

Older persons' experiences of the role of cell phone use: Implications for needs

E Lamont

20087020

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Supervisor: Dr W de Klerk

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“Ek is tot alles in staat deur Christus wat my krag gee.” Filippense 4:13

Firstly, I give **all the glory to my Heavenly Father** for all that He has made me and for all that He is. I have felt His presence every step of the way, especially at times of hopelessness, and I will be forever grateful for His love and guidance through this part of my life.

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*“You could go the distance. You could run the mile. You could walk straight through hell with a smile. You could be the hero. You could get the gold. Breaking all the records they thought never could be broke. Do it for your people. Do it for your pride. **How you ever gonna know if you never even try?**”* *(The Script)*

SUMMARY

Older persons' experiences of the role of cell phone use: Implication for needs

Keywords: older persons, mobile phones (cell phones), intrinsic motives/needs, instrumental motives/needs, well-being.

This study (secondary data analysis) formed part of a broader research project (IGNITe) that used parallel mixed methods research design to explore older persons' usage patterns of mobile technology and intergenerational relationships. The focus of the presented study was older persons, the role of cell phone use and how this related to their needs.

Within an African context, the number of older persons is increasing rapidly and the same is true in South Africa, where the average age of the populace has shifted from very young to intermediate. Projections indicate that the percentage of older persons will continue to grow. This creates the possibility for older persons to remain part of their families for longer and mobile technology is one of the methods to maintain relational connections. Older persons use cell phones when it suits their specific needs.

The theoretical framework underlining this study was Maslow's hierarchy of needs, which revolves around people's motivations to satisfy specific needs. The hierarchy consists of lower levels of basic needs and higher levels beyond basic needs; people only attempt satisfying the needs on the one level after those of a preceding level have been satisfied. These needs include: biological and physiological needs, safety needs, social needs, esteem needs, cognitive needs, aesthetic needs, self-actualization needs and transcendence needs. The more important the need the greater a person's motive to satisfy this need.

People have different needs, which cell phones can satisfy more efficiently than other media. Two categories of motives/gratifications were distinguished in telephone (cell phone) communication studies, namely intrinsic and instrumental. Intrinsic or social motives pertain

to communication and cell phone use to achieve companionship, whereas instrumental, utilitarian, extrinsic or task-oriented motives involve using cell phones for practical reasons. Only a small number of studies focussing on older persons' motives, expectations and needs relating to cell phone usage exist and little is known about this phenomenon in developing countries, including South Africa.

Only qualitative data from the primary study (IGNITe) were used for the secondary analysis. The data consisted of a purposive sample of 52 individuals (aged 65–89 years). The Mmogo-method® (n=19) and semi-structured interviews (n=33) focussed on how participants use their cell phones. The collected data (audio recordings) were transcribed and used to identify themes by means of thematic analysis. Participants identified various roles that cell phones play in their lives, expressing that they use their cell phones to satisfy the following needs: a need to feel safe, a need to maintain a sense of control, a need for an aid in their daily routine, and a need to stay connected with family and friends.

From the findings it was clear that cell phones play an important role in the lives of older persons and that this role relates to specific needs that they would like to satisfy. These themes related to Maslow's hierarchy of basic needs and satisfying these needs by using their cell phones can possibly contribute to an older person's total well-being. Further research on this topic is recommended to fill the gap in knowledge, as well as improving and contributing to the well-being of older persons within a South African context.

OPSOMMING

Die belewenisse van ouer persone oor die rol van selfoongebruik: Implikasies vir behoeftes
Sleutelwoorde: ouer persone, sellulêre fone (selfone), intrinsieke motiewe/behoeftes, instrumentele motiewe/behoeftes, welsyn.

Hierdie studie ('n sekondêre data-analise) het deel uitgemaak van 'n wyer navorsingsprojek (IGNITe) wat van parallelle-gemengde-metode navorsingsontwerp gebruik gemaak het om ouer persone se gebruikspatrone van sellulêre tegnologie en intergenerasiekommunikasie te ondersoek. Die fokus van hierdie studie was gerig op ouer persone, die rol van selfoongebruik en hoe dit met hul behoeftes verband hou.

In die Afrika-konteks neem die aantal ouer persone vinnig toe en dieselfde geld in Suid-Afrika, waar die gemiddelde ouderdom van die bevolking van baie jonk na intermediêr beweeg het. Projeksies toon dat die persentasie ouer persone sal aanhou om toe te neem. Dit skep die moontlikheid dat ouer persone langer deel van hul families kan bly en sellulêre tegnologie is een van die maniere waardeur familiebande onderhou kan word.

Die teoretiese raamwerk van hierdie studie was Maslow se hiërargie van behoeftes, wat handel oor mense se motivering om spesifieke behoeftes te bevredig. Die hiërargie bestaan uit laer vlakke van basiese behoeftes en hoër vlakke bo basiese behoeftes; mense poog slegs om behoeftes op 'n sekere vlak te bevredig wanneer dié van 'n voorafgaande vlak reeds bevredig is. Hierdie behoeftes sluit die volgende in: biologiese- en fisiologiese behoeftes, veiligheidsbehoeftes, sosiale behoeftes, behoeftes aan aansien, kognitiewe behoeftes, estetiese behoeftes, behoeftes aan selfverwesenliking (self-aktualisering) en transendentale behoeftes. Hoe belangriker die behoefte, hoe sterker 'n persoon se motivering om daardie behoefte te bevredig.

Mense het verskillende behoeftes en selfone kan meer doeltreffend as ander media aan hierdie behoeftes voldoen. Twee kategorieë van motiewe/belonings, naamlik intrinsiek en instrumenteel, word in telefoon-kommunikasiestudies (selfoon) onderskei. Intrinsieke of sosiale motiewe verwys na kommunikasie en selfoongebruik om kameraadskap (geselskap) te bewerkstellig, terwyl instrumentele, gebruikswaarde- of taakgerigte motiewe die gebruik van selfone om praktiese redes behels. Slegs enkele studies wat op ouer persone se motiewe, verwagtinge en behoeftes aangaande selfoongebruik fokus, is al uitgevoer en daar is nie veel oor hierdie fenomeen in ontwikkelende lande, insluitend Suid-Afrika, bekend nie.

Slegs die kwalitatiewe data van die primêre studie (IGNITe) is vir die sekondêre analise gebruik. Die data het bestaan uit 'n doelbewuste steekproef van 52 individue (65–89 jaar oud). Die Mmogo-metode® (n=19) en semi-gestruktureerde onderhoude (n=33) het gefokus op hoe die deelnemers hul selfone gebruik. Die ingesamelde data (klankopnames) is getranskribeer en gebruik om temas, met behulp van tematiese analyses, te identifiseer. Deelnemers het die verskeie rolle wat selfone in hul lewens speel, geïdentifiseer en genoem dat hulle hul selfone gebruik om die volgende behoeftes te bevredig: 'n behoefte om veilig te voel, 'n behoefte om 'n gevoel van beheer te handhaaf, 'n behoefte vir bystand in hul daaglikse roetines en 'n behoefte om kontak met familie en vriende te behou.

Die bevindinge het dit duidelik gemaak dat selfone 'n belangrike rol in die lewens van ouer persone speel en dat hierdie rol verband hou met spesifieke behoeftes wat hulle wil bevredig. Hierdie temas is verwant aan Maslow se hiërargie van basiese behoeftes en die bevrediging van daardie behoeftes deur middel van selfoongebruik kan moontlik tot ouer persone se algehele welsyn bydra. Verdere navorsing oor hierdie onderwerp word aanbeveel om bestaande kennis aan te vul, sowel as om tot die welsyn van ouer persone in 'n Suid-Afrikaanse konteks by te dra en dit te verbeter.

PREFACE

- This dissertation adheres to the article format identified by the North-West University in rule: A 4.4.2.3
- The article (section 2) within this dissertation conform to the author guidelines of the Journal of Psychology in Africa.
- The editorial style and referencing of this dissertation adhere to the guidelines established by the American Psychological Association (APA: 6th edition).
- The page numbering is chronological, starting from introduction and ending with references, thereby forming the dissertation as a unit.
- Language editing for this dissertation was done by Esmé Harris.
- Translation of Afrikaans to English participant quotes was conducted by Esmé Harris.
- Data collection methods for the primary study (IGNITe) were conducted in English, Afrikaans and Setswana to ensure that participants understood the questioning.
- Consent for the submission of this article concerning examination purposes in fulfilment of the degree *Magister Scientiae* in Research Psychology has been provided by the co-author and supervisor, Dr Werner de Klerk.
- Lastly, by submitting this dissertation to Turn-it-in, it was established that this dissertation falls within the norms of acceptability.

LETTER OF CONSENT

Permission is hereby granted for the submission by the first author, E Lamont, of the following article for examination purposes, towards the obtainment of a *Magister Scientiae* degree in Research Psychology:

Older persons' experiences of the role of cell phone use: Implication for needs

The role of the co-author was as follow: Dr. W. de Klerk acted as supervisor of the presented study and assisted with the peer review of this article.



Dr. W. de Klerk

Supervisor

PROOF OF LANGUAGE EDITING

22 October 2015

To whom it may concern,

I hereby confirm that the text contained in this document, 'Older persons' experiences of the role of cell phone use: Implications for needs', has undergone thorough language editing during the following period: 12–22 October 2015.

Kind regards,

Esmé Harris

A handwritten signature in black ink, appearing to read 'Esmé Harris', written in a cursive style. The signature is positioned above a solid horizontal line.

ESMÉ HARRIS
Text editing and proofreading

SECTION 1: INTRODUCTION

Introduction

This study reports the findings of a secondary data analysis that formed part of a larger research project, the IGNITE (Inter-Generational Networks through Information Technology) project (primary study), that focussed on older persons' mobile technology user patterns and intergenerational relationships. In an effort to contextualise the presented study, an overview of the primary study has been provided. This overview is followed by a literature review regarding the secondary study that includes population ageing, mobile technology user patterns in older age, possible needs satisfied by cell phone use, and the theoretical framework explaining older people's mobile technology (cell phones) user patterns.

The Primary Study: IGNITE

The aim of the IGNITE project was to shed light on older persons' user patterns of mobile technology, as well as exploring the role of mobile technology in relationships between members of different generations. The IGNITE project was done by means of convergent parallel mixed methods research design in February and March 2014, where qualitative and quantitative data collection methods were utilised. Data were collected within the Tlokwe Municipal area (Potchefstroom, Promosa and Ikageng), North West Province, South Africa. This was done by means of quantitative survey questionnaires, semi-structured interviews and visual research methods (the Mmogo-method®).

Research Context and Participants

A total sample of 128 participants between the ages of 65 and 89 years was used by means of a purposive sampling method, which was selected based on inclusion and exclusion criteria. The inclusion criteria used for the primary study included the following: participants

had to be older than 60 years of age, had to have access to a cell phone, had to be cognitively able to take part in a semi-structured interview, had to be able to understand and speak Afrikaans, English or Setswana, had to be able to engage in discussions about their experiences of cell phone use, and they had to represent a range of socio-economic levels based on the Living Standard Measurement (LSM) scale. The LSM scale was chosen for the IGNITE study to ensure the diversity of participants and that the focus was shifted away from any form of racial classification to the different socio-economical levels of the participants (Grosh & Glewwe, 1995).

All 128 participants completed the quantitative survey questionnaires, of which 71 participants were from the Potchefstroom area, 37 participants from Ikageng and 20 participants from Promosa. The qualitative aspect of the primary study comprised 52 participants. Mmogo-method® sessions (n=19) included the following participants: six participants (four female, two male) from the Potchefstroom service centre, seven participants (all female) from the Ikageng centre and six participants (all female) from the Promosa centre. The semi-structured interviews (n=33) consisted of 15 interviews (including group interviews) from the Potchefstroom service centre, involving 19 participants (13 female and six male), 12 interviews (all female) from the Ikageng centre, and two interviews (both female) from the Promosa centre.

Procedure and Data Collection

Mediators and gatekeepers in the community were approached. They were requested to explain beforehand what the research would require, as well as invite the older persons as participants to the different data gathering days. Announcements regarding the research were made at weekly meetings, posters were placed in communal areas and participants in Potchefstroom were invited by word-of-mouth. Participants in Promosa and Ikageng were

invited by means of gatekeepers and word of mouth and were notified by the gatekeepers of the specific time, date and place the research would take place.

Fieldworkers, consisting of post graduate students (research psychology master's degree and psychology honours degree students), were trained in obtaining informed consent forms, conducting semi-structured interviews and administering quantitative questionnaires. The psychology students attended an introductory workshop regarding the IGNITE project on 19 February 2014. During this workshop they were given the necessary background information regarding the research and its purposes/aims by the primary researchers. The students were informed as to what their role as fieldworkers would entail, how to download the necessary hyperlink to the questionnaire on their cell phones, the questionnaire process and methods, i.e. administering, completing, submission of questionnaires. After this the students could practise and complete the questionnaire to determine whether the hyperlink and submission process worked. The students also attended an information session during the workshop regarding the administration of the consent forms. The research psychology students attended a workshop regarding interviews, with a special focus on semi-structured interviews, on 24 February 2014. During this workshop the students could practise their interviewing skills on each other. On 25 February 2014 all relevant information regarding the research and their role as fieldworkers were explained to the students during an introductory session on the IGNITE project by the primary researchers.

On days on which the research was conducted, the students gathered at 09:00 at a predetermined venue to be briefed on the day's schedule and to depart to the sample group's location. Upon arrival at the different locations, the primary researchers briefed the participants on the research so that they could understand the entire process, and consent forms were handed out to each participant. The honours students were available to ensure that the participants made informed decisions and for questions from the participants. After

collecting the consent forms, the honours students used their own cell phones for administering the quantitative survey questionnaires to the participants. The latter included demographic information questions (seven general questions and nine questions pertaining to living arrangements) and the LSM scale. The questionnaires were also available in print to ensure that none of the participants struggled with cell phones. Completed questionnaires, were submitted via cell phones to an internet database. Participants identified as phone owners then proceeded to take part in semi-structured interviews with the masters students.

