in Ngummo, Nairobi County Kenya on the influence of cell phone usage among teenagers on social interactions. Out of 214 respondents that the study targeted there were 187 respondents. This is 85% of the target group. The data was interpreted according to the research questions. The analysis was done through descriptive statistics and findings of the study were presented in form of frequency tables, percentage charts and pie-charts.

4.2 Results and Discussion

This section provides results and discussions of the findings and data analysis of the study. The discussion is linked to the questions of the study and research objectives in establishing the influence of cell phone usage among teenagers on social in interactions among communities in Ngummo, Nairobi County.

4.2.1 Response Rate

Out of 187 respondents 102 were teenagers living in and attending schools within Ngummo representing an overall response of 55%, while the other 85 were members of the community aged 21 years and above representing 45% of the overall response. There were more responses from teenagers than in the other category but this was because more questionnaires were administered to them since they were the main category of the study respondents as proposed by the researcher. However the response of the other members of the community was also good based on the numbers of the questionnaires issued. The table further shows that the response rate of all the questionnaires stood at 85%. Teenager' response in particular was of great importance to this study because in real terms they are the ones who mostly use the cell phone thus important in establishing the influence of cell phone usage as far as social interactions is concerned. The table below shows the number of respondents as per their categories

Table 4.1: Questionnaires Response Rate

TITLE OF RESPONDENT	ISSUED	RETURNED	INCOMPLETE	ANALYZED	%	RESPONSE RATE
Teenagers living in Ngummo	67	61	6	55	55%	82%
Teenagers schooling in Ngummo	49	48	1	47		96%
Teachers in schools within Ngummo	27	27	0	27	45%	100%
Others (Parents, siblings, relatives, friends, neighbors)	71	65	7	58		82%
Total	214			187	100%	87%

Teenagers n=102 while that of the rest of the community is n=85

4.2.2 Gender Composition

The study sought to establish whether gender has any significance influence on cell phone usage on social interactions among the respondents interviewed. The gender analysis revealed that the proportion of cell phone users among female respondents was marginally higher (58%) than in the case of males(42%). The same is illustrated by table 4.2 below.

Table 4.2 Gender Composition

	Frequency	%
Female	109	58
Male	78	42
Total	187	100

4.2.3 Age of the Respondents

Age has consistently been one of the most important factors in establishing cell phone usage among teenagers. Younger teenagers particularly 12-years old and under are less like likely than other teens to have a cell phone. Likewise very advanced age could also limit cell phone usage once agility and responsiveness to the demands of the tasks bestowed on community leaders. The researcher looked into this with a view of establishing its composition. Table 4.3 below reveals that, 73% of the respondents using cell phone among teenagers were over the age of 15 years in Ngummo while 18.6% and 7.8% were 12-14years and Under 12 years respectively. This can be explained by the fact that as teenagers' move into the latter part of primary school and into high school, their world is expanding socially and geographically. There is a consequent need for greater expansion of their social lives, to be in constant touch with their friends and peers. The age of the rest of community was pegged at 21 years and above

Table 4.3 Age of the Teenage Respondents

Age of the Teenage Respondent		
Age Groups (Years)	Frequency	Percentages
Under 12 yrs	2	2%
12-14	21	20.6%
15-17	32	31.4%
18-20	47	46.1%
Total	102	100%

4.3 Communication through the phone

The use of cell phone for communication is a key element that influences social interactions in a community. The researcher was interested in establishing how communication through cell phone among teenagers influences social interactions within the community in Ngummo. The teenage respondents were asked to name the person who bought the mobile phone for them. 98% of the respondents named parents be it either the father or mother who had purchased the cell

phone for the individual while only 2% named others. This is an interesting finding means majority of the teenagers have cellphones because their parents wanted them to have one. Another question was paused on reasons for buying the phone. 55% said they were influenced by others since everybody around them had one. There is a lot of peer pressure among teenagers and for purposes of wanting to belong to a group; they have to conform to the 'set' standards.

In 68% of the instances for community respondents, it was the end user's need that resulted into purchase of the mobile phone. Balance of 32% the respondents mentioned other reasons like 'gift' and 'availability of extra handset at home' for having a mobile phone. While this result indicates that the extent to which external factors act as drivers for purchase is small, it may or may not be applicable to the population at large.

Table 4.4 Motivation to Purchase cellphone

Reasons for owning a cell pone	Frequency	Percentage
Everybody around you had one	57	56%
You wanted to buy it	11	11%
Somebody (parent/friend) asked you to get one for yourself	6	6%
It was a gift	17	17%
Extra handset available	4	4%
Convenience (emergencies)	7	7%
	102	100%

As seen in table 4.4, in teenagers, peer group compliance was found to be the major influencing factor for the cell phone purchase. The finding that 56% of the teenage respondents cited 'every

around them had a mobile’ as a major reason behind their cell phone purchase holds proof to the same.

Apart from the need for communication ‘convenience of calling’ and ‘better accessibility’ offered by the mobile phone, were reported as the main reason for purchasing a cellphone. For the teenagers the need for communicating with friends came foremost while in older category 21 years and above it was their need to remain accessible. There was also the issue of security concern cited by many female respondents as the reason for purchasing the phone compared to that the male counterparts.

Of the 102 teenagers interviewed, many had started using the phone by the age of twelve years. 65 of the respondents (65%) had started using the phone, by the time they reached thirteen (13) years of age. Only 11% start using phones when they are more mature at the age of 16-18 years. Alarminglly 20% of the respondents started using the mobile phone before the age of 10 years with the youngest being only 6 years. The availability of mobile phones for use by children from an early age is likely to impact negatively on their social interactions. From observations made, a number of parents and guardians reach out for the mobile phones as a gadget of keeping their children busy while in social places. They are given phones to stop distracting adults even while in places of worship and hospitals where use of phone is prohibited. From the data collected the average age the teenagers started using the cellphone is in the age group of ten to twelve years.