Interviews were conducted using semi-structured questions and probing to gather more information on the topic of cell phone use. These semi-structured interviews included mostly individual interviews, but a small number were conducted as group interviews. Before commencement of the interviews, the master's students asked the participants for consent to record the interviews by means of an audio recorder. Upon agreement, the interview started and was recorded.

The participants not taking part in interviews were approached to attend a Mmogo-method® session. According to Roos (2012) the Mmogo-method® is a visual data collection method that makes use of a specific research question to prompt participants to create objects with various materials, e.g. clay, beads and straws. The Mmogo-method® exposes participants to an unstructured research environment and materials and by using an open-ended research question the participants are invited to visually convey their experience of a specific subject (Roos, 2008). Participants were taken to a quiet, predetermined area where they were seated at a table and given consent forms, which were read and explained to the participants. The primary researchers and master's students were available to answer any questions or assist the participants with any uncertainties. After the completion and gathering of the consent forms, one of the primary researchers explained the activities for the Mmogo-method®. A translator was used where needed.

Each participant received a container containing moulding clay, straws, beads and a round piece of cloth. The participants were asked to use these materials to create a visual representation of how they personally use their cell phones (the following instruction/task was given: ‘Build a physical representation of how you use your cell phone’). The primary researchers, translator and master’s students were available to answer questions during the building process. After the passing of a predetermined amount of time (45 minutes), the participants were asked to describe what they had created. In facilitating this description, the primary researchers made use of probing questions. The entire Mmogo-method® session was recorded by the master’s students and photographs were taken of the visual representations/models (visual data).

At the end of the Mmogo-method® session and semi-structured interviews, the participants were given access to a free helpdesk, provided by the honours students, to assist the elderly with any cell phone problems they might be experiencing. The recordings for both the semi-structured interviews and Mmogo-method® were transcribed into textual data by the honours students. Food and beverages were available at the end of all the activities.

Ethical Considerations

The IGNITE project was approved under the ethics number: NWU-00053-10-S1 on 13 November 2013. The participants were recruited by means of gatekeepers in the communities who were contacted for the research (see the previous section on ‘Procedure and Data Collection’). The project was the first of its kind for these specific participants and their communities. Thus, research on intergenerational relationships and cell phones had not been conducted with these participants before and data on this topic had not been gathered in these communities. Informed consent forms, which informed participants about the research process and what would be expected from them, were distributed to the willing participants. The form guaranteed the participants that confidentiality would be ensured partially. Only

partial confidentiality could be guaranteed since data collection also took place in groups, but participants were asked not to discuss anything that transpired during the research session with non-participants. Participants were informed that their participation was voluntary and that they could stop taking part at any time of the data gathering process should they feel compelled to do so. Informed consent for the semi-structured interviews was given verbally before the onset of the interviews.

The master's students conducted the semi-structured interviews in the most quiet and private place available in the designated area. The participants were assured that their names would not be published or mentioned outside of the research context, to ensure anonymity. Access to the data and identifiable information of the participants was limited to the primary researchers and assistants. The collected data will remain safe in the possession of the primary researchers at the North-West University, Potchefstroom campus for a period of five years. Electronic data were stored on a password-protected computer, where only the researchers can gain access to the information.

Possible risks and benefits of participating in the research were also discussed with the participants. As they may have experienced some emotional difficulty, a psychologist was available for debriefing during the research process. The possible benefits of the research included the assistance that participants received with any cell phone difficulties from a cell phone helpdesk (direct), social interaction with others (direct), the dissemination of the results to improve communication and interpersonal relationships and to develop programmes (indirect), as well as possible techniques to improve communication in interpersonal relationships (indirect).

Secondary Data Analysis

Boslaugh (2014) described secondary data analysis according to various advantages and disadvantages by emphasising the role of the ‘second enquirer’ following the precise methodology as outlined by the ‘first enquirer’. Thus, the methodology of this study (see Section 2) was in accordance with that of the IGNITE project (i.e. the primary study). The main aim of the secondary data analysis was to interpret and describe older persons’ experiences of the role of cell phone use in an effort to conceptualise and investigate this role and shed light on the possibility to address certain needs, a theme that emerged from the primary study. For this section of the dissertation an in-depth literature overview has been presented to discuss and promote a comprehensive understanding of the research topic. To conceptualise the focus of the secondary data analysis, the on-going growth in population ageing has been discussed, followed by mobile technology user patterns in older age in light of the penetration of information communication technology (ICT) in developing countries, the theoretical framework explaining older persons’ needs related to mobile technology (cell phones) and cell phone use possibly satisfying those needs.

Population Ageing

Demographic shifts have become a worldwide occurrence during the past decades (Audit Commission, 2004; Czaja & Hiltz, 2005; United Nations [UN], 2013; United Nations Department of Economic and Social Affairs [UNDESA], 2010). According to Harper (2011a) the term ‘population ageing’ refers to a worldwide shift in population distribution patterns in the direction of older age. The number of people aged 65 years and older has increased globally (UNDESA, 2010) from 9.2% in 1990 to 11.7% in 2013 and will continue to grow, possibly reaching 21.1 % by 2050 (UN, 2013). According to Harper (2011b) the global

population reached seven billion people in 2011 and the steepest increase was noted in the ageing population (aged 65 and older).

Rapid demographic transition also affects Africa (Aboderin, 2005; 2006). Even though the general population on this continent remains predominantly young, the proportion of older persons has increased over the last decades (Nambalamba & Chikoko, 2011; Palamuleni, Kalule-Sabiti, & Makiwane, 2007; Pillay & Maharaj, 2013). Population ageing in Africa is anticipated to increase more steeply by 2030, with more persons reaching the age of 65, as a result of improved health services (Statistics South Africa, 2013; United Nations Economic and Social Council [UNESCO], 2013). Projections display that older persons depict 4.5% of the African population and by 2050, they will comprise almost 10% of the total population of the continent (Statistics South Africa, 2013; UNESCO, 2013).

According to the United Nations Population Division (UNPD, 2013) the percentage of older persons in sub-Saharan Africa is smaller than that of the rest of the world. However, a marked growth in the ageing population in this region can be attributed to a decrease in fertility and increase in life span (Nambalamba & Chikoko, 2011). The South African population in particular has shifted from being very young, with 40% of people being under the age of 15 and 3.6% of people aged 65 years and older in 1985, to a population of intermediate age, with 31% being people under the age of 15 and 5% aged 65 years and older in 2010 (City of Cape Town, 2010). Currently (2015), more than 8% (4.42 million) of the total South African population is 60 years of age and older (Statistics South Africa, 2015) and this has a significant affect at both societal and familial levels (Aboderin, 2012a; 2012b; Aboderin & Ferreira, 2008; Bengston, 2001; Fent, Aparicio Diaz, & Prslawetz, 2013; Harper, 2011a, Palamuleni et al., 2007). This growth consequently creates the possibility for older persons to remain part of their families for longer (Aboderin, 2012a; Bengston, 2001). Older persons will thus live to be part of their grandchildren's and even great-grandchildren's lives,

which leads to relational connections among members of different age groups or generations (Bengston, 2001; Fent et al., 2013). Mobile technology is one of various methods that people of different generations can use to sustain relational connections, which enables older generations to have contact with younger generations regardless of demographic proximity (see Tilemma, Dijst & Schwanen, 2010; Wei & Lo, 2006; Wu, Chan, & Chen, n.d).

Information Communication Technology in Developing Countries: Mobile Technology User Patterns in Old Age

Information Communication Technology (ICT) is being used in a variety of areas, including education, information technology, economic development, business and personal use (Zuppo, 2012). Mobile phones, which are included in ICT, is synonymous with efficiency and facilitates communication/connection within a global setting (Zuppo, 2012). According to Naismith, Lonsdale, Vavoula and Sharples (2004), 'mobile' generally pertains to something portable and personal, e.g. communication technology, such as mobile phones (cell phones). In a constantly developing and expanding technological world, the use of cell phones, as opposed to landlines, has become the general method of interpersonal communication (Katz & Aakhus, 2002; West, 2012). Cell phones, because of their mobility, seem to be more effective than other communication technologies at satisfying people's communication needs (Jin & Park, 2010).

Research has revealed numerous reasons for cell phone utilisation. Leung and Wei (2000) indicated that people use cell phones as it provides them with immediate access to other people (e.g. family and friends), regardless of time or location and assists them with planning or scheduling their daily routine. Cell phones also grant internet access (Smith, 2012), and, according to Higgins (n.d.), this allows people to do internet banking. Furthermore, cell phones play an important role in emergency situations and can save lives

(Higgins, n.d.). Therefore, it can be assumed that cell phones play a critical role in the lives of human beings (Smith, 2012).

According to Feist and McDougall (2013), research has revealed that communication technology may benefit older persons especially. Conci, Pianesi and Zancanaro (2009) stated that older persons are being labelled as 'non-technological' people and that they are being under-considered in the world of technology. These authors also found a significant number of research studies that contend this kind of stereotyping. A study by Venkatesh, Morris, Davis and Davis (2003) further supported this and found no evidence that older persons rejected technology more than people of other age groups. Mallenius, Rossi and Tuunainen (2007) suggested that older persons were interested in using cell phones. Older persons accept and adopt new technology (cell phones) when it suits their expectations and needs (Venkatesh et al., 2003), especially when the technology is simple enough to utilise (Mallenius et al., 2007).

Studies by Plaza, Martin, Martin and Medrano (2011) and Leung, McGrenere and Graf (2008) found that cell phones can benefit older persons and support them in their daily lives and, according to Massimi, Baecker and Wu (2007), cell phones have the capacity to address a large number of needs of older persons. Benefits such as staying connected (Leung et al., 2008) and leading more meaningful, social and active lives have been found to allow older persons to live independently for longer (Mallenius et al., 2007). According to Ivan and Fernández-Ardèvol (2013) older persons have positive attitudes towards cell phone use in their interpersonal communication.

The growth of mobile ICT is particularly prominent in emerging and poorly developed countries, where the majority of users have been unable to access ICT in the past (Meso, Musa, & Mbarika, 2005). In the developing world, including Africa, ICT adoption and use has shown dramatic growth over the last decade (Soremekun & Malgwi, 2013;

United Nations Children's Fund [UNICEF], 2012) and South Africa has the third largest number of mobile users on the continent (UNICEF, 2012). Many South Africans, from rural and urban communities, have the means to access, explore and share digital information via computer and mobile internet connectivity (UNICEF, 2012). From 2005 to 2009, the number of people in South Africa renting, owning or having access to a cell phone has grown by 20%, and, among South Africa's total populace of 50 million people, mobile penetration is now at 100,48% (UNICEF, 2012). In comparison with other African countries, South Africa has the greatest number of cell phones per household. Cell phone adoption in South Africa has been an essential element in diminishing the communication gap among rural and urban demographics, as it gives access to regions not served by fixed telephone services or alternative ICT infrastructures (UNICEF, 2012). Cell phones in sub-Saharan Africa provide a means for communication between different generations and family members, as well as helping younger people to communicate with distant relatives on behalf of the elderly (Porter et al., 2015). Age and education play a definitive role in the cell phone usage patterns of South Africans (Hyde-Clarke & Van Tonder, 2011). Younger cell phone users utilise a range of functions, e.g. Mxit, WhatsApp, Facebook and various other social network sites, while older persons prefer voice-calling, which is the more traditional function (Porter et al., 2015).

Theoretical Framework Explaining Older Persons' Needs of Mobile Technology

From a psychological perspective, Abraham Maslow successfully studied what motivates people (McLeod, 2007). He suggested that people possess a set of motivation systems unrelated to rewards or unconscious desires, but are motivated to achieve specific needs (McLeod, 2007). Maslow initially created a hierarchy consisting of five levels of basic needs, which was later adapted to eight levels to include higher levels of needs (McLeod, 2007; Simons, Irwin, & Drinnien, 1987). McLeod (2007) stated that a person only seeks to fulfil the next level of needs after the previous level has been fulfilled. For a person to

become a fully functional individual, each level should be satisfied (McLeod, 2007).

According to McLeod (2007) and Simons et al. (1987), these levels (levels 1-8) are as follows:

1. *Biological and physiological needs*, which includes needs for air, food, drink, shelter, warmth, sex, sleep, etc.;
2. *Safety needs*, which includes protection from elements, security, order, law, stability, etc.;
3. *Social needs*, which includes needs of belongingness and love with regards to work group, family, affection, relationships, etc.;
4. *Esteem needs*, which includes self-esteem, achievement, mastery, independence, status, dominance, prestige, managerial responsibility, etc.;
5. *Cognitive needs*, including knowledge, meaning, etc.;
6. *Aesthetic needs*, which includes appreciation and search for beauty, balance, form, etc.;
7. *Self-actualization needs*, including realising personal potential, self-fulfilment, seeking personal growth and peak experiences; and
8. *Transcendence needs*, which includes helping others to achieve self-actualization.

Deci and Ryan (2000) suggested that a person's motive to satisfy any need (whether physiological or psychological) is directly linked to the importance of that need. Thus, it is clear that people are motivated by their needs and if cell phones have the ability to meet some of the needs in this hierarchy, then it is safe to assume that cell phones can play an important role in people's lives. It is, therefore, necessary to investigate people's reasons (motives) for using cell phones and the needs that can be satisfied by cell phone use.

Possible Needs Satisfied by Cell Phone Use

A small number of studies have been conducted on the acceptance/adoption of cell phones and, despite the increasing ageing population, even fewer studies have focussed on older persons' cell phone use (Conci et al., 2009). Therefore, little is known about their reasons for adopting cell phone technology, their applications thereof and the role of cell phones in their lives (i.e. their expectations, motives and needs relating to cell phones), especially in developing countries. The following paragraphs will discuss the extant literature on this topic.