Table 4.5 Age Started Using the Cellphone

Age	Frequency	Percentage
Below 10	20	20%
10-12 years	58	62%
13-15 years	13	23%
16-18 years	5	11%
Above 18	0	0
Total	n=102	100%

Asked how much they spend on the phone per week, majority of the respondents spent between Kshs100-200 per week but are likely to spend more during school holidays. The older teens were likely to spend more on the phone per week. The reason for this amount of airtime per week is because during the school term, cellphone usage is limited to evenings and weekends compared to school holidays when they spend more on their phone.

Table 4.6 Amount of Airtime Spent Per Week

Amount of airtime per week (In Kshs)	No of respondents	% of the respondents
Less than Kshs 100	8	8%
Between Kshs 100-200	50	49%
Between Kshs 200-300	34	33%
More than Kshs 300	10	10%

Interestingly only a handful (10%) of the teenagers had their bills paid by others while an overwhelming 90% had their bills paid by their parents. This explains why only 21% of teenage respondent knew whether their phone was 'post-paid' or 'pre-paid' while 79% answered 'don't know'. This means that the teenagers may use their phone irresponsibly since they know all their phones bills are met in full by their parents. In response to the same question, a large majority of members of Ngummo community aged 21 years knew their payment plans. 84% of the respondents were on 'pre-paid' while 11% were on 'postpaid' while only 5% 'did not know'. These 5% were elderly members of the community who had their bills paid by their relatives. This shows some degree of responsibility in the usage of their cellphone as 97% paid their own bills.

The study established that 63% of the teenage respondents reported that the primary usage of cellphone was to keep in touch with friends and call home whenever they were away compared to community members 61% which are business related calls. Cellphone usage directed towards family by the teenagers is 21% compared to 56% by the community members. Again the question of peer influence is at play here given that teenagers will most likely talk to their peers

so as to gain acceptance and recognition. They have to keep abreast with what their friends are doing for fear of being isolated.

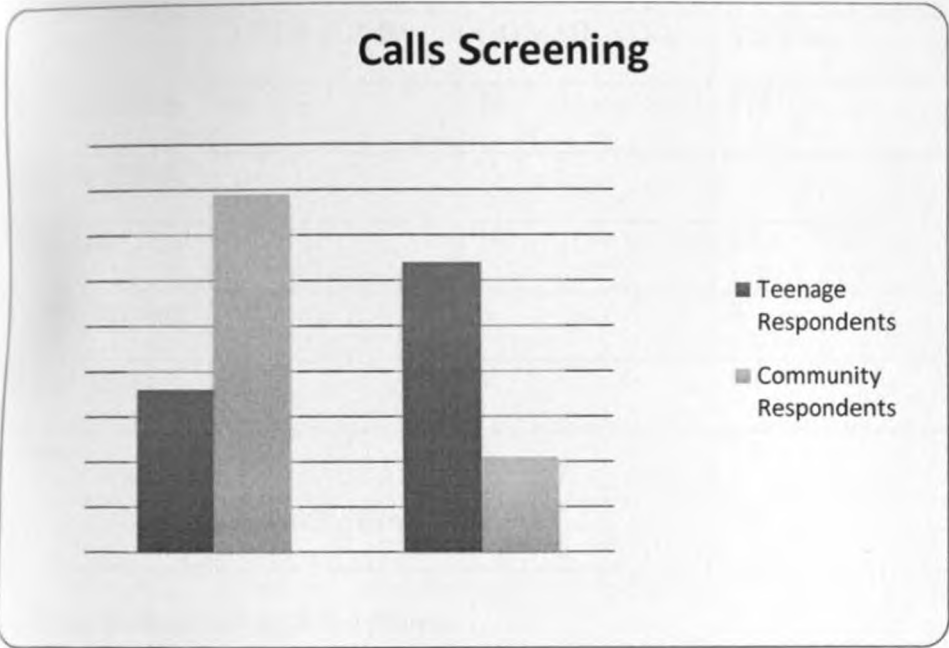
Table 4.7 Primary Usage of Cellphone

Primary usage of cellphone	Teenage respondents		Community respondents	
	No of Respondents	% of total Respondents	No of Respondents	% of total Respondents
Call friends	64	63%	36	41%
Call to family	21	21%	49	56%
Business Related	4	4%	53	61%

In response to the question whether they would manage without the phone for a day, 60% of all the respondents said they could not manage even for a day. The need to be accessible constantly and connected with friends or colleagues was cited as the main reason why they could not go for a day without the phone. Some respondents said ‘they will miss out on important information’ while for others ‘phone had become part of them’. The extent of addiction to cellphone is equal across all ages.

The number of calls answered varied greatly with teenagers 64% using the call identification function more than the adults (21%). The female were also using it more than male, citing ‘security reasons’. Community respondents answer 79% of all calls compared to teenagers 36%. This could be explained by the fact that the adults are in business or are employed thus deal with a larger community in their day to day activities unlike teenagers who mostly communicate to their friends as seen earlier on. An incoming call thus provokes a sense of expectation and urgency and that is why they feel compelled to answer a ringing phone. They use the phone for business and pleasure and therefore you cannot afford to ignore calls.

Figure 2 Call Identifier Function



In response to new physical and emotional demands made by the cellphone, people have introduced new postures, gestures and bodily movement to their everyday behaviour. Hardly will you find people positioned in one place while talking over the phone. Strolling and pacing up and down while talking over the phone is one such practice. As per the data collected and analysed, 71% of teenagers have this habit compared to 63% of the other community members. From the group discussions, this was cited as one of the most annoying habits by the teenagers. Many times when in a middle of a conversation and the phone rings, they will run out irrespective of their surroundings. While driving in residential areas, people are on the lookout more for the teenagers on their phones, talking or listening to music and walking on the road as opposed to playing children that was the norm in the past.

Majority of all the respondents (61%) did not associate the phone with any medical side effects. Those who responded in the affirmative (39%) admitted that using a mobile phone is harmful to their health. There was reference to addiction, hearing problem, brain cancer as the major side effects. Others also felt that it could lead to harmful radiations, headaches and poor performance in academics.

Table 4.8 Medical Side Effects of Using Cellphone

	TEENAGERS	COMMUNITY	TOTAL	PERCENTAGE
No Side Effects	60	51	111	59%
Has side effects				
Addiction	21	16	37	51%
Loss of Hearing	10	8	8	
Brain Cancer	6	4	10	
Others	5	8	13	
	Has side effects	Total	78	

4.4 Socialization through the phone

This refers to access to the network of social connections, institutions, relationships, that exist between people, and their shared values and norms of behaviour, which enable and encourage mutually advantageous social cooperation that shape the quality and quantity of a society's social interactions.

Many teenagers and adults alike are using the social networks to stay in touch with friends and family. Almost all the teenagers interviewed held more than one social network account. The most common account held was the Facebook with 76% followed by email (47%) and the twitter account at 35%. Even though an email account was prerequisite for opening the Facebook account only 26 % of the teenagers used this facility. Majority of community members (74%) held an email account mainly for business or official communication followed by Twitter 68% for getting updates on various social issues. Of the respondents interviewed 33% have Facebook which they visit occasionally but hardly make postings.

Table 4.9 Number of Active Social Network Accounts Held

Type of Account	Teenagers Respondents	%	Community Respondents	%	% Total Respondents
Facebook	97	95%	47	55%	76%
My space	33	32%	14	16%	26%
Email	23	22%	65	74%	47%
Twitter	17	16%	21	24%	35%

Overall, Facebook is the dominant social media site among teens, as 95% of teen social media users have a Facebook account. MySpace ranks a distant second in overall usage, with 32% of teen social media users having an account on this site. The Facebook is seen as an account used to broadcast to the world about a person. Teenagers especially use these accounts to brag about 'achievements', share photos of functions they have attended, their status, colleges or schools they are attending.

When teenagers are feeling depressed their first contact is not family (40%) but others either through social networks such as Facebook, twitter or SMS their friends (60%). They prefer 'sharing their problems with the world who will give them timely responses' as opposed to their 'parents who have little or no time for them', retorted on teenager during discussions. There is a rise on the number of teenage suicide occurring in urban areas. Unfortunately, most of these occur with parent having little or no knowledge of what the teenagers are going through. During one of the focus groups discussion with the teenagers, it was evident that teenagers have very little time with their parents who are always busy. A typical teenagers day in Ngummo starts at 5 am when they wake up, picked by the school bus and are in school till 4 and are dropped home at about 6 in time to catch up with friends on social networks, complete homework take dinner and sleep in readiness for another early day. Their parents or guardians are hardly home before 9p.m by the time teenagers are getting ready to go to be.

Majority of the teenage respondents (87%) have more than 100 friends and contacts in their social accounts. Majority of these contacts and friends are people they have never met face to face or talked ‘voice calls’. Interestingly, teenagers (48%) ‘talk online’ and ‘share information’ to a majority of their social networks even though they do not know them well. This was a point of concern for the parents during the focus group discussions. They were alarmed at the number of hours teenagers spend on the internet with ‘strangers’. The likelihood of online dating especially for the older teenagers and young adults is of great concern to the parents and guardians alike.

Table 4.10 Socialization through the phone using social media sites

How teens use social media sites	
<i>Based on teens who use social network sites or Twitter</i>	
Send instant messages or chat with a friend through the social network site	86%
Post comments on something a friend has posted	77%
Post a status update	66%
Post a photo or video	75%
Send private messages to a friend within the social network site	70%
Tag people in posts, photos or videos	69%
Play a game on a social network site	50%

Teens engage in a wide range of activities on social network sites, with chatting and instant messaging, commenting on their friends’ posts, and posting their own status updates leading the way—just under nine in ten teen social media users do each of these activities. On the other end of the scale, gaming is the least common activity we measured in our survey, as half of teen social media users play games within the context of these sites

Table 4.11 Socialization through the phone using network friends and contacts

Number of friends	Frequency	Meet Face %	Face-to-Face %	Meet and Talk Online %	Never met but talk online %
Less than 50	5	58%		39%	3%
50-100	13	49%		35%	16%
100-150	16	36%		30%	34%
More than 150	22	23%		39%	48%
Total	n=102				

Another finding on the number of hours spent on the phone during holidays, 64% of the teenagers reported an average of 4-6 hours on the phone every day. Some stay awake late at night to take advantage of cheaper service rates offered by the subscribers to chat with friends. This is supported by the findings of 86% reporting that you will most likely find their phone under the pillow in the morning.

The vast majority of teens say they have private social network site profiles that are visible only to "friends." 62% of teens who have a social media profile say the profile they use most often is set to be private so that only their friends can see the content they post. 19% say their profile is partially private so that friends of friends or their networks can see some version of their profile. 17% say their profile is set to public so that everyone can see it.

Table 4.12 Average Number of Hours Spent on phone and other activities during weekends

Number of Hours	Spent on the phone	Reading	TV	Others
0-2	15%	13%	9%	31%
2-4	20%	55%	38%	24%
4-6	48%	25%	35%	20%
> 6	17%	7%	18%	25%

Majority of teenagers (99%) interviewed are in school and especially the senior years in primary and secondary schools. In this age they are expected to spend more hours of their time engaging in activities that are beneficial to their academic performance. From the research carried out 48% of the teenagers are spending 4-6 hours of their time during weekends on the phone as compared to only 25% who spend the same number of hours reading.

4.5 Entertainment through the phone

Majority of teenagers have internet enabled phones. They spend atleast an hour on the internet during weekdays and an average of 3-4 hours during weekends and holidays. This allows them to access the internet at their convenience and privacy, they have the whole world in their hands

Their best source of entertainment is their handset which they use to listen to music, watch video and play games. Of the 102 teenagers interviewed, 50% said they used the mobile phone as their only source of entertainment.

Table 4.13 Best Source of Entertainment

	Teenagers	%	Community Members	%
Mobile phone	51	50%	12	14%
Radio/ TV	29	29%	28	33%
Family	11	11%	21	25%
Friends	4	4%	13	15%
Books	7	7%	11	13%
Total	102		87	

Other anti-social behaviours that will discourage social interactions that teenagers are involved in include sexting. Many teenagers are spending hours texting each other including obscene photos of each other. From focus group discussions, teens explained how sexually suggestive images have become a form of relationship currency. These images are shared as a part of or instead of

sexual activity, or as a way of starting or maintaining a relationship with a significant other. And they are also passed along to friends for their entertainment value, as a joke or for fun.