Ramirez, Dimmick, Feaster and Lin (2008) found that users have different needs, which are more adequately satisfied by cell phones than other media. Studies conducted in the 1990's focussing on telephone communication by Dimmick, Sikand and Patterson (1994) and O'Keefe and Sulanowski (1995), identified two general categories of gratification/motives, namely intrinsic and instrumental. Intrinsic motives, also known as hedonic (Conci et al., 2009) or social motives, involve communication by means of cell phones with companionship as the goal (Jin & Park, 2010). Instrumental motives, also known as utilitarian, extrinsic (Conci et al., 2009) or task-oriented motives, refer to the application of cell phones for utility, e.g. making appointments or seeking information (Jin & Park, 2010). Leung and Wei (2000) supported the idea of cell phone use having social and instrumental dimensions, and further motives such as mobility, immediacy, trend, and status were identified. Wei and Lo (2006) presented corresponding motives, such as the seeking of information, social utilisation, endearment/affection, trend and status, mobility and accessibility. The abovementioned findings showed that people use cell phones for a variety of motives, which can be grouped together. Therefore, it is important to define the role of cell phones and its position within the hierarchy of needs.

The following findings relate to older persons' motives/gratifications relating to the intrinsic/social category. Older persons have the need to communicate and stay in touch with others, including their friends and family, and adopting cell phone use assists them in satisfying this need (Finchum & Weber, 2000; Ghosh, Lindeman, Ratan, & Steinmetz, 2014; Ling, Hwang, & Salvendy, 2006; Mallenius et al., 2007; Mann et al., 2004). A study by Chen, Chan and Tsang (2013) contributed to this need and found that one of the main motives for older persons' adopting cell phone use is to maintain connections with people that are emotionally close to them. McCreadie and Tinker (2005) indicated that cell phone use, to satisfy the need to keep in touch, also alleviates the threat of isolation. Furthermore, Coughlin (1999) and Rébola and Jones (2011) pointed out that speaking to friends and family over the phone can assist older persons in staying healthy, which includes curbing depression and isolation.

Abascal and Civit (2001) and McCreadie and Tinker (2005) found that the adoption of cell phones also has a positive effect on older persons' personal independence. To older people, being independent involves exercising control over their lives and making their own decisions (Audit Commission, 2004). Oksman (2006) reiterated that utilising a cell phone can have a positive impact on older persons' self-independence and adds to their self-esteem. Older persons also enjoy playing games on their cell phones (Massimi et al., 2007). According to Conci et al. (2009), enjoyment and fun are factors that contribute to older persons' adoption/use of cell phones, and these benefits can contribute to lowering cognitive load. Some older persons have mentioned the benefits of cell phone games and feel that it is short-sighted to disregard cell phone entertainment services (games training and maintaining memory and brain activity) for older persons, as this service could remedy increasing loneliness (Mallenius et al., 2007). It is, therefore, clear from the abovementioned studies that

cell phones play an important role in older persons' lives regarding certain intrinsic motives, namely social connectedness, maintaining independence, challenging isolation and pleasure.

Instrumental motives relate to the use of cell phones for utility reasons (Jin & Park, 2010). Older persons have been found to adopt cell phones because it enables them to easily access information at any time and anywhere (Ling et al., 2006). This was supported by Independent Age (n.d.) since their study found that cell phones enable older persons to gather experiences and share learning, skills and experiences with others. Kurniawan (2006) and Kurniawan (2007) also mentioned that cell phones can provide older persons with easy access to information and includes checking in with caretakers; this helps older persons to maintain some level of autonomy.

Safety and security reasons motivating older persons to adopt cell phones form part of the instrumental category. Abascal and Civit (2001), McCreadie and Tinker (2005), Kurniawan (2007), and Mann et al. (2004) showed that the adoption of cell phones among older people often relates to safety and security reasons. Forming part of experiencing safety and security, older persons adopt cell phone use as they want to be reachable at all times (relating to emergency situations), which cannot be achieved with a fixed line phone (Mallenius et al., 2007). Massimi et al. (2007) and Mann et al. (2004) found that cell phones are an essential means for older persons to access help during emergencies.

According to Conci et al. (2009) the experience of feeling safe is a crucial matter for older persons and this impacts an older person's intention for cell phone use. Kurniawan (2008) added to the safety aspect by stating that during times when older persons are at home alone, cell phones can help them to feel less vulnerable and safer. Keating, Nagai, Hadder and Kowalsky (2007) found that older persons also experience a feeling of safety and comfort in having a cell phone when they are driving, in case of car trouble or any other unexpected circumstances. Participants in a study by Mallenius et al. (2007) mentioned so called

‘security cell phones’, where the cell phone is connected to their fixed-line phone and to a predetermined service number, e.g. social, healthcare or homecare, which contributes to older persons’ autonomy. Therefore, the instrumental value of cell phones with regards to older persons’ sense of safety and security is the motive for them to adopt cell phone use (Ivan & Fernandez-Ardevol, 2013).

Some studies have indicated that cell phones play an important role in older persons’ lives regarding health-related issues, such as physical health, wellness, and prevention (Ghosh et al., 2014; Massimi et al., 2007). Worringham, Rojek and Stewart (2011) supported this idea, as it was shown that the elderly with cardiovascular problems use their cell phones to monitor their heart rate and EKG. Another study found that older people with memory impairments use their cell phones as a reminder to drink their medication at the appropriate times (Sterns, 2005). Thus, by supporting older persons in managing their health-related issues, cell phones can help them to maintain some form of autonomy (Sterns, 2005).

Other instrumental motives emphasising the importance of cell phones in the daily lives of older persons relate to their everyday utilitarian needs. Massimi et al. (2007) found that older persons consider cell phones as very important to their daily lives due to the calendar that can support them in remembering important daily, weekly and monthly things and, by doing so, it acts as a memory aid. Kurniawan (2008) supported the memory-aid idea, stating that cell phones can assist older persons in organising their lives by using the alarm clock and reminder functions to compensate for a decline in memory. Mann et al. (2004) listed a number of utilitarian motives for the importance of cell phones to older persons, which included internet usage, doing business and shopping. Keating et al. (2007) added to the shopping aspect, stating that elderly couples use their cell phones as a means to keep in touch when one of them is shopping and has questions for their partner or when they want to add something to the shopping list. Furthermore, some older persons use public transport to visit

shops and they mention that they prefer contacting transport services via their own cell phones instead of having to be dependent on the shop they visit (Mallenius et al., 2007).

Self-actualization, in this case referring to the motive to achieve everything they are capable of (Maslow, 1970), increases the utilitarian value of cell phones to older persons (Conci et al., 2009). It is, therefore, clear that cell phones are able to assist older persons in their daily lives and can be very important to them. Some reasons found in studies of older people's cell phone use (see Chen et al., 2013; Leung et al., 2008; Mallenius et al., 2013; Pattison & Stedmon, 2006; Tang & Kao, 2005) clearly link to certain levels of needs in Maslow's hierarchy, and for older persons to become or remain fully functioning individuals, they possibly need cell phones.

Problem Statement

In contemplating the acceptance/adoption of cell phones by older persons and the important role of cell phone technology, it is clear that intrinsic and instrumental motives should be considered (Conci et al., 2009). The few studies, (see Conci et al., 2009; Ivan & Fernandez-Ardevol, 2013; Kurniawan, 2006; Plaza et al., 2011) that considered older persons' motives and needs for cell phone adoption revealed that further research on the topic can be valuable (Mallenius et al., 2007) and is, in fact, needed (Conci et al., 2009). Binti and Malik (2011) stated that cell phones form part of the personal items in people's everyday lives and it is viewed as essential appliances/utensils that people should own.

According to Binti and Malik (2011) older persons make up an increasing percentage of the global population, including that of South Africa. With this, and the importance of cell phones (Tang & Kao, 2005), in mind, the inclusion of cell phone technology in the everyday lives of people, especially older persons, might also be increasing. Mallenius et al. (2007) found that the growth in the number of older persons is challenging for the society and the cell phone service industry. Studies on older persons' needs regarding cell phone technology

and the role of cell phones in older persons' lives in a South African context is unavailable, and it is evident that there is a gap in knowledge regarding this phenomenon. South African studies can, therefore, generate valuable knowledge on the topic of older people's relationship with cellular technology in developing countries.

This knowledge can be applied to assist older persons in reaching the highest level of Maslow's hierarchy of needs, possibly ensuring that they are fully functioning in their old age and in today's society. Safety needs, social needs, esteem needs (independence), cognitive needs (knowledge) and self-actualization needs form part of the needs that could be addressed by the role of cell phones in this study. These needs could also contribute to the total well-being of older persons. This research is therefore important as cell phones have the potential to benefit and improve older persons' lives (see Feist & McDougal, 2013; Joe & Demeris, 2013; Mann, 2003), an aspect that, according to Horwitz and Currie (2007) still has to be realised in South Africa. Thus, the research question that emanated from this problem statement was as follows: *What role do cell phones play in the lives of older persons within the South African context?*

The aims of this study (secondary data analysis) were to interpret and describe the role of cell phone use for older persons within a South African context and to determine possible needs that could be addressed by the role of cell phones.

Structure of the Research

Section A provided comprehensive background for this study. Section B comprises an article that will be submitted for possible publication in the Journal of Psychology in Africa and includes the findings, methodology, and a discussion of the secondary data analysis. Lastly, Section C discusses the study's contribution to older persons' experiences of the role of cell phone use and the implication thereof for their needs, as well as critical reflections.

References

- Abascal, J., & Civit, A. (2001, May). *Universal access to mobile telephony as a way to enhance the autonomy of elderly people*. In Proceedings of the 2001 EC/NSF workshop on Universal accessibility of ubiquitous computing: Providing for the elderly (pp. 93-99). ACM.
- Aboderin, I. (2005). Changing family relationships in developing nations. In M. L. Johnson (Ed.), *The Cambridge handbook of age and ageing* (pp. 469–476). Cambridge, United Kingdom: Cambridge University Press.
- Aboderin, I. (2006). *Intergenerational support and old age in Africa*. New Brunswick, NJ: Transaction Publishers.
- Aboderin, I. (2012a). Ageing Africa: Opportunities for development. In J. Beard, S. Biggs, D. Bloom, L. Fried, P. Hogan, A. Kalache, & J. Olshansky (Eds.), *Global population ageing: Peril or promise?* (pp. 69-73). Geneva: World Economic Forum.
- Aboderin, I. (2012b). Giants of the 21st century. Global poverty, inequalities and ageing in Sub-Saharan Africa: A focus for policy and scholarship. *Journal of Population Ageing*, 5(2), 87–90.
- Aboderin, I., & Ferreira, M. (2008). Linking ageing to development agendas in Sub-Saharan Africa: Challenges and approaches. *Journal of Population Ageing*, 1(5), 51–73.
- Audit Commission. (2004). *Older people - independence and wellbeing*. Retrieved from http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.audit-commission.gov.uk%2FSiteCollectionDocuments%2FAuditCommissionReports%2FNatio nalStudies%2FOLDERPeople_overarch.pdf&ei=DLfkU-ueB8Wf7Aaks4CoCA&usg=AFQjCNHdHKT83kb4d5KDe6vckMzVReHPRQ&sig2=cGp5SsvGQO9_th3waCNKqg&bvm=bv.72676100,d.ZWU

- Bengston, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63(2), 1–16.
- Binti, S., & Malik, A. B. D. (2011). *Older people, mobile technology and culture: An Investigation of appropriate methods and personas in Malaysia and the UK* (Unpublished doctoral dissertation). University of York, York.
- Boslaugh, S. (2014). *Secondary data sources for public health: A practical guide*. Cambridge University Press.
- Chen, K., Chan, A. H. S., & Tsang, S. N. H. (2013, March). *Usage of mobile phones amongst elderly people in Hong Kong*. Paper presented at the Proceedings of the International MultiConference of Engineers and Computer Scientists, Hong Kong.
- City of Cape Town, (2010). *Demographics scenario*. Retrieved from <https://www.capetown.gov.za/en/sdf/Documents/Nov2010/DemographicsDiscussionPaperAugust2010.pdf>.
- Conci, M., Pianesi, F., & Zancanaro, M. (2009). Useful, social and enjoyable: Mobile phone adoption by older people. In T. Gross, J. Gulliksen, P. Kotzé, L. Oestreicher, P. Palanque, R. O. Prates, & M. Winckler (Eds.), *Human-Computer Interaction—INTERACT 2009* (pp. 63-76). Berlin, Heidelberg: Springer.
- Coughlin, J. F. (1999). Technology needs of aging boomers: As the elderly population grows more numerous and more active, the public and private sectors will have to develop specialized products and services. *Issues in Science and Technology*, 16, 53-60.
- Czaja, S. J., & Hiltz, S. R. (2005). Digital aids for an aging society. *Communications of the ACM*, 48(10), 43-44.

Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54-67.

doi:10.1006/ceps.1999.1020

Dimmick, J. W., Sikand, J., & Patterson, S. J. (1994). The gratifications of the household telephone: Sociability, instrumentality, and reassurance. *Communication Research, 21*, 643-644.

Feist, H., & McDougall, K. (2013, August). *Older people's use of new communication technologies: Research findings & policy implications*. Paper presented at the Australian Population and Migration Research Centre, South Australia.

Fent, T., Aparicio Diaz, B., & Prskawetz, A. (2013). Family policies in the context of low fertility and social structure. *Demographic Research, 29*, 37. 1-38. doi:

10.4054/DemRes.2013.29.37.

Fincham, T., & Weber, J. (2000). Applying continuity theory to older adults friendships. *Journal of Aging and Identity, 5*(3), 159-168.