From Table 4 14 below, the report also reveals that teens who are more intense users of cell phones are more likely to receive sexually suggestive images. 67% of teenagers interviewed alluded to having received an unwanted text message through their phones compared to only 7% who reported not having received such messages at all. When probed further during group discussions, it was evident that most of these spams were sexually suggestive images and messages. It is also evident that for these teens, the phone has become such an important conduit for communication and content of all kinds that turning it off is nearly unthinkable. Many teenagers expressed that the mobile phone gave them freedom to interact with their friends at their convenience; they were able to keep in touch anytime anywhere.

A worrying 60% had been harassed by someone else through voice calls (often and always) compared to only 23% who had not been harassed at all. This form of communication and socialization through the phone is likely to have a negative effective on the teenagers' social interactions. Teenagers who get harassed and receive spam messages over the phone are likely to have a low self-esteem and keep to themselves. This will in effect has a negative effect on social interactions with others. It may also result to use of dirty language which will lead to the teenage being isolated by others, because they are considered a social misfit. The teenagers also frequent communication (67%, often and always) especially through SMS in different banned settings such as hospitals, churches, petrol station and even in schools, computer labs, and library. However, it is also noticeable that the purpose of most of SMS sent and received is not positive. For example: most of the text messages are funny and even dirty, insulting for a specific group of people, teasing others and even sometimes spreading the rumors

It was evident during group discussions and from the questionnaires that there is excessive and late night cell phone usage among teenagers. 62% of the teenagers slept with phones (often and always) under the pillow while only 10% had not slept with the pillows under their phone. This shows that teenagers usage their phone very late into the night and fall asleep while still on their phones. This has in many cases been a source of conflict with their parents. The main reasons of this conflict are that the parental telephone communication norms with reference to the time, place and purpose were mostly different than their offspring. So, there is a perception gap

between the parents and children about the appropriate and inappropriate use of mobile phone technology. Secondly, communication on mobile phones sometimes defies the parental and cultural values for example communicating with opposite gender over the phone for long duration and in the presence of others. Thirdly, parents also feel that excessive and late night use of the mobile phone may negatively affect the studies of their children.

Table 4.14 Cellphone Usage Patterns among teenagers

	Not at all	Rarely	Occasio nally	often	Always
Find friends and family complaining about your use of mobile phone	7	9	37	38	10
Carry your phone when going out on a family dinner	20	10	23	7	40
dose off listening to music on your cellphone	23	7		10	60
Attempt to date 'friends' you have not 'met' through internet	27	20	7	10	40
Text your friends while in church, bank, hospital, school, college, petrol stations, labs	10	23		10	57
Find yourself occupied on your mobile phone when you should be doing other things	30	10		10	50
Find yourself engaged on the phone at odd hours and for longer than you expected	12	13	8	25	42
Keep your phone under the pillow when sleeping	10	12	14	29	30
Become pre-occupied when out of network with the thoughts of missing a call	15	13	16	25	31
Spend time with friends 'in person' doing social activities	30	23	10	10	27
Get harassed by someone else through voice calls or sms	23	17	13	17	30
Receive unwanted or spam text message	7	13	20	23	37

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the summary of the findings; conclusions reached and then give the recommendations as per the responses from the respondents. This is in relation to communication, socialization and entertainment through the mobile phone among teenagers. The chapter also looks at the conclusions and recommendations as deduced from the study findings. Finally the chapter points out the areas the researcher thought would require further research in related fields.

5.2 Communication through the phone

The study has established that the most common form of communication among teenagers is through the short message services popularly known as SMS. Short message services which is the sending and receiving text messages has changed the way in which individuals are required to interact. Messaging back and forth allows for an often unseen and unheard communication between individuals, as well as fewer limitations to where and when they can communicate, and text messaging has served more for 'filler' communication, and less for functional and practical communication between individuals.

By communicating through text messages, individuals are not required to interact with others socially in a face-to-face manner; they can do it all through messaging. While this is a convenient way and discrete way to communicate with another person, it has changed the way that individuals are reacting with others not only in a social setting, but also in how they are maintaining their existing relationships, and building new relationships. From the focus group discussions, many teenagers reported distancing themselves from parents and significant others for more than 2 days and only communicating through text messages. Unfortunately, this form of communication distances one from others denying them the opportunity to be physically present. Message will give one the wrong impression since you have no chance of 'reading' the cues from the senders. Teenagers who are texters were found to be lonelier and socially anxious, and more likely to disclose their 'real-self' through text than via face-to face or voice call exchanges.

Again this is likely to affect their social interactions skills leading to low self-esteem in public speaking.

Research study shows that some part of an individual learning and socialization comes from the family (Aoki & Downes, 2003); but telephone communication patterns are different among generations, as the mobile phone services were unavailable in most part of Kenya about 15 years ago. Therefore the teenagers cannot adopt and learn from their parents' telephone communication patterns. The main source of learning for the youth in case of mobile phone communications remain the TV advertisements of telecom companies. So, most of these mobile phone communication values are going to be shaped by the marketing communications of telecom operators and not by the other institutions such as the family. The negative aspects of this technology cannot be ignored. Youth mostly indulge themselves intentionally or unintentionally in the inappropriate use of mobile phone. Similarly, telecom operators consciously or unconsciously show TV advertisements and offer packages which encourage misuse of mobile phone voice calls and text messages among youth.

Although, teenagers use SMS communications for the positive purposes such as, sharing information and greeting, it is also noticeable that the purpose of most of SMS sent and received is not positive. For example: most of the text messages are funny and even dirty, insulting for a specific group of people, teasing others and even sometimes spreading the rumors. This is surely not a positive use of SMS technology.

5.3 Socialization through the phone

Social interaction signifies that we are aware of the existence of others, as well as implies active engagement between two or more parties (Banjor, Hun & Sundar 2007). Cell phones have allowed individuals to surpass time and space and have any conversation that they choose, wherever they choose. With public conversation comes public invasion, meaning that you are invading into other's personal spaces by talking out loud about your own personal spaces coming off as inconsiderate and rude which links to alienation of oneself. It is interesting to note that the teenage perception of inappropriate mobile phone use is limited to class room setting only.