Ghosh, R., Lindeman, D., Ratan, S., & Steinmetz, V. (2014). *The new era of connected aging: A Framework for understanding technologies that support older adults in aging in place*. Retrieved from

<http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.techandaging.org%2FConnectedAgingFramework.pdf&ei=3QLIU->

[PRCq7G7AaxvICYBg&usg=AFQjCNHZHYUeJSjLaJhMMDHQIzzk1yPg4A&sig2=60HC2jDTFoyzthvSEzo5lQ&bvm=bv.72676100,d.ZWU](http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.techandaging.org%2FConnectedAgingFramework.pdf&ei=3QLIU-PRCq7G7AaxvICYBg&usg=AFQjCNHZHYUeJSjLaJhMMDHQIzzk1yPg4A&sig2=60HC2jDTFoyzthvSEzo5lQ&bvm=bv.72676100,d.ZWU)

- Grosh, M., & Glewwe, P. (1995). *A guide to living standards measurement study surveys and their data sets* (Vol. 120). World Bank Publications.
- Harper, S. (2011a). Demographic transition: Positioning the age-structural change perspective. *Population Ageing*, 4(1), 119-120.
- Harper, S. (2011b). Giants of the 21st century: Longevity and disability. *Journal of Population Ageing*, 4(4), 203–206.
- Higgins, C. (n.d.). *6 ways cell phones are changing the world (beyond the ways you're probably thinking)*. Retrieved 2 July 2015 from mentalfloss.com/.../6-ways-cell-phones-are-changing-the-world-beyond-ways-youre-probably-thinking
- Horwitz, R. B., & Currie, W. (2007). Another instance where privatisation trumped liberalisation: The politics of telecommunications reform in South Africa – A ten year retrospective. *Telecommunications Policy*, 31(8-9), 445-462.
doi:10.1016/j.telpol.2007.05.008
- Hyde-Clarke, N., & Van Tonder, T. (2001). Revisiting the 'Leapfrog' debate in light of current trends of mobile phone internet usage in the greater Johannesburg area, South Africa. *Journal of African Media Studies*, 3(2), 263-276. doi:10.1386/jams.3.2.263_1
- Independent Age. (n.d.). *Older people, technology and community*. Retrieved from <http://www.gulbenkian.org.uk/pdffiles/Older-people-technology-and-community.pdf>
- Ivan, L., & Fernandez-Ardevol, M. (2013). Older people and mobile communication in two european contexts. *Revista Română de Comunicare și Relații Publice*, (3), 83-98.
- Jin, B., & Park, N. (2010). In-person contact begets calling and texting: Interpersonal motives for cell phone use, face-to-face interaction, and loneliness. *Cyberpsychology, Behaviour and Networking*, 13(6), 611-618.

- Joe, J., & Demeris, G. (2013). Older adults and mobile phones for health: A review. *Journal of Biomedical Informatics*, 46, 947-954. Retrieved from <http://dx.doi.org/10.1016/j.jbi.2013.06.008>.
- Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, United Kingdom: Cambridge University Press.
- Keating, E., Nagai, E., Hadder, N., & Kowalsky, J. (2007). *The role of the mobile phone in the welfare of aged and disabled people*. Retrieved from http://www.mobaken.jp/kennkyuu/chousa/2006/research06_05/finalreport_06-05.pdf.
- Kurniawan, S. (2006). An exploratory study of how older women use mobile phones. In P. Dourish & A. Friday (Eds.), *UbiComp 2006: Ubiquitous Computing* (pp. 105-122). Berlin, Heidelberg: Springer.
- Kurniawan, S. (2007). Mobile phone design for older persons. *Interactions*, 24(4), 24-25.
- Kurniawan, S. (2008). Older people and mobile phones: A multi-method investigation. *International Journal of Human-Computer Studies*, 66(12), 889-901.
- Leung, R., McGrenere, J., & Graf, P. (2008). *The learnability of mobile application interfaces needs improvement*. Paper presented at the Proceedings of British HCI Workshop on HCI and the Older Population, British Columbia, Vancouver. Canada.
- Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly*, 77, 308-320.
- Ling, C., Hwang, W., & Salvendy, G. (2006). Diversified users' satisfaction with advanced mobile phone features. *Universal Access in the Information Society*, 5(2), 239-249.
- Mallenius, S., Rossi, M., & Tuunainen, V. K. (2007). *Factors affecting the adoption and use of mobile devices and services by elderly people - results from a pilot study*. Retrieved

from

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.130.2463&rep=rep1&type=pdf>

- Mann, W. C. (2003). Assistive technology. In N. Charness & K.W. Schaie (Eds.), *Impact of technology on successful aging* (pp. 177–202). New York, NY: Springer Publishing Company.
- Mann, W., Helal, S., Davenport, D., Justiss, M., Tomita, M., & Kemp, B. (2004). Use of cell phones by elders with impairments: Overall appraisal, satisfaction, and suggestions. *Technology & Disability, 16*(1), 49-57.
- Maslow, A. H. (1970). *Motivation and personality*. New York, NY: Harper & Row.
- Massimi, M., Baecker, W., & Wu, M. (2007, October). *Using participatory activities with seniors to critique, build and evaluate mobile phones*. Paper presented at the Proceedings of the 9th international ACM SIGaccess conference on Computers and accessibility, Tempe, Arizona. USA.
- McLeod, S. (2007). *Maslow's hierarchy of needs*. Retrieved from <http://www.simplypsychology.org/maslow.html>
- McCreadie, C., & Tinker, A. (2005). The acceptibility of assistive technology to older people. *Ageing & Society, 25*, 91-110.
- Meso, P, Musa, P., & Mbarika, V. (2005). Towards a model of consumer use of mobile information and communication technology in LDCs: The case of sub-Saharan Africa. *Info Systems Journal, 15*, 119-146.
- Naismith, L, Lonsdale, P., Vavoula, G., & Sharple, M. (2004). *Literature review in mobile technologies and learning*. Retrieved from http://archive.futurelab.org.uk/resources/documents/lit_reviews/Mobile_Review.pdf

- Nambalamba, A., & Chikoko, M. (2011). *Aging population challenges in Africa*. Department of Social Development :Pretoria.
- O'Keefe, G. J., & Sulanowski, B. K. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly*, 72, 922–33.
- Oksman, V. (2006). Young people and seniors in Finnish 'Mobile Information Society'. *Journal of Interactive Media in Education*, (2), 1-21.
- Palamuleni, M., Kalule-Sabiti, I., & Makiwane, M. (2007). Fertility and childbearing in South Africa. In A.Y. Amoateng & T.B. Heaton (Eds.), *Families and households in post-apartheid South Africa: socio-demographic perspectives* (pp. 113-134). Cape Town, South Africa: HSRC Press.
- Pattison, M., & Stedmon, A. (2006). Inclusive design and human factors: Designing mobile phones for older users. *PsychNology Journal*, 4(3), 267-284.
- Pillay, N.K., & Maharaj, P. (2013). In P. Maharaj (Ed.), *Aging and health in Africa: International perspectives on aging* (pp. 41-114). New York, NY: Springer.
- Plaza, I., Martin, L., Martin, S., & Medrano, C. (2011). Mobile applications in an aging society: Status and trends. *Journal of Systems and Software*, 84(11), 1977-1988.
- Porter, G., Hampshire, K., Abane, A., Munthali, A., Robson, E., Bango, A., & Milner, J. (2015). Intergenerational relations and the power of the cell phone: Perspectives on young people's phone usage in sub-Saharan Africa. *Geoforum*, 64, 37-46.
doi:org/10.1016/j.geoforum.2015.06.002
- Ramirez, A., Dimmick, J., Feaster, J., & Lin, S. (2008). Revisiting interpersonal media competition: The gratification niches of instant messaging, e-mail, and the telephone. *Communication Research*, 35, 529-547.
- Rébola, C. B., & Jones, B. (2011). Sympathetic devices: Communication technologies for inclusion. *Physical & Occupational Therapy In Geriatrics*, 29(1), 44-58.

- Roos, V. (2008). The Mmogo-method®: Discovering symbolic community interactions. *Journal of Psychology in Africa, 18*(4), 659-667. Retrieved from <http://dx.doi.org/10.1080/14330237.2008.10820249>
- Roos, V. (2012). The Mmogo-method® An exploration of experiences through visual projections. *Qualitative Research in Psychology, 9*(3), 249-261.
- Simons, J. A., Irwin, D. B., & Drinnien, B. A. (1987). *Maslow's hierarchy of needs*. Retrieved from <http://cetl.gtu.ge/DOCS/Teacing/Collection%20Honolulu/Human%20Development/MASLOW.doc>.
- Smith, A. (2012). *The best (and worst) of mobile connectivity*. Retrieved from <http://pewinternet.org/Reports/2012/Best-Worst-Mobile.aspx>
- Soremekun, O., & Malgwi, C. A. (2013). Exploring Patterns in ICT Growth and Development in Africa: A Kohonen Map Analysis. *The Review of Regional Studies, 43*, 175-190.
- Statistics South Africa. (2013). *Census 2013: Mid-year population estimates (P0302)*. Pretoria: SSA. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022011.pdf>
- Statistics South Africa. (2015). *Mid-year population estimates 2015*. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022015.pdf>.
- Sterns, E. (2005). Curriculum design and program to train older adults to use personal digital assistants. *Gerontologist, 45*(6), 828-834.
- Tang, H., & Kao, S. (2005). *Understanding the user model of the elderly people while using mobile phones*. Retrieved from researchgate.net.

Tillema, T., Dijst, M., & Schwanen, T. (2010). Face-to-face and electronic communications in maintaining social networks: The influence of geographical and relational distance and of information content. *New Media & Society*, 12(6), 965-983.

United Nations [UN]. (2013). *The millennium development goals report 2013*. Retrieved from <http://www.un.org/millenniumgoals/pdf/report-2013/mdg-report-2013-english.pdf>

United Nations Children Fund [UNICEF]. (2012). *South African mobile generation: Study on South African young people on mobiles*. Retrieved from http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf

United Nations Department of Economic and Social Affairs: Population Division [UNDESA]. (2010). *World population prospects: the 2010 revision*. Retrieved from <http://esa.un.org/unpd/wpp/index.html>

United Nations Economic and Social Council [UNESCO]. (2013). *Millennium Development Goals (MDG) report*. New York. (E/UN.2013/MDG2013).

United Nations Population Division [UNPD]. (2013). *World population prospects: The 2012 revision (UNDPD) report*. New York. Retrieved from http://esa.un.org/wpp/unpp/panel_indicators.htm.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.

Wei, R., & Lo, V. H. (2006). Staying connected while on the move: Mobile phone use and social connectedness. *New Media & Society*, 8, 53-72.

West, D. M. (2012, May), *How mobile devices are transforming healthcare*. Paper presented at the Centre for Technology Innovation at Brookings, Massachusetts, Washington.

- Worringham, C., Rojek, A., & Stewart, I. (2011). *Development and feasibility of a smartphone, ECG and GPS based systems for remotely monitoring exercise in cardiac rehabilitation*. Retrieved from www.plosone.org/article/info%2F10.1371%2Fjournal.pone.0014669
- Wu, C., Chan, C., & Chen, Y. (n.d.). *The digital gap between openness and closeness of relational divide upon the mobile phone usage*. Retrieved from <http://www.ios.sinica.edu.tw/ios/people/personal/wupaper/SE-Grad.pdf>
- Zuppo, C. M. (2012). Defining ICT in a boundaryless world: The development of a working hierarchy. *International Journal of Managing Information Technology*, 4(3), 13-22.
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SECTION 2: ARTICLE**Older persons' experiences of the role of cell phone use: Implications for needs**

2.1 Guidelines for authors: *Journal of Psychology in Africa*

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Manuscripts

Manuscripts should be submitted in English. The manuscripts should be typewritten and double-spaced, with wide margins, using one side of the page only. Manuscripts should conform to the publication guidelines of the latest edition of the American Psychological Association (APA) publication manual of instructions for authors.

Submission

Manuscripts should be submitted to the Editor-in-Chief, *Journal of Psychology in Africa*, Elias Mpofu, PhD., DEd, CRC, Professor, Faculty of Health Sciences, University of Sydney, Cumberland Campus, East Street, PO Box 170 Lidcombe NSW 1825, Australia, email: elias.mpofu@sydney.edu.au. We encourage authors to submit manuscripts via e-mail, in MS Word, but we also require two hard copies of any e-mail submission. Before submitting a manuscript, authors should peruse and consult a recent issue of the *Journal of Psychology in Africa* for general layout and style. Manuscripts should conform to the publication guidelines of the latest edition of the American Psychological Association (APA) publication manual of instructions for authors.

Manuscript Format

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

Title. this should be brief, sufficiently informative for retrieval by automatic searching techniques and should contain important key-words (preferably <13 words).

Author(s) and address(es) of author(s). The corresponding author must be indicated. The author's respective addresses where the work was done must be indicated. An

e-mail address, telephone number and fax number for the corresponding author must be provided.

Abstract. Articles and abstracts must be in English. Submission of abstracts translated to French, Portuguese and/ or Spanish is encouraged. For data-based contributions, the abstract should be structured as follows: *Objective* - the primary purpose of the paper, *Method* - data source, participants, design, measures, data analysis, *Results* - key findings, implications, future directions and *Conclusions* - in relation to the research questions and theory development. For all other contributions (except editorials, book reviews, special announcements) the abstract must be a concise statement of the content of the paper. Abstracts must not exceed 150 words. The statement of the abstract should summarise the information presented in the paper but should not include references.

Text. Do not align text using spaces or tabs in references. Use one of the following: (a) use CTRL-T in Word 2007 to generate a hanging indent; or (b) MS Word allows author to define a style (e.g., reference) that will create the correct formatting. Per APA guide-lines, only one space should follow any punctuation. Do not insert spaces at the beginning or end of paragraphs. Do not use colour in text.

Tables. Tables should be either included at the end of the manuscript or as a separate file. Indicate the correct placement by indicating the insertion point in brackets, e.g., <Inset Table 1 approximately here>. Tables should be provided as either tab-delimited text or as a MS Word table (One item/cell). Font for tables should be Helvetica text to maintain consistency.

Figures/Graphs/Photos. Figures, graphs and photos should be provided in graphic format (either JPG or TIF) with a separate file for each figure, graph or photo. indicate the correct placement by indicating the insertion point in brackets e.g., <Inset Figure 1

approximately here>. Provide the title for the item and any notes that should appear at bottom of item in the manuscript text. Items should be cropped to avoid the appearance of superfluous white space around items. Text on figures and graphs should be Helvetica to maintain consistency. Figures must not repeat data presented in the text or tables. Figures should be planned to appear to a maximum final width of either 80 or 175mm. (3.5 or 7.0’’). Complicated symbols or patterns must be avoided. Graphs and histograms should preferably be two –dimensional and scale marks provided. All lines should be black but not too heavy or thick (including boxes). Colour only in photos or colour sensitive graphic illustrations. Extra charges will be levied for colour printing

Referencing

Referencing style should follow latest edition of the APA manual of instructions for authors.

References in text. References in running text should be quoted as follows: (Louw & Mkize, 2012), or (Louw, 2011), or Louw (2000, 2004a, 2004b). All surnames should be cited the first time the reference occurs, e.g., Louw, Mkize, and Naidoo (2009) or (Louw, Mkize, & Naidoo, 2010). Subsequent citations should use et al.,e.g. Louw et al. (2004) or (Louw et al., 2004). ‘Unpublished observations’ and ‘personal communications’ may be cited in the text, but not in the reference list. Manuscripts submitted but not yet published can be included as references followed by ‘in press’.

Reference list. Full references should be given at the end of the article in alphabetical order, using double spacing. References to journals should include the author’s surnames and initials, the full title of the paper,, the full name of the journal, the year of publication, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated.

References to books should include the authors' surnames and initials, the year of publication, full title of the book, the place of publication, and the publisher's name.

References should be cited as per the examples below:

Reference Samples

Journal Article

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Book

Gore, A. (2006). *An inconvenient truth: The planetary emergency of global warming and what we can do about it*. Emmaus, PA: Rodale.

Edited Book

Galley, K. E. (Ed.). (2004). *Global climate change and wildlife in North America*. Bethesda, MD: Wildlife Society.

Chapter in a Book

Cook, D. A., & Wiley, C. Y. (2000). Psychotherapy with members of the African American churches and spiritual traditions. In P. S. Richards & A. E. Bergin (Ed.), *Handbook of psychotherapy and religiosity diversity* (pp 369-396). Washington, DC: American Psychological Association.

Magazine Article

Begley, S., & Murr, A. (2007, July 2). Which of these is not causing global warming? A. Sport utility vehicles; B. Rice fields; C. Increased solar output. *Newsweek, 150*(2), 48-50.

Newspaper Article

(unsigned)

College officials agree to cut greenhouse gases. (2007, June 13). *Albany Times Union*, p. A4.

(signed)

Landler, M. (2007, June 2). Bush's Greenhouse Gas Plan Throws Europe Off Guard. *New York Times*, p. A7.

Unpublished Thesis

Appoh, L. (1995). *The effects of parental attitudes, beliefs and values on the nutritional status of their children in two communities in Ghana* (Unpublished master's thesis). University of Trondheim.

Conference Paper

Sternberg, R. J. (2001, June). *Cultural approaches to intellectual and social competencies*. Paper presented at the Annual Convention of the American Psychological Society, Toronto, Canada.

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2.2 Manuscript: Older persons' experiences of the role of cell phone use: Implications for needs

Older persons' experiences of the role of cell phone use: Implications for needs

Emmylou Lamont

Werner de Klerk*

North-West University, South Africa.

Corresponding author: Werner de Klerk*,

School of Psychosocial Behavioural Sciences: Psychology

Private Bag X6001, Potchefstroom 2520, Internal Box 206,

Email: 12998699@nwu.ac.za

Abstract

This study interpreted and described the experiences of older persons (n=52) pertaining to the role of cell phones in their lives and determined possible needs addressed by this role within the South African context. A secondary data analysis was applied, using qualitative data gathered from a larger project (primary study) through the Mmogo-method® and semi-structured interviews. The participants (male and female) were older than 60 years and represented a range of socio-economic levels. An interpretive descriptive research design was employed and data were thematically analysed. Findings indicated that participants utilised cell phones as a safety measure, provider of a sense of control, aid in daily routine, and staying connected with loved ones. The participants' expressed needs (satisfied by cell phones) concurred with some aspects of Maslow's hierarchy of basic needs, thus possibly contributing to their well-being.

Keywords: older persons, mobile phones (cell phones), intrinsic motives/needs, instrumental motives/needs, well-being.

Introduction

This study was done by means of secondary data analysis of a larger research project (IGNITe: Inter-Generational Networks through Information Technology). The IGNITe project (primary study) focussed primarily on the user patterns of mobile technology (cell phones) of people aged 60 years and older in South Africa, and how this technology influences intergenerational relationships. The primary study was conducted by means of a convergent parallel mixed methods design, by using participants (n=128) from different socio-economical and racial backgrounds. Data were collected in two phases, by using qualitative and quantitative data collection methods. From the findings of the primary study, different themes emerged that informed the presented study. The qualitative secondary data analysis specifically focussed on the role of mobile phones in the lives of older persons and their related needs. This was done by conceptualising older persons' usage of mobile phones against the backdrop of population ageing in South Africa.

Literature indicates that the global population is growing older (Audit Commission, 2004; Czaja & Hiltz, 2005; United Nations [UN], 2013; United Nations Department of Economic and Social Affairs [UNDESA], 2010). Over the past years the number of persons aged 65 years and older has increased steeply (UNDESA, 2010). The percentage of older persons has shifted from 9.2% in 1990 to 11.7% in 2013 and the number of older people will continue to grow as a portion of the total global population and is predicted to reach 21.1% by 2050 (UN, 2013). Rapid demographic changes also affect the African population (Aboderin, 2005; 2006) and although the populace is mainly young, the percentage of older people has grown over the last decades (Nambalamba & Chikoko, 2011; Palamuleni, Kalule-Sabiti, & Makiwane, 2007; Pillay & Maharaj, 2013). It is expected that population ageing in Africa will accelerate by 2030, since more people will be reaching 65 years of age due to improved health services (Statistics South Africa, 2013; United Nations Economic and Social

Council [UNESCO], 2013). Furthermore, older people represented 4.5% of the African population in the year 2013, and it is predicted to reach 10% by the year 2050 (Statistics South Africa, 2013; UNESCO, 2013).

A similar demographic pattern is noticeable in South Africa. More than 8% of the total South African population is 60 years of age and older (Statistics South Africa, 2015), resulting in a subsequent increase of alternative care methods for older persons, such as mobile technology (Joe & Demiris, 2013). Older persons' use of mobile technologies, mainly cell phones, has been studied in developed countries, focussing on user patterns, literacy and economic status (see Chen, Chen, & Tsang, 2013; Leung, McGrenere, & Graf, 2008; Mallenius, Rossi, & Tuunainen, 2013; Pattinson & Stedmon, 2006; Tang & Kao, 2005). Little is, however, known about older persons' use of mobile phone technology in developing countries and specifically the role of cell phones in the lives of older persons (Ivan & Fernandez-Ardevol, 2013). According to Binti and Malik (2011), there is a growing tendency towards the adoption of cell phone technologies into the everyday lives of people, including older persons. This tendency necessitates inquiry into reasons for cell phone use, with the focus on older persons.

In a constantly developing and expanding technological world, cell phones have become a general method of interpersonal communication (Jin & Park, 2010; Katz & Aakhus, 2002; West, 2012). People utilise cell phones for the following reasons: immediate access, regardless of time/location, to other people, removing the necessity of finding a landline phone (Leung & Wei, 2000), helping people to plan/schedule their daily routine, internet access (Smith, 2012), creating new marketplaces for businesses, helping to save lives in emergencies, and, via internet banking, to assist people in saving and spending their money (Higgins, n.d.). It can then be postulated that cell phones play a critical role in the lives of

people (Smith, 2012). Therefore, it is important to define this role and its position within the hierarchy of basic human needs.

In an effort to understand what people are motivated by, Abraham Maslow conceptualised a hierarchy of basic human needs (McLeod, 2007). According to McLeod (2007) and Simons, Irwin, and Drinnien (1987) these needs include biological and physiological needs (e.g. air, food, drink, shelter, warmth, sex, sleep), safety needs (e.g. protection from elements, security, order, law, stability), social needs (e.g. belongingness and love with regards to work group, family, affection, relationships), esteem needs (e.g. self-esteem, achievement, mastery, independence, status, dominance, prestige, managerial responsibility), cognitive needs (e.g. knowledge and meaning), aesthetic needs (which includes appreciation and search for beauty, balance, form, etc.), self-actualization needs (realising personal potential, self-fulfilment, seeking personal growth and peak experiences) and transcendence needs (helping others to achieve self-actualization). Deci and Ryan (2000) suggested that a person's motives to satisfy any need, whether physiological or psychological, are directly linked to the importance of that need.

Ramirez, Dimmick, Feaster and Lin (2008) showed that cell phone users have various needs and cell phones have the ability to satisfy these needs more sufficiently than other media. According to Dimmick (2003) and Picard (1989) gratifications can be seen as determining users' choice of media, thus the needs users want to satisfy are the motives for their adoption of cell phone use. Telephone communication studies of Dimmick, Sikand and Patterson (1994) and O'Keefe and Sulanowski (1995) showed that there are two general categories of gratifications and motives, namely intrinsic and instrumental.

Intrinsic motives, also referred to as hedonic (Conci et al., 2009) or social motives, and these motives pertain to communicating with others by means of cell phones for the goal of

companionship (Jin & Park, 2010). Instrumental motives, also referred to as extrinsic, utilitarian (Conci et al., 2009) or task-oriented motives, involve the application of cell phones for utility, e.g. making appointments or seeking information on topics (Jin & Park, 2010). Other studies support the idea that the use of cell phones has social (intrinsic) and instrumental dimensions, and further motives, such as mobility, immediacy, trend and status (Leung & Wei, 2000), seeking of information, social utilisation, endearment/affection, and accessibility (Wei & Lo, 2006) were identified.

Research by Feist and McDougal (2013), revealed that older persons may benefit from communication technology. Venkatesh, Morris, Davis and Davis (2003) found that older persons accept and adopt technology when it suits their expectations and needs. On an intrinsic level, staying in touch with family and friends (Finchum & Weber, 2000; Ghosh, Lindeman, Ratan, & Steinmetz, 2014; Ling, Hwang, & Salvendy, 2006; Mann et al., 2004), keeping in touch to fight the threat of isolation (Coughlin, 1999; McCreadie & Tinker, 2005; Rébola & Jones, 2011), maintaining personal independence (Abascal & Civit, 2001; McCreadie & Tinker, 2005), and enjoyment while playing games (Massimi, Baecker, & Wu, 2007) were found to be important motives for cell phone use.

On an instrumental level, access to information at any time and anywhere (Independent Age, n.d.; Ling et al., 2006), easy access to caretakers to maintain autonomy (Kurniawan, 2006; Kurniawan, 2007), safety/security reasons (Abascal & Civit, 2001; McCreadie & Tinker, 2005; Kurniawan, 2007; Mann et al., 2004), assistance with health-related issues (Ghosh et al., 2014; Massimi et al., 2007; Sterns, 2005; Worryingham, Rojek & Stewart, 2011), acting as a memory aid (Massimi et al., 2007), and internet usage for business/shopping purposes (Mann et al., 2004; Keating, Nagai, Hadder, & Kowalsky, 2007) were important motives for cell phone usage.

Problem Statement

In understanding the acceptance of cell phones by older people and the important role thereof, instrumental and intrinsic motives (Conci et al., 2009) should be considered, since a person's motive to gratify/satisfy any of his/her needs are directly linked to the importance of that need (Deci & Ryan, 2000). The small number of studies (see Conci et al., 2009; Ivan & Fernandez-Ardevol, 2013; Kurniawan, 2006; Plaza, Martin, Martin, & Medrano, 2011) that have been conducted on older people's reasons (motives) and needs for cell phone use have highlighted the importance of research on this topic.

According to Binti and Malik (2011), cell phones are becoming part of people's personal, everyday items and are considered as one of the essential devices that people should own. Cell phones are becoming increasingly beneficial tools for society (Binti & Malik, 2011). The mentioned research (see Audit Commission, 2004; Czaja & Hiltz, 2005; UN, 2013; UNDESA, 2010) indicated that the composition of the global population, including that of South Africa, is changing and that the number of older persons (60 years of age and older) is increasing. Binti and Malik (2011) supported the idea that the older component of society is increasing and that there is concurrent growth in the importance of cell phone technology. The tendency is towards the inclusion of cell phone technology in the daily lives of people, including older persons.

According to Tang and Kao (2005) the fact that people are living longer are leading to gradual demographic changes in the global population, with older persons comprising an increasingly large group in society and are considered vital users of cell phones. According to Conci et al. (2009), more research is needed on older persons and cell phone adoption. No research on older persons' need for cell phones or the role of cell phones in their lives has been conducted in a South African context. This research is therefore important as cell

phones have the potential to benefit and improve older persons' lives (see Feist & McDougal, 2013; Joe & Demeris, 2013; Mann, 2003), an aspect that, according to Horwitz and Currie (2007) still has to be realised in South Africa.

Considering the small number of studies on this topic and the need for further research, studies in a South African context could prove essential to filling the gap in knowledge about this phenomenon. The evidence found could possibly be used to help older persons reach the highest level of Maslow's hierarchy, so that they can continue to be fully functioning in old age and in modern society.

The research question that emanated from this problem statement was as follows:

What role do cell phones play in the lives of older persons within the South African context?

Aim of Research Study

The aims of this study were, firstly, to interpret and describe the role of cell phone use for older persons within a South African context and, secondly, to determine possible needs that could be addressed by the use of cell phones.

Methodology

Research Method and Design

A qualitative research method (approach) and an interpretive descriptive research design were utilised for the aims of this secondary data analysis. Merriam (2002) stated that the key to comprehending qualitative research lies in the belief that meaning is socially constructed by individuals in constant interaction with their surroundings. These surroundings, also known as their world, are not fixed, agreed upon or a measurable phenomenon (Merriam, 2002). Qualitative research was applicable in this specific study as it

focussed on older persons and their experiences of and reasons for the importance of cell phones and what role they play in their lives. Valuable knowledge was gained from the participants' experiences and reflections.

According to Thorne, Kirkham, and O'Flynn-Magee (2004, p. 3) "interpretive description provides direction in the creation of an interpretive account that is generated on the basis of informed questioning, using techniques of reflective, critical examination, and which will ultimately guide and inform disciplinary thought in some manner". Therefore, the aim of this study was to interpret and describe this specific phenomenon, refraining from any pre-given framework and presenting the results accurately.