Majority of teenagers students do not perceive that the mobile phone use is a problem in different public and private settings as documented by the previous researchers (Bianchi & Phillips, 2005) and (Palen, Salzman, & Young, 2009).

While the cellphone has provided a new avenue to social networking and interactions, the change in the space and time concept has also had a negative effect as well. Many of us have likely experienced a situation where we have been in the presence of a cell phone user who is engaging in some form of rude behavior that lacks respect and are insensitive for the individuals around them. Cell phones have changed the way that individuals socially interact; individuals are communicating more via text messages and cell phones than they are face-to-face, changing our social environment. Individuals have become enveloped in their cell phones and less aware of their social surroundings, missing out on possible new social interactions.

The accessibility and usage of a cell phone also has the potential to inhibit non-verbal social cues such as smiling that are useful in social interaction with proximate others. Those who use their cell phones are less likely than those who did not use their cell phones to smile at the confederate. Accessibility of the cell phone may cause cell phone users to exhibit non-friendly behaviors towards strangers without being aware of their rudeness.

5.4 Entertainment through the phone

Teenagers seek out entertainment and avoid boredom; as with anything there are appropriate times and inappropriate times. This concept translates over to cell phone use as well; people will use their cell phones at appropriate and inappropriate times, simply to satisfy a social urge, want or need. This category is supported significantly by relationships between individuals who are cell phone addicted via sensation seeking, demonstrating that the cell phone is used more for entertainment and social connectivity.

The study also found out that a number of teenagers are engaging on their phones to 'kill' leisure boredom. Those individuals who become bored with their current situations will most likely turn to their phones. For teenagers and young adults, as leisure boredom arose, they were more likely

to be found engaging in SMS messages, making phone calls, accessing the internet from their phone or playing a mobile driven game. Once there is an element of boredom his or her attention is drawn immediately to his or her cell phone device for an instant connection to someone, somewhere. Through a series of surveys (Leung, 2008) it was shown that the higher rate of leisurely boredom, the more frequent use of a cell phone occurred. This has denied many the opportunities to interact with others; the face-to-face interaction has suffered the most as teenagers turn to their gadgets.

5.5 Conclusions

Our society today is one that is based on technology, and technological advances. Technology as a whole will always have an effect on the way that individuals function in society, and while there has not been a lot of research on the effects of cellular phone use on social interactions, it has both positive and negative consequences. Cell phones in their small time in existence have changed the way in which individuals are interacting with each other.

Cell phone usage has provided avenues for individuals to stay connected on a new level that does not depend on space or time, but is readily accessible at anytime, anywhere. Never being disconnected has allowed social networks and relationships to be strengthened as well as new relationships formed. Cell phones have also allowed individuals all over the world whom, without the cell phone would never have access to all of the networks, assets and information that they do via the mobile phone.

Communication through text messaging has become more popular among younger generations in comparison with older generations. Sending and receiving text messages, is a form of communication with others that can be secretive and discrete; parents and teachers cannot intercept nor have access to what is being sent back and forth. Children as early as six years know how to download games from their parents' phone; there should be a restriction as to the age parents purchase phone for their young ones. Given the young age children are getting exposed to use of mobile phone, there is need for parents and members of the community to be involved more in managing the use of phone by teenagers.

Although research already indicates that social interaction with strangers is minimal (Schefflen & Aschcraft, 2007), the presence of a cell phone reduces interaction even further. So much so that it could affect our social responsibility to proximate others, be they familiar or known others. Concurring with research on the intrusive nature of cellphones, we suggest that the interactive and mobile nature of these technologies allow for distractions in public spheres (Oulasvirta, 2005). It appears that the privatization of these technologies do not fare well in public spaces as it diffuses our responsibility to help those outside of our social group. Cellphones, along with other interactive and mobile communication technologies, function as masks that hinder active users from recognizing the needs of others and interacting with others. We are limited to interacting with only those who are in our social circles.

5.6 Recommendations

This research study affirms the fact that cellphone usage in social spaces generates negative attitudes as it constitutes a disturbance to proximate others (Cooper, 2002) (Leung & Wei, 2000) (Bergvik, 2004). Discretion of cell phone use is even evident in current state laws that prohibit drivers from talking on the phone while driving. This alone testifies to the potential risk of danger that interactive mobile technologies pose for its users. A possible solution is to make users more aware of the effect of these mobile technologies on their attention, not only to strangers but even their surroundings. There is an urgent need to develop a social code of behavior for proper cell phone usage.

In conclusion, one of the main things this research has shown is that although a large number of people seem to have a mobile phone, they are not all using their phone in the same way (Crabtree, Nathan, & Roberts, 2003)

5.7 Areas for Further Research

There is still a lot of future research that needs to be done on the long-term effects of the mobile phone and social relationships. Something that should be looked at is how the mobile phone affects inter-personal and intra-personal relationships over time, as well as what the long term health effects are. This study used a small sample size of Ngummo community; this study results could therefore serve as a launching pad for the future survey research with a large sample size.