Research Context and Participants

The larger IGNITE project (primary study) involved participants selected by means of a purposive sampling method (Teddlie & Yu, 2007). The selection criteria (inclusion criteria) used for the IGNITE project required that participants (both male and female) be older than 60 years of age, have access to a cell phone, be cognitively able to take part in a semi-structured interview, had to be able to understand and speak Afrikaans, English or Setswana, had to be able to engage in discussions about their experiences of mobile phone use and that participants should represent a range of socio-economic levels based on the Living Standard Measurement scale (Grosh & Glewwe, 2000). The qualitative data collection methods, namely the Mmogo-method® and semi-structured interviews were employed in this study and the sample consisted of 52 participants between the ages of 65 and 89 years.

The Mmogo-method® sessions (n=19) consisted of the following participants: six participants (four female, two male) from the Potchefstroom service centre, seven participants (all female) from the Ikageng centre, and six participants (all female) from the Promosa centre. The semi-structured interviews (n=33) consisted of 15 interviews (19

participants, 13 female and six male; some interviews were conducted in group sessions) from the Potchefstroom service centre, 12 interviews (all female) from the Ikageng centre, and two interviews (all female) from the Promosa centre.

Procedure

The primary researchers of the IGNITE project were contacted in 2014 for permission to use the IGNITE project's qualitative data set for secondary data analysis. During a scheduled formal meeting, the primary researchers oriented the enquirer as to the initial aim and research process of the primary study. The enquirer was provided with the necessary information, which included the raw data (recordings and transcribed recordings), the original research proposal, and the research procedure of the primary study. The enquirer had the opportunity of presenting a possible research focus to the primary researchers. Opinions and suggestions were shared and formal permission was subsequently granted to the enquirer, and research supervisor, to work on the IGNITE data by means of secondary data analysis.

Data Collection

Data for the primary research project, IGNITE, were collected through quantitative survey questionnaires and the following qualitative methods: the Mmogo-method® and semi-structured interviews. For the purpose of the secondary data analysis, the focus was only on data gathered by means of the Mmogo-method® and the semi-structured interviews.

According to Roos (2012) the Mmogo-method® is a visual data collection method that makes use of a specific research question to prompt participants to create an object with materials, e.g. clay, beads and straws. This method exposes participants to an unstructured research environment and materials and by using an open-ended research question, participants are invited to visually convey their experiences of a specific subject (Roos,

2008). The instruction was: *Build a visual representation of how you use your cell phone.* The building period (about 45 minutes) was followed by a discussion of the visual presentations between the researcher and the participants (Roos, 2008). Thus participants had the chance to explain what they had made. The researcher made use of certain questions to clarify the exact meaning of the representations, such as: *Tell me what you made? Why did you make this? Tell me more about this representation?* At the end of the explanation and clarification, other participants were invited to comment on the individual's representation and explanation. According to Roos (2012) this method allows the participants to convey their personal perspectives, feelings and experiences with regards to their own background and environment. Thus the participants' representations provided the researchers with the necessary understanding of their personal experiences relating to this specific research question, and made the data applicable to this study.

The semi-structured interviews included mostly individual interviews, but a small number of group interviews were conducted. Semi-structured interviews are used to corroborate data emerging from other data sources, span over a short period of time, and require participants to answer predetermined questions (Nieuwenhuis, 2007). According to Nieuwenhuis (2007) this kind of interview allows space for probing and clarification of answers. Group interviews differ from focus groups as interviews consist of asking participants semi-structured questions and the participants mainly communicate with the researcher (Nieuwenhuis, 2007). Group interviews in this study enabled the acquisition of more information from some of the participants, as some felt more at ease in a group and could relate to other's experiences. The data collected by means of semi-structured interviews were applicable to this study, since it focussed on collecting data from specific questions about participants' perspectives of their experiences.

Data Analysis

The data were analysed by means of secondary data analysis, since the research question of the primary study differed from the research question of this study. Visual and textual data were obtained, but the focus of the secondary analysis was on the latter. Thematic analysis was used to analyse the transcriptions of the Mmogo-method®-sessions and the semi-structured interviews.

According to Braun and Clarke (2006) thematic analysis is a method used for identifying, analysing and reporting themes/patterns within collected data and organises and describes data sets in rich detail (Braun & Clarke, 2006). Braun and Clarke (2006) further argued that thematic analysis offers an easy, accessible and flexible approach to analysing qualitative data. Therefore, thematic analysis was used to generate themes from the transcribed data in the secondary data analysis. The phases in thematic analysis (Braun & Clarke, 2006) that were applied in this study, were as follows: familiarisation with the data, generation of initial codes, searching for themes, reviewing of the themes, defining and naming of the themes and producing a report.

Trustworthiness

Trustworthiness entails demonstrating that the evidence for the reported findings is sound and that the ensuing argument is strong (LaBanca, 2010). Guba (1981) proposed four criteria that qualitative researchers should take into account when attempting to conduct a trustworthy study, namely credibility, transferability, dependability and confirmability. Krefting (1991) referred to the same criteria as truth value, applicability, consistency and neutrality. By applying these criteria, the trustworthiness of this secondary analysis was ensured.

Truth value involves establishing confidence in the truth of the findings in terms of the subjects/participants and the context in which a study was done (Krefting, 1991). By means of extended and peer examination of the collected data (i.e. undertaking to understand the secondary data), truth value/credibility was achieved. According to Devine (2003) understanding the dataset is crucial for trustworthiness relating to secondary data analysis.

Applicability of a study involves the extent to which the findings can be applied to/used for other contexts or other groups (Krefting, 1991). The research context and participants, as well as the research procedure and methodology followed for the purpose of this secondary data analysis, was broadly described and explained to ensure applicability.

Consistency/dependability of the data entails whether the findings would be consistent if the same study were repeated with the same subjects or in a similar context (Krefting, 1991). This can be achieved by including sections devoted to the research design and its implementation, the operational detail of data collection, and, lastly, reflective evaluation of the study (Shenton, 2004). These criteria were achieved by providing rich descriptions of the research procedure, methodology and findings of the secondary data analysis.

According to Sandelowski (1986) neutrality/confirmability in qualitative research involves freedom from bias in research procedures and findings. Guba (1981) described it as the degree to which the findings are a function solely of the participants and their conditions within the research context and not a by-product of any other biases, motivations or perspectives. Confirmability can be achieved by a detailed methodological description that enables the reader to determine the extent to which the data, as well as the constructs emerging there from, may be accepted. An audit trail can help the observer to trace the course of a study step-by-step according to the decisions made and procedures explained (Shenton, 2004). Continual reflection on the study itself and its progress ensured confirmability.

While high quality secondary data were aimed for in this study, it may not always be obtained. This was considered throughout the secondary data analysis, as suggested by Devine (2003).

Ethical Considerations

This study formed part of the IGNITe project that was approved by the Health Research Ethics Committee (HREC) of the North-West University (NWU), Potchefstroom campus (NWU-00053-10-S1). Since the research question of this study differed from that of the IGNITe project, a secondary data analysis was applied to the data gathered from the IGNITe project. The researcher of this study formed part of the initial data gathering team for the IGNITe project and, therefore, informed consent was not obtained again for the purposes of the secondary data analysis and the same ethical considerations and principles were adhered to.

Data integrity regarding the secondary data analysis was ensured in the following manner: The secondary analyst (researcher) cleaned all the primary data from the IGNITe project for the purposes of secondary data analysis. The data/sample were not overused (this was confirmed with primary investigator) and the original data have never been used to interpret and describe the role of cell phone use for older persons, relating to their specific needs, in today's society within a South African context. There was no risk for participants from the primary study (IGNITe), as the data were coded (the numbers of participants were given) to ensure confidentiality. Storage of previously collected data was secure and the safekeeping of the secondary data was ensured. These data sets were stored on a password-protected computer, as well as in a secured office at the North-West University, Potchefstroom campus. Only the researcher and study supervisor had, and will continue to have, access to the secondary data.

Furthermore, findings arising from the IGNITE project will be published before those from the secondary data analysis. For dissemination purposes, the findings from the secondary data analysis will also be presented to participants from the relevant service centres, i.e. Potchefstroom, Ikageng, and Promosa. Data will be used and applied for publication purposes only within the limitations of the agreement with the data owner (primary IGNITE researchers), which does not violate the agreement entered into with the original participants and does not significantly deviate from the general aim of the primary research study.

Findings

Four main themes with subthemes emerged from the secondary data analysis. Appropriate verbatim quotations are provided as validation.

Theme 1: Cell Phone Use as a Form of Safety

One of the main reasons for older persons adopting cell phone use relates to safety. Different aspects of using cell phones to assist participants with safety issues were found during the secondary data analysis. These aspects were divided into the following subthemes: emergency situations, travelling, and medical services.

Emergency situations. Participants experienced that cell phones aid them in different emergency situations, thus contributing to their safety. Some participants felt that they could use their cell phone specifically to contact people when they experience an emergency, as one participant commented: "...and you want to be able to SMS your children or familiar people in emergency situations" (Interview, Participant 18, Potchefstroom). Participants also explained that cell phone use is important, because some of their family members prefer to check in with them often to determine whether they are still fine or are experiencing any form

of emergency, as one participant commented about her daughter: "...but she simply must phone; she wants to know whether I'm still there, or whether she should come and look for me or whatever" (Mmogo, Participant 25, Potchefstroom). Another participant mentioned an emergency situation when she could not get into her house: "... if you find the gates at home locked, you can phone people inside the house to open the gate for you" (Mmogo, Participant 49, Ikageng).

Some participants reported that they have certain medical conditions and that these conditions can cause emergency situations where they need assistance, as one participant commented: "Very important, especially since I have a prosthetic leg – if I fall, I can't get up by myself. I have to be able to phone my husband" (Interview, Participant 19, Potchefstroom). Another participant said: "...perhaps if I'm sick, not feeling well, that they should come if necessary and first take me to a clinic" (Mmogo, Participant 32, Promosa).

Travelling. Participants also experienced some form of safety as cell phones enabled them to phone if or when they experience problems while travelling, i.e. to contact family members/special services that monitor their route or contacting people at home that are responsible for taking care of their homes while they are travelling. One participant commented: "...perhaps if you're stranded by the roadside and the car broke down and you don't know what to do, then at least there is always someone to contact" (Interview, Participant 12, Potchefstroom).

One of the participants (Interview, Participant 18, Potchefstroom) stated: "...you know, it's phone calls and your messages and that means a lot – to be able to SMS children or loved ones in emergency situations on the road" and also mentioned: "...we belong to Crisis and Call...they monitor my route...of course, they organise roadside assistance". Another participant commented: "Or to tell my son when we visit Springbok, 'Okay listen, we're here

now or this how far we are...” (Interview, Participant 19, Potchefstroom). Another participant said: “...and when I’m on holiday with the children and some of the grandchildren and to find out whether my little dog is still fine” (Interview, Participant 13, Potchefstroom).

Medical services. Finally, participants experienced that cell phones enable them to contact medical services. Participants seemed to experience some feeling of safety and comfort if they have a means to contact medical services because of ailments. One participant explained: “When you are sick you can phone an ambulance and it can arrive quickly” (Mmogo, Participant 51, Ikageng). Another participant emphasised: “...the first aid people...for safety, yes” (Mmogo, Participant 32, Promosa).

Theme 2: Sense of Control

Participants in this study experienced that cell phones enabled them to maintain a certain sense of control in their own lives and this included two subthemes: staying informed about happenings and acquaintances’ lives, news and achievements, and managing business affairs.

Staying informed. It was evident that the participants experienced cell phone use as a method to stay informed about important events and obtaining information about the lives of people who are important to them. Participants felt that staying informed keeps them connected and enables them to maintain some sense of control in their own lives. One participant commented: “If you want information from the service centre, then you phone them” (Interview, Participant 1, Potchefstroom). Other participants mentioned: “...or if there’s a church function, like a fair, we tell one another” (Mmogo, Participant 33, Promosa) and: “I’m involved with in a project to get information regarding the progress of the project...” (Interview, Participant 45, Ikageng).

Growing older, participants still feel the need for staying in contact and informed about loved ones and their doings, even though they are separated, as one participant explained: “You see other family photos that you wouldn’t normally have seen, because the family lives far away, so in other words you now have contact with almost all of them, because they put new photos on Facebook...” (Mmogo, Participant 22, Potchefstroom). Another participant commented: “...children regularly inform me about their achievements...people put everything on Facebook, their whole lives...” (Mmogo, Participant 25, Potchefstroom). The participants’ cell phones also aid them in staying informed about news, e.g. bad news involving funerals, as one participant explained: “I use my phone to call my friends...as well as informing them about other people’s funerals” (Interview, Participant 45, Ikageng).

Managing business affairs. Throughout the data there were signs of participants experiencing cell phone use as an aid in managing business affairs. The managing of their own business affairs enables them to maintain a certain sense of control in their lives and a changing world. Different aspects pertaining to their business affairs and ways by which they control these affairs became apparent. The buying and receiving of electricity without leaving the house, thus saving money, was one of these aspects. One participant commented: “Inside the house a cell phone is useful, because I am able to buy electricity with my cell phone, rather than having to waste money on transport to go to town and buy electricity” (Mmogo, Participant 50, Ikageng).

Older persons also use their cell phones to manage their financial affairs, as they can do banking and shopping via their cell phones from anywhere, subsequently maintaining a sense of control in their lives. One participant commented: “...like me, who doesn’t have a car, so I cannot always go to the bank and clothing shops and so forth, it’s very good to get information quickly” (Mmogo, Participant 21, Potchefstroom). Regarding banking, which

pertains to receiving important notifications from the bank to keep informed on their accounts, one participant said:

“And you know immediately if money has been withdrawn from your bank account, because the bank sends you a message; if you don’t have a cell phone connected to your banking, you wouldn’t know. Then there is a scam and you won’t know about it” (Mmogo, Participant 22, Potchefstroom).

Another aspect pertaining to older persons’ business affairs is the receiving and paying of their bills. Receiving bills via e-mail on their phone and being able to pay these bills via their cell phones make managing their business affairs easier, as one participant commented:

“Yes, if you received your email from...these days, the postal service can often not be trusted. So then you get your bill and you know what’s going on in your...especially like a medical aid” (Mmogo, Participant 20, Potchefstroom).

Older persons manage their business affairs by communicating with and enquiring after businesses and medical services via their cell phones. One participant commented:

“...if I have a problem, with Telkom or something, then I can phone them. Or if I’m looking for someone to mow the lawn and I have the phone number, then I phone them. Recently the geyser was broken and I saw the phone numbers in the *Gazette* and then I called them. Then they came to repair it” (Mmogo, Participant 28, Promosa).

Another participant commented: “...they send you one that says you were at that specific doctor and they will pay him three days after that specific date or they send you your complete, not bill, your complete statement” (Mmogo, Participant 20, Potchefstroom).

Theme 3: Aid in Daily Routine

It was clear that participants found cell phones to be a necessary aid in their daily routine. A number of different uses for their cell phones was mentioned by various participants. One participant mentioned: “It’s very important to me. If I have to set an alarm, I set it on my phone...” (Interview, Participant 4, Potchefstroom). Some participants mentioned that they use their cell phones to take pictures to create memories and share their experiences with others, as well as receiving pictures from others, as these two participants commented: “I take many photos with it...when we’re on holiday and I photograph my garden...” (Interview, Participant 13, Potchefstroom) and “...you can take photos, other people can send you photos of their lives and so forth...” (Mmogo, Participant 7, Potchefstroom).

Participants indicated that they use their cell phones to see the weather forecast, as one participant indicated: “...I loaded the weather report, and tomorrow, if I wonder, ‘Will it rain?’, I can always check my weather report...” (Mmogo, Participant 22, Potchefstroom). Participants also indicated that their cell phones are valuable when they are at the shops, as one participant explained: “...for instance, if we’ve lost one another in a shop, or if I want to ask my daughter who lives with us whether she needs anything from Pick ‘n Pay...” (Interview, Participant 19, Potchefstroom).

Theme 4: Staying Connected with Family and Friends

It became apparent that keeping connected was one of the main roles that cell phones play in the participants’ lives. The evidence found in the data supporting this theme could be divided into two subthemes: maintaining relationships by frequent cell phone contact and maintaining relationships with family and friends who are abroad/far away.

Maintaining relationships by frequent cell phone contact. The use of cell phones helps participants build or facilitate relationships with others, as well as with giving and receiving love. Frequent cell phone contact assists older persons in maintaining relationships, thus staying connected to other people. Some participants also felt that asking for assistance in using their cell phone facilitated their relationship with the person whom they asked. One participant commented: “I call my friends if I miss them or if I want to know how they are doing” (Interview, Participant 44, Ikageng). Other participants stated: “Strictly to for people that I feel I must phone them and tell them I love them or miss them” (Mmogo, Participant 21, Potchefstroom) and “To stay in contact with friends and family” (Interview, Participant 8, Potchefstroom). One participant was asked about her relationship with her grandson who assists her with cell phone problems: “Ma’am, would you say that cell phones and laptops, etc. strengthen your relationship?” To which she replied: ““Yes, yes, absolutely, yes” (Interview, Participant 11, Potchefstroom). Another participant explained that she usually asks her daughter for assistance with any cell phone queries. The interviewer probed whether technology plays an important role in her relationship with her daughter and she replied with:

“Yes, because when I get a nice message or beautiful photo from someone, I can show it to her and, in turn, if she has taken a picture, or photographed my granddaughter, someone else or some place, she can send it to me...if I get a nice or spiritual message, I can send it to her...the phone helps with everyday interaction” (Interview, Participant 19, Potchefstroom).

Maintaining relationships with family and friends who are abroad/far away. Cell phone use assists participants in maintaining relationships with family and friends who are abroad/far away, especially since living far apart can complicate staying connected. One participant was asked the following during the Mmogo method session: “So, you’re well-connected, even with people overseas, as well as people nearby, so you’re a part of the

picture?” and the participant responded with: “Yes, like I said, my niece’s photos appear regularly and you can reply immediately; you can ask her questions about the photos and everything she posts” (Mmogo, Participant 22, Potchefstroom). One participant mentioned the different time zones and staying in touch with family living abroad, as well as how using a cell phone has made contact easier:

“When the sun is shining here, Australia and places in dawns. Okay, the children are mine, great grandchildren they want to phone me. You can’t phone me and grandpa now, my great grandchildren, you can’t phone me now because it’s night time where you have day here. Now when I phone them I got to try to phone at a certain time, before they go to sleep and with the telephones the world has become smaller, very much smaller” (Mmogo, Participant 24, Potchefstroom).

When asked what they use their cell phone for, one participant answered: “...for us the most important thing is to contact our children...we have children that live far away” (Interview, Participant 6, Potchefstroom).

Discussion

Although various themes arose from the Mmogo group discussions and semi-structured interviews, the participants mentioned several common roles that cell phones play in their lives to satisfy their needs. These needs included a need for safety, a need to maintain a sense of control, a need for an aid in their daily routine, and staying connected with family and friends.

Some participants expressed the need for safety, which is supported by other studies showing that adoption of cell phones among older people is linked to safety and security reasons (Abascal & Civit, 2001; Kurniawan, 2007; Mann et al., 2004; McCreadie & Tinker, 2005). This relates to instrumental motives (Jin & Park, 2010) and forms part of Maslow’s

hierarchy of basic needs and safety needs in particular (McLeod, 2007; Simons et al., 1987). Some participants experienced cell phone use as a form of safety in emergency situations, which is supported by other studies, since older persons view cell phones as an essential means to access help in emergency situations (Mann et al., 2004; Massimi et al., 2007). Participants also felt that cell phones make them feel safe while travelling. This is consistent with the findings of Keating et al. (2007) in that older persons experience some kind of feeling of safety and comfort in having a cell phone when they are driving, in case of trouble with their car or any other unexpected circumstances. Some participants' need for safety related to contacting medical services and this is supported by Ghosh et al. (2014) and Massimi et al. (2007), who found that cell phones play an important role in older persons lives pertaining to health-related issues.

A sense of control in their own lives was another need expressed by the participants in this study. They felt that cell phone use could assist them in achieving this by staying informed about happenings and acquaintances' lives, news and achievements, as well as by managing business affairs. Staying informed about the abovementioned matters can be seen as an intrinsic motive, while managing their business affairs can be categorised as an instrumental motive (Jin & Park, 2010). Abascal and Civit (2001) suggested that adoption of cell phone use has a positive effect on older persons' personal independence, i.e. to exercise choice and control over their lives and making the decisions they would like to make (Audit Commission, 2004). This relates to Maslow's hierarchy of basic needs and specifically to esteem needs (McLeod, 2007; Simons et al., 1987).

Furthermore, there was a need for cell phones to aid participants in their daily routines. This is consistent with the findings of Massimi et al. (2007), who showed that older persons consider cell phones as essential to their daily lives on account of the calendar that can support them in remembering important daily, weekly and monthly things and by doing so, it

acts as a memory aid. This need, therefore, concurs with instrumental motives, as it refers to applying the cell phone for utility (Jin & Park, 2010).

The need to stay connected with family and friends by means of cell phone use was expressed by the majority of participants. It seemed that this consisted of maintaining relationships by frequent cell phone contact and maintaining relationships with family and friends who are abroad/far away. This is supported by Finchum and Weber (2000) and Ghosh et al. (2014), who concluded that older persons adopt cell phones as it helps them to stay in touch with family and friends. This need to stay connected corresponds with Maslow's social needs, which involves belongingness and love with regards to family and other relationships. (McLeod, 2007; Simons et al., 1987). It is also an intrinsic motive, which pertains to communication with other people by means of cell phones to achieve companionship (Jin & Park, 2010).

Limitations

The research findings cannot be generalised for the population of older persons in South Africa due to the limited demographic variation of the study. The sampling area from which the participants were recruited was not representative of the South African population. Only two interviews were conducted in the Promosa area, while 12 and 15 interviews were done in the other two areas respectively. The gender of the sample of participants was also not evenly distributed, as it consisted of 44 females and only 8 males.

Recommendations

From the literature it is apparent that only a small number of studies have been done on this topic globally. It is, therefore, recommended that more research on this topic be carried out. A number of roles that cell phones play in older persons' lives to satisfy their needs were revealed in this study. Furthermore, it is recommended that more studies focus on these roles and needs as well as the possible influence of these roles on older persons' well-being, and

that a wider variety of participants be included to enable the generalisation of the findings for the older population of South Africa.

Conclusion

The aims of this study were to interpret and describe the role of cell phone use for older persons within a South African context, and to determine possible needs that could be addressed by the role of cell phones. In explaining the role of cell phone use in their lives and what they use their cell phones for, certain needs became evident. The majority of participants mentioned that they use their cell phones to stay in contact with family and friends. They also use their cell phones for some sense of safety and comfort. Even though they are growing older, participants still wanted to maintain a sense of control over their own lives and cell phone adoption enables them to achieve this. Older persons found cell phones to be a useful aid in their daily routine, e.g. alarm clock, watch, camera, weather forecast and shopping. If the role of cell phone use for older persons, and the needs that could be addressed by these roles, are understood, then the necessary support can be given to older persons within a South African context to adopt cell phone use for the satisfaction of their needs.

References

- Abascal, J., & Civit, A. (2001, May). *Universal access to mobile telephony as a way to enhance the autonomy of elderly people*. In Proceedings of the 2001 EC/NSF workshop on Universal accessibility of ubiquitous computing: Providing for the elderly (pp. 93-99). ACM.
- Aboderin, I. (2005). Changing family relationships in developing nations. In M. L. Johnson (Ed.), *The Cambridge handbook of age and ageing* (pp. 469–476). Cambridge, United Kingdom: Cambridge University Press.
- Aboderin, I. (2006). *Intergenerational support and old age in Africa*. New Brunswick, NJ: Transaction Publishers.
- Audit Commission. (2004). *Older people - independence and wellbeing*. Retrieved from http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.audit-commission.gov.uk%2FSiteCollectionDocuments%2FAuditCommissionReports%2FNationalStudies%2FOLDERPeople_overarch.pdf&ei=DLfkU-ueB8Wf7Aaks4CoCA&usg=AFQjCNHdHKt83kb4d5KDe6vckMzVReHPRQ&sig2=cGp5SsvGQO9_th3waCNKqg&bvm=bv.72676100,d.ZWU
- Binti, S., & Malik, A. B. D. (2011). *Older people, mobile technology and culture: An investigation of appropriate methods and personas in Malaysia and the UK* (Unpublished doctoral dissertation). University of York, York.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa.

- Chen, K., Chan, A. H. S., & Tsang, S. N. H. (2013, March). *Usage of mobile phones amongst elderly people in Hong Kong*. Paper presented at the Proceedings of the International Multi Conference of Engineers and Computer Scientists, Hong Kong.
- Conci, M., Pianesi, F., & Zancanaro, M. (2009). Useful, social and enjoyable: Mobile phone adoption by older people. In T. Gross, J. Gulliksen, P. Kotzé, L. Oestreicher, P. Palanque, R. O. Prates, & M. Winckler (Eds.), *Human-computer interaction—INTERACT 2009* (pp. 63-76). Berlin, Heidelberg: Springer.
- Coughlin, J. F. (1999). Technology needs of aging boomers: As the elderly population grows more numerous and more active, the public and private sectors will have to develop specialized products and services. *Issues in Science and Technology*, *16*, 53-60.
- Czaja, S. J., & Hiltz, S. R. (2005). Digital aids for an aging society. *Communications of the ACM*, *48*(10), 43-44.
- Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*, 54-67. doi: 10.1006/ceps.1999.1020.
- Devine, P. (2003). Secondary data analysis. In R. L. Miller & J. D. Irewer (Eds.). *The A-Z of social research: A dictionary of key social sciences research concepts* (pp. 285-288). SAGE Publications Ltd.
- Dimmick, J. (2003). *Media competition and co existence: The theory of the niche*. Mahwah, NJ: Lawrence Erlbaum.
- Dimmick, J. W., Sikand, J., & Patterson, S. J. (1994). The gratifications of the household telephone: Sociability, instrumentality, and reassurance. *Communication Research*, *21*, 643-644.

- Feist, H., & McDougall, K. (2013, August). *Older people's use of new communication technologies: research findings & policy implications*. Paper presented at the Australian Population and Migration Research Centre, South Australia.
- Fincham, T., & Weber, J. (2000). Applying continuity theory to older adults friendships. *Journal of Aging and Identity*, 5(3), 159-168.
- Ghosh, R., Lindeman, D., Ratan, S., & Steinmetz, V. (2014). *The new era of connected aging: A Framework for understanding technologies that support older adults in aging in place*. Retrieved from <http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.techandaging.org%2FConnectedAgingFramework.pdf&ei=3QLIU-PRCq7G7AaxvICYBg&usg=AFQjCNHZHYUeJSjLaJhMMDHQIzzk1yPg4A&sig2=60HC2jDTFoyzthvSEzo5lQ&bvm=bv.72676100,d.ZWU>
- Grosh, M., & Glewwe, P. (2000). *Designing household survey questionnaires for developing countries*. Washington, DC: World Bank Publications.
- Guba, E. G. (1981). ERIC/ECTJ annual review paper: Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology* 29(2), 75-91. Retrieved from <http://www.jstor.org/stable/30219811>.
- Higgins, C. (n.d.). *6 ways cell phones are changing the world (beyond the ways you're probably thinking)*. Retrieved 2 July 2015 from mentalfloss.com/.../6-ways-cell-phones-are-changing-the-world-beyond-ways-youre-probably-thinking
- Horwitz, R. B., & Currie, W. (2007). Another instance where privatisation trumped liberalisation: The politics of telecommunications reform in South Africa – A ten

year retrospective. *Telecommunications Policy*, 31(8-9), 445-462.

doi:10.1016/j.telpol.2007.05.008

- Independent Age. (n.d.). *Older people, technology and community*. Retrieved from <http://www.gulbenkian.org.uk/pdffiles/Older-people-technology-and-community.pdf>
- Ivan, L., & Fernandez-Ardevol, M. (2013). Older people and mobile communication in two European contexts. *Revista Română de Comunicare și Relații Publice*, 3, 83-98.
- Jin, B., & Park, N. (2012). In-person contact begets calling and texting: Interpersonal motives for cell phone use, face-to-face interaction, and loneliness. *Cyberpsychology, Behaviour and Networking*, 13(6), 611-618.
- Joe, J., & Demiris, G. (2013). Older adults and mobile phones for health: A review. *J Bomed Inform*, 46(5), 1-17. doi: 10.1016/j.jbi.2013.06.008
- Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, United Kingdom: Cambridge University Press.
- Keating, E., Nagai, E., Hadder, N., & Kowalsky, J. (2007). *The role of the mobile phone in the welfare of aged and disabled people*. Retrieved from http://www.mobaken.jp/kennkyuu/chousa/2006/research06_05/finalreport_06-05.pdf.
- Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *The American Journal of Occupational Therapy*, 45(3), 214-222.
- Kurniawan, S. (2006). An exploratory study of how older women use mobile phones. In P. Dourish & A. Friday (Eds.), *UbiComp 2006: Ubiquitous computing* (pp. 105-122). Berlin, Heidelberg: Springer.
- Kurniawan, S. (2007). Mobile phone design for older persons. *Interactions*, 24(4), 24-25.