REFERENCES

- AABS. (2011). The Impact of Cell Phone Use on Social Networking and Development among College Students. *American Association of Behavioral and Social Sciences, Vol 15*, 2-16, 31-45.
- Ahmed, I. (2011). Mobile Phone Adoption & Consumption Patterns. *International Journal of Business and Social Science, Vol.2 No 9*, 205-212.
- Aoki, K., & Downes, E. J. (2003). An Analysis of young people's use of and attitudes toward cell phones. *Telematics and Informatics Vol 20, No 4*, 349-364.
- Banjo, O., Hu, Y., & Sundar, S. S. (2008). Cell phone usage and social interaction with proximate others: Ringing in a theoretical model. *The Open Communication Journal vol 2*, 127-135.
- Bergvik, S. (2004). *Disturbing Cell Phone Behaviour - A psychological perspective, implications for mobile technology in tourism*. Telenor.
- Bianchi, A., & Phillips, J. (2005). Psychological Predictors of Problem Mobile Phone Use. *Cyber Psychology & Behaviour*, 8, 39-51.
- Block, J. (2008). Issues for DSM-V: Internet Addiction. *The American Journal of Psychiatry*, 165, 306-397.
- Bond, E. (2010). Managing mobile relationships: Children's perception of the impact of the mobile phone on relationships in their everyday lives. *Childhood*, 17, 514-529.
- Castells, M., Fernandez-Ardevol M, Q., J, & Sey, A. (2007). *Mobile Communication Society: A global Perspective*. Cambridge: MIT Press.
- CCK, C. C. (2008). *Communications statistics report*. Nairobi: CCK.
- CCK, C. C. (November 2011). *Quarterly Sector Statistics Report: July-Sep 2011/2012*. Nairobi: CCK.
- Chabossou, A., Stork, C., & Stork, M. e. (2009). Mobile Telephony Access and Usage in Africa. *ICT Research in Africa*, 392-397.
- Choliz, M. (2010). Mobile phone addiction: Point of issue. *Addiction*, 105, 374.
- Cochran, W. G. (1977). *Sampling Techniques 3rd Ed*. New York: John Wiley & Sons.
- Communications Commission of Kenya. (2012). *Quarterly Sector Statistics Report April- June 2012*. NAIROBI: CCK.

- Cooper, G. (2002). The Mutable Mobile: Social Theory in the Wireless World. In B. Brown, N. Green, & R. Harper, *Wireless World: Social and Interactions Aspects of the Mobile Age* (pp. 19-31). New York: Springer.
- Corbett, A. (2009, 12 3). *Cellular Phones Influnce and Inpact on Social Interactions*.
- Crabtree, J., Nathan, M., & Roberts, S. (2003). Mobile phones and everyday life. *Mobile UK*, 1.
- Davie, R., Panting, C., & Charlton, T. (2004). Mobile Phone Ownership and usage among pre-adolescents. *Telematics and Informatics, Vol 21 No 4*, 359-373.
- Erikson, E. (1968). *Identity: Youth and crisis*. New York: Norton.
- Fernando, A. (2007, Dec). "If you text it, they may come." *Communication World* 24(4):11-12.
- Fortunati, L. (2002). The Mobile Phone:Towards New Categories and Social Relations. *Information, Communication and Society* 5(4), 513.
- Fortunati, L. (2008). Introduction to the Special Issue on Mobile Societies in Asia-Pacific. *International Journal: Information Society, Vol. 24, Issue 3*, 135-139.
- Garcia-Montes, J. M., Caballero-Munoz, D., & Perez-Alvarez, M. (2006). Changes in the self resulting from the use of mobile phones. *Media, Culture and Society Vol. 28, No 1*, 67-82.
- Gergen, K. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, UK: Cambridge University Press.
- Hafner, K. (2009, May 26). Texting may be taking a toll. *Washington Post*, pp. 13-15.
- Humpherys, L. (2005). Cellphones in public:social interactios in a wireless era. *New Media & Society, Vol 7, No. 6*, 810-833.
- Iso-Ahola, S. E., & Crowley, E. D. (1991). Adolescent substance and leisure boredom. *Journal of leisure research Vol 23, No 3*, 260-271.
- Iso-Ahola, S., & Weissinger, E. (1990). Perceptions of boredome in leisure:Conceptualization, reliability and validity of the Leisure Boredom Scale. *Journal of Leisure Research Vol 22 No 1*, 1-17.
- Ito, M. (2005). *Mobile Communications: Re-negotiation of the social sphere*. London: Springer.
- Kasesniemi, E. L. (2003). *Mobile Message: Young People and a new communication culture*. Tampere, Finland: Tampere University Press.

- Kelly, T. (May 2009). Mobile 2.0 beyond voice? Research Agenda. *International Communication Association Preconference*. Chicago.
- Klarer, P. G. (2009). The Effects of Technological Overload on Children: An Art Therapist's Perspective. *Art Therapy Journal*, 80-82.
- Kombo, K., & Tromp, L. (2006). *Proposal and thesis writing: An introduction*. Nairobi: Paulines Publications Africa.
- Lapomaa, T. (2009). *The City in your pocket: Birth of the mobile information society*. Helsinki, Finland: Gaudeamus Kirja.
- LCVR (2012, March 22). Parent Teachers Meeting .
- Lehar, A. (2010, April 20). Senior Research Specialist. (P. I. Project, Interviewer)
- Leung, L. (2008). Leisure boredom, sensation seeking, self esteem, and addiction: Symptoms and patterns of cell phone use. *Mediated Personal Communication*, pp. 359-381.
- Leung, L., & Wei, R. (2000). More that just talk on the move: Uses and gratifications of the cellular phone. *Journalism and Mass Communication Quartely*, Vol 77, No 2, 308.
- Ling, R. (2004). *The Mobile connection: The cell phone's impact on society*. San Francisco: Morgan Kaufmann Publishers.
- Lloyd, K., & Devine, P. (Oct 2009). The Net Generation. *Access Research Knowledge No 62*.
- Madrid. (2003). Mobile phones becoming a major addiction. Madrid.
- Maslow, A. H. (1943). A theory of human motivation. *Psychology review Vol 50*, 370-396.
- Medicine, A. A. (2008, June 9). *Science Daily*. Retrieved February 16, 2012, from Science Daily Web Site: www.sciencedaily.com
- Monk, A., Fellas, E., & Eleanor, L. (2004). Hearing only one side of normal and mobile phone conversations. *Behaviour and Information Technology*, Vol 23, No 5, 301-305.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and Qualitative Approaches*. Nairobi: Act Press.
- Njuki, M. C. (2012, 3 17). Parents Meeting Loreto Convent Valley Road. (L. Kiruthu, Interviewer)
- Orodho, A. J., & Kombo, D. K. (2002). *Research Methods*. Nairobi: Kenyatta University Institute of Open Learning.

- Palen, L., Salzman, M., & Young, E. (2009, November 10). *Colorado University*. Retrieved August 18, 2012, from Colorado University Website: <http://www.cs.colorado.edu>
- Peters, O., & Alluoch, S. B. (2005). Always Connected: A longitudinal field study of mobile communication. *Telecommunications Policy*, Vol 22, 239-256.
- Pragas, F. (2003). *Being mobile with the mobile: Cellular telephony and renegotiations of public transport as public sphere*. Norway: Grimstad.
- Rao, M. (2011). *Mobile Africa Report 2011: Regional Hubs of Excellence and Innovation*. Helsinki: Mobile Monday.
- Rebello, J. (2010, Dec 15). *Issuppli*. Retrieved March 5, 2012, from Issupli Website: <http://www.isuppli.com/mobile-and-wireless-communication>
- Reid, D. J., & Reid, F. J. (2007). Text or talk? Social Anxiety, Loneliness, and Divergent Preferences for Cell Phone Use. *CyberPsychology & Behavior* Vol 10 No 3, pp. 424-435.
- Roos, J. P. (2003). Sociology of Cellular telephone: the Nordic Model. *Telecommunications Policy*, Vol 17, No 6, 446-456.
- Taofeeq, A. Y. (2010). *Mobile Phones and the Emerging Privacy Invasion Issues in West Africa*. Lagos.
- Taylor, A., & Harper, R. (2003). The gift of the gab? A design orientated sociology of young people's use of mobiles. *Computer Supported Cooperative Work*, Vol 12, pp. 267-296.
- Thurlow, c. (2003). Generation Txt? Exposing the sociolinguistics of young people text-messaging. *Discourse Analysis Online*.
- Torrecillas, F. L. (2007). *Mobile-phone addiction in teenagers may cause severe psychological disorders*. Granada: University of Granada.
- Tully, C. J. (2003). Growing up in technological worlds: How modern technologies shape everyday lives of young people. *Bulletin of Science, Technology and Society* Vol 23, No 6, 444-456.
- Walsh, S., White, K., & Ross, M. (2008). A qualitative exploration of the relationship between Australian youth and their mobile phones. *Journal of Adolescence*, 31, 77-92.
- Wilska, T. -A. (2003). Mobile phone as part of young people's consumption styles. *Journal of Consumer Policy*, Vol 26, No 4, 441.

APPENDICES

Appendix 1: Introduction Letter

University of Nairobi,
College of Extra Mural studies,
School of Continuing and Distance Education,

Dear Pal

ACADEMIC RESEARCH

I am a graduate student doing a study on the mobile phone. Your opinions will help me understand how people, especially teenagers use the mobile phone in their daily life. If you would like additional information regarding this study, including results, before or after its completion, please feel free to contact me. This study is completely voluntary and anonymous, and you can terminate your participation at any time.

Thank you!



Elizabeth Gichovi

Gichovi.elizabeth@gmail.com

Appendix 2: Focus Group Questions

1. Do you have the mobile phone?
 - a. How long have you owned the mobile phone?
 - b. Why do you need the mobile phone?
2. How do you use the mobile phone in everyday life?
 - a. How long (on average) do you use the mobile phone per day?
 - b. When do you most frequently use the mobile phone in a given day?
 - c. Who do you contact most frequently by the mobile phone?
 - d. Why do you use the mobile phone?
 - e. In what situations do you find that you most frequently utilize the mobile phone?
 - f. In what situations if any, do you find it most appropriate to use the mobile phone?
 - g. In what situations do you perceive it to be inappropriate to use the mobile phone?
3. Since you got the mobile phone, how, if at all, do you consider your life to be different?
 - a. Relationships with family
 - i. Parents
 - ii. Siblings
 - iii. Grandparents
 - iv. Other relatives
 - b. Relationships with friends
 - i. Boy/girl friends
 - ii. Close friends
 - iii. Not-so-close friends
4. How would you describe mobile phones in general? These perceptions may include that regarding your own use and/or others' use.

Appendix 3: Community Respondent Questionnaire

Dear Sir/Madam,

This study aims at determining the influence of mobile phone usage among teenagers on social interactions in Ngummo, Nairobi County. Please give your opinion about the following questions. There is no wrong or right answer. If you don't know a precise answer, just give your best guest. Your co-operation is highly appreciated.

Please Tick Appropriately

Estate: _____ Gender: Male () Female ()

Age: 12 and below() 12-14 () 15-17 () 18-20 () 21 and above ()

1. Do you own cell phone?
 - a) Yes
 - b) No
 - c) I don't know
2. Do you ever send or receive text messages on your cell phone?
 - a) Yes
 - b) No
 - c) I don't know
3. Do you have a son/daughter/brother/sister who has a cellphone? Yes/No
4. Here is a list of ways some parents supervise their child's cell phone activities. Please give appropriate answers

	YES	NO	I DON'T KNOW
Limit the times of day when your child can use the phone			
Use the phone to monitor your child's location			
Limit the number of minutes your child may talk on the cell phone			
Limit the number of text or other messages your child may send or receive			
Take away your child's phone as punishment			
Look at the contents of your child's cell phone [IF NECESSARY: such as the address book, call log, text			

messages or pictures]			
-----------------------	--	--	--

5. Have you experienced or done any of the following? Tick appropriately

	NOT ALL	AT RARELY	OCCASIONALLY	OFTEN	ALWAYS
Texted friends while in church, bank, hospital, school, college					
Talked on the cellphone while driving					
Had your location monitored by other through your cell phone					
Been in a car when the driver was texting					
Been harassed by someone else through your phone, either voice calls or text messages					
Received unwanted or spam text messages					
Sent a text message					

you regretted sending					
------------------------------	--	--	--	--	--

6. Have you observed the following among teenagers using the cell phone?

	NOT AT ALL	RARELY	OCCASIONALLY	OFTEN	ALWAYS
Friends and family complain about their use of mobile phone /					
Use their phones in between tasks (eg. Homework/studies)					
Talk on the phone while driving					
Sleep with cellphone on or right next to their bed					
Occupied on your mobile phone when they should be doing other things					
Become pre-occupied when out of network with the thoughts of missing a call					
Carry their phones always					

even to the washrooms Become agitated when someone else uses their phone					
Text friends while in church, bank, hospital, school, college					
They are on their phone most of the time during family social events					

Thanks for your time and answers

Appendix 4: Teenage Respondent Questionnaire

Dear Sir/Madam,

This study aims at determining the influence of mobile phone usage among teenagers on social interactions in Ngummo, Nairobi County. Please give your opinion about the following questions. There is no wrong or right answer. If you don't know a precise answer, just give your best guest. Your co-operation is highly appreciated.

Please Tick Appropriately

Estate: _____ Gender: Male () Female ()

Age: 12 and below() 12-14 () 15-17 () 18-20 () 21 and above ()

For the questions below, please tick the answers

1. Who bought the mobile for you?
 - a) Parent
 - b) Elder brother /Sister
 - c) Self
 - d) Company
 - e) Any other (please specify) _
2. You took a mobile because
 - a) Everybody around you already had one with them
 - b) You wanted to buy it
 - c) Somebody (friend/parent) asked you to get one for yourself
 - d) Any other (please specify) _
3. What is the most important reason for purchasing the mobile?
 - a) Give you the 'convenience' of calling anytime
 - b) It makes you 'easily accessible' to other people i.e. it is a better medium to get messages
 - c) It is easy to communicate with friends
 - d) No land line so preferred a mobile
 - e) Any other (please specify) _

4. At what AGE did you start using a mobile phone? _
5. Is your mobile phone always ON?
 - a) Yes
 - b) No
6. When the cell phone rings you answer
 - a) 'All' the calls
 - b) 'only selective calls'
7. Generally, you use the mobile phone for
 - a) Calling your friends
 - b) Calling home whenever you are out
8. How much of your usage is directed towards 'family calls' only
 - a) One in every 2 calls
 - b) One in every 3 calls
 - c) One in every 5 calls
 - d) One in every 10 calls
9. The most common place where you use your mobile are
 - a) At home
 - b) In public transport
 - c) At a place of worship
 - d) On the bus-stop
 - e) College/school/work
10. While talking over the phone do you -
 - a) Stand at one place and complete conversation
 - b) Roam around
11. How private do you consider the information on your phone?
 - a) Very private
 - b) Somewhat private

c) Not private

12. While you are talking over the phone does it bother you when others around you talk on their cellphones too?

a) No, never

b) Rarely

c) Sometimes

d) Often

e) Yes, always

13. How often do you place your phone on "silent" or "vibrate"?

a) No, never

b) Rarely

c) Sometimes

d) Often

e) Yes, always

14. Is your phone postpaid or prepaid?

a) Prepaid

b) Postpaid

c) Don't know

15. How much do you spend on airtime per week?

a) Less than 100

b) Kshs.100-200

c) Kshs.200-300

d) More than Kshs 300

16. Who pays for your phone bills

a) Parent/guardian

b) Self

c) Someone else

17. Which of the following do you use most frequently to get information?

- a) Mobile Phone
- b) TV
- c) Radio
- d) Newspapers
- e) Books
- f) Face-to-face

18. Can you do without a phone for a day

- a) Yes
- b) No

19. When you want to reach the people below, you will most likely (tick appropriate)

	Text (sms)	Talk (call)	Neither	Depends	Don't know
Friends					
Parents or guardian					
Brothers, sisters or other family members					
Boyfriend/girlfriend					
Teacher/employer					

20. Do you think there are any medical side effects of using a mobile?

- a) Yes
- b) No

Section 2: Socialization through the cellphone

1. Active Account held

- a) Facebook
- b) 1M
- c) Twitter
- d) Email

2. When you are feeling depressed, you will most likely contact
 - a) Social Networks (Facebook, twitter)
 - b) Your family
 - c) Your friends (calling/sms)
3. When your friends break up, you will most likely learn through
 - a) Word of mouth
 - b) SMS
 - c) Social network (Facebook, Twitter)
4. Your best source of breaking news is
 - a) Internet (including twitter)
 - b) SMS
 - c) TV
 - d) Radio
5. Average number of friends, contacts in the above accounts
 - a) Less than 10
 - b) 10-50
 - c) 50-100
 - d) More than 100
6. Number of good friends you don't meet face-to-face but talk online
 - a) Less than 10
 - b) 10-50
 - c) 50-100
 - d) More than 100
7. When you have wronged somebody you will most likely apologize by
 - a) Calling them
 - b) Sending a message (SMS)
 - c) Posting a message on Social network (Facebook, Twitter)
 - d) Face-to-face meeting
 - e) Others: Specify _

8. Do you

	NOT AT ALL	RARELY	OCCASIONALLY	OFTEN	ALWAYS
Find friends and family complaining about your use of mobile phone					
Use your phone to browse or update your social networking					

profile?					
Carry your phone when going out on a family dinner					
Text your friends while in church, bank, hospital, school, college					
Keep your phone under the pillow when sleeping					
Become pre-occupied when out of network with the thoughts of missing a call					
Spend time with friends in person' doing social activities					
Get harassed by someone else through voice calls or sms					
Find your location monitored by parents through your cellphone					
Send messages through social networking sites like MySpace or Facebook ,					
Share private messages to a friend within the social					
Receive unwanted or					

spam text message					
Find yourself occupied on your mobile phone when you should be doing other things					
Dose off listening to music on your cellphone					
Attempt to date friends' you have not met' through internet					
Join groups on a social networking site?					
Use an online social networking site like MySpace or Facebook					

Section 3: Entertainment through the phone

1. What are your reasons for using the mobile phone? Scale them from 1 in order of priority.
 - Calling
 - SMS
 - Email
 - Social network e.g twitter, Facebook
 - Use GPRS function
 - Download music
 - Games
 - Watch video
 - News
 - Others(Specify) _

2. You will not buy a phone that does not have
 - a) Bluetooth
 - b) Camera
 - c) Memory card

d) Others (specify) _

3. Your best source of entertainments is

- a) Mobile phone
- b) Radio/TV
- c) Family
- d) Friends
- e) Books

4. When travelling with family you will most likely

- a) Be on your phone (sms, games, chat, Facebook)
- b) Face to face interactions
- c) Reading (book, magazine e.t.c)

Thanks for your time and answers

Appendix 5: Tentative Budget

No	Item	Frequency	Amount in Kshs
1.	Communication: Airtime	1	5,000
2.	Research Assistants	4	8,000
3.	Printing and Stationery	1	2,500
			15,500