- LaBanca, F. (2010). *Trustworthiness in qualitative research*. Retrieved from <http://problemfinding.labanca.net/2010/05/24/trustworthiness-in-qualitative-research/>
- Leung, R., McGrenere, J., & Graf, P. (2008). *The learnability of mobile application interfaces needs improvement*. Paper presented at the Proceedings of British HCI Workshop on HCI and the Older Population, British Columbia, Vancouver. Canada.
- Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly*, 77, 308-320.
- Ling, C., Hwang, W., & Salvendy, G. (2006). Diversified users' satisfaction with advanced mobile phone features. *Univ. Access Information Society*, 5, 239-249.
- Mallenius, S., Rossi, M., & Tuunainen, V. K. (2007). Factors affecting the adoption and use of mobile devices and services by elderly people—results from a pilot study. *6th Annual Global Mobility Roundtable*, 31.
- Mann, W. C. (2003). Assistive technology. In N. Charness & K.W. Schaie (Eds.), *Impact of technology on successful aging* (pp. 177–202). New York, NY: Springer Publishing Company.
- Mann, W., Helal, S., Davenport, D., Justiss, M., Tomita, M., & Kemp, B. (2004). Use of cell phones by elders with impairments: Overall appraisal, satisfaction, and suggestions. *Technology & Disability*, 16(1), 49-57.
- Massimi, M., Baecker, W., & Wu, M. (2007, October). *Using participatory activities with seniors to critique, build and evaluate mobile phones*. Paper presented at the Proceedings of the 9th international ACM SIGaccess conference on Computers and accessibility, Tempe, Arizona. USA.

- McCreadie, C., & Tinker, A. (2005). The acceptability of assistive technology to older people. *Ageing & Society*, 25, 91-110.
- McLeod, S. (2007). *Maslow's hierarchy of needs*. Retrieved from <http://www.simplypsychology.org/maslow.html>
- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.
- Nambalamba, A., & Chikoko, M. (2011). *Aging population challenges in Africa*. Department of Social Development : Pretoria.
- Nieuwenhuis, J. (2007). Qualitative research designs and data gathering techniques. In K. Maree (Ed.), *First steps in research* (pp. 69-97). Pretoria, South Africa: Van Schaik Publishers.
- O'Keefe, G. J., & Sulanowski, B. K. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly*, 72, 922-33.
- Palamuleni, M., Kalule-Sabiti, I., & Makiwane, M. (2007). Fertility and childbearing in South Africa. In A.Y. Amoateng & T.B. Heaton (Eds.), *Families and households in post-apartheid South Africa: socio-demographic perspectives* (pp. 113-134). Cape Town, South Africa: HSRC Press.
- Pattinson, M., & Stedmon, A. (2006). Inclusive design and human factors: Designing mobile phones for older users. *PsychNology Journal*, 4(3), 267-284.
- Plaza, I., Martin, L., Martin, S., & Medrano, C. (2011). Mobile applications in an aging society: Status and trends. *Journal of Systems and Software*, 84(11), 1977-1988.
- Picard, R. (1989). *Media economics*. Newbury Park, CA: Sage.
- Pillay, N. K., & Maharaj, P. (2013). In P. Maharaj (Ed.), *Aging and health in Africa: International perspectives on aging* (pp. 41-114). New York, NY: Springer.

- Ramirez, A., Dimmick, J., Feaster, J., & Lin, S. (2008). Revisiting interpersonal media competition: The gratification niches of instant messaging, e-mail, and the telephone. *Communication Research, 35*, 529-547.
- Rébola, C. B., & Jones, B. (2011). Sympathetic devices: Communication technologies for inclusion. *Physical & Occupational Therapy In Geriatrics, 29*(1), 44-58.
- Roos, V. (2008). The Mmogo-method®: Discovering symbolic community interactions. *Journal of Psychology in Africa, 18*(4), 659-667. Retrieved from <http://dx.doi.org/10.1080/14330237.2008.10820249>
- Roos, V. (2012). The Mmogo-method® An exploration of experiences through visual projections. *Qualitative Research in Psychology, 9*(3), 249-261.
- Sandelowski, M. (1986). The problem of rigor in qualitative research. *Advances in Nursing Science, 8*(3), 27-37.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information 22*, 63–75
- Simons, J. A., Irwin, D. B., & Drinnien, B. A. (1987). *Maslow's hierarchy of needs*. Retrieved from <http://cetl.gtu.ge/DOCS/Teacing/Collection%20Honolulu/Human%20Development/MASLOW.doc>.
- Smith, A. (2012). *The best (and worst) of mobile connectivity*. Pew Research Center's Internet & American Life Project. Retrieved from <http://pewinternet.org/Reports/2012/Best-Worst-Mobile.aspx>

- Statistics South Africa. (2013). *Census 2013: Mid-year population estimates (P0302)*. Pretoria: SSA. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022011.pdf>
- Statistics South Africa. (2015). *Mid-year population estimates 2015*. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022015.pdf>
- Sterns, E. (2005). Curriculum design and program to train older adults to use personal digital assistants. *Gerontologist, 45*(6), 828-834.
- Tang, H, & Kao, S. (2005). *Understanding the user model of the elderly people while using mobile phones*. Retrieved from researchgate.net.
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research, 1*(1), 77-100.
- Thorne, S., Kirkham, S. R., & O'Flynn-Magee, K. (2004). The analytic challenge in interpretive description. *International Journal of Qualitative Methods, 3*(1), 1-11.
- United Nations [UN]. (2013). *The millennium development goals report 2013*. Retrieved from <http://www.un.org/millenniumgoals/pdf/report-2013/mdg-report-2013-english.pdf>
- United Nations Department of Economic and Social Affairs: Population Division [UNDESA]. (2010). *World population prospects: the 2010 revision*. Retrieved from <http://esa.un.org/unpd/wpp/index.html>
- United Nations Economic and Social Council [UNESCO]. (2013). *Millennium Development Goals (MDG) report*. New York. (E/UN.2013/MDG2013).
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425-478.

- Wei, R., & Lo, V. H. (2006). Staying connected while on the move: Mobile phone use and social connectedness. *New Media & Society*, 8, 53-72.
- West, D. M. (2012, May), *How mobile devices are transforming healthcare*. Paper presented at the Centre for Technology Innovation at Brookings, Massachusetts, Washington.
- Worringham, C., Rojek, A., & Stewart, I. (2011). *Development and feasibility of a smartphone, ECG and GPS based systems for remotely monitoring exercise in cardiac rehabilitation*. Retrieved from www.plosone.org/article/info%2F10.1371%2Fjournal.pone.0014669

SECTION 3: CRITICAL REFLECTION

Introduction

This study supported the idea of improving the understanding of the role of cell phone use for older persons in South Africa, determining the possible needs that this role could address. A small number of studies investigated the overall adoption/acceptance of cell phones (Conci, Pianesi, & Zancanaro, 2009) and despite general cell phone adoption in the ageing population, only a small number of studies have focussed on older persons, their use of cell phones and their motives and needs relating to mobile technology (see Chen, Chan, & Tsang, 2013; Leung, McGrenere, & Graf, 2008; Mallenius, Rossi, & Tuunainen, 2013; Pattison & Stedmon, 2006; Tang & Kao, 2005). No such research has been conducted within the South African context and there is clearly lack of knowledge on this topic.

In order to address this problem, the following question was asked in the secondary data analysis: “What role do cell phones play in the lives of older persons within the South African context”

Methodology

The interpretive descriptive research design applied was appropriate since this study sought to interpret and describe as accurately as possible the role of cell phones for older persons, relating to their specific needs in today’s society within a South African context, refraining from a pre-given framework, but remaining true to the evidence. This was achieved by informed questioning from the Mmogo-method® and semi-structured interviews that were used in the primary study (IGNITe). The former enabled participants to visually convey their own experiences of a specific subject (Roos, 2008), i.e. “how they use their cell phones” in this study, as well as their perspectives and feelings with regards to their personal

backgrounds and environments (Roos, 2012). This enabled the acquisition of insight into participants' subjectively lived experiences (Roos, 2012) with regards to how they utilise their cell phones. Their visual representations of how they use their cell phones formed the foundation of their explanation of personal experiences. The participants' deepest feelings and experiences were projected onto their visual creations. The Mmogo-method® was found valuable in this study, since the visual projection elicited and clarified the participants' subjective and 'hidden' meaning of their experiences. Only the textual data from this visual-projective technique was used for this secondary study.

Semi-structured interviews (mostly individual and a small number in groups), spanning over a short period of time, were utilised to support data emerging from other data sources, and the participants needed to answer predetermined questions (Nieuwenhuis, 2007), e.g. What is the role of your cell phone? What do you use your cell phone for?. This type of interview was relevant as it allowed space for probing and clarification of the participants' answers. Furthermore, semi-structured interviews were valuable, as information about specific questions relating to cell phone use and participants' perspectives of their personal experiences could be collected. The few group interviews were valuable and it allowed additional information to be obtained from some of the participants, especially since some felt more comfortable in a group and could relate to the experiences of others.

Thematic analysis was utilised to identify, analyse and report possible themes/patterns (i.e., the role of cell phones in participants' lives) within the collected data (Braun & Clarke, 2006). This method allowed the organisation and description of data sets from the primary study in rich detail and offered a flexible and accessible method with which to analyse the data (Braun & Clarke, 2006). Themes were consequently generated from the transcribed data sets. Thematic analysis was appropriate since it allowed familiarisation with the data, generation of initial codes, the search for possible themes, the reviewing, defining and

naming of these themes, and, finally, reporting on the role of cell phones in participants' lives. Moreover, the data had to be revisited often.

Conclusion

From the findings it is clear that cell phones play an important role in the lives of older persons within the South African context, that they have specific needs that can be satisfied by using their cell phones and gratifying/satisfying these needs could contribute to their total well-being, thereby addressing the gap identified in the literature. Four main themes with subthemes emerged from the secondary data analysis.

Cell phone use as a form of safety (Theme 1) pertaining to emergency situations, travelling and contacting medical services links to safety needs (Level 2) in Maslow's hierarchy of needs. This level includes security and correlated with the subthemes identified during the secondary data analysis, as older persons experience a sense of safety, security and comfort when utilising their cell phone during the aforementioned situations.

It was also evident that older persons have a need to maintain a sense of control in their own lives (Theme 2). Maintaining this sense of control supports them in their need to remain independent, which relates to Maslow's esteem needs (Level 4), includes people's need for independence. The first subtheme of Theme 2 included data about older persons looking at family photos and of what loved ones are doing, which corresponds with Maslow's social needs (Level 3) where people have a need of belongingness and love. The second subtheme of Theme 2, namely managing business affairs, further links to safety needs (pertaining to security and order in their lives) and Maslow's cognitive needs (pertaining to knowledge and meaning), since communication with businesses and receiving related information were mentioned. Cell phones as an aid in daily routine (Theme 3) displayed different needs older persons want satisfied through cell phone use and these needs correlated with Maslow's

esteem needs (e.g., being independent for longer by managing their own lives) and aesthetic needs (taking pictures of beautiful things and sharing this with others) respectively. Staying connected with family and friends (Theme 4) was mentioned throughout the data. Older persons have a great need to maintain relationships with loved ones and this aspect correlates with Maslow's social needs, pertaining to needs for belongingness and love with regards to family and other relationships.

The combination of several of these needs relating to cell phone use expressed by older persons can lead to the realisation of personal potential and self-fulfilment, which form part of Maslow's self-actualization needs (Level 7). A person can only be fully functional when they have satisfied every level on Maslow's hierarchy of needs, according to McLeod (2007), and satisfying each level can contribute to a person's well-being. Older persons expressed specific needs relating to different levels on Maslow's hierarchy that are satisfied by means of cell phone use. Thus older persons' cell phone adoption can contribute to their well-being.

This study has addressed gaps in literature, specifically with regards to the role of cell phone use for older persons within a South African context and the needs addressed by this cell phone use. The methodology used during the research process enabled relevant data to be obtained to answer the research question and satisfy the aims of this study. Cell phones play an essential role in the lives of older persons in South Africa and the methodology allowed the interpretation and description of this role, as well as connecting it to the satisfaction of older persons' needs.

The findings could not be generalised for the entire older population in South Africa, since the participants were only recruited from one area. The sample area used in the primary study for recruiting participants was not sufficiently broad. Furthermore, the number of interviews and the gender of participants in the primary study were not evenly distributed. To

fill the gap in research, the primary suggestion is that more studies should be conducted on this topic, specifically focussing on older persons' needs with regards to cell phones as well as the possible influence of these roles on older persons' well-being. Including a wider group of participants can enable the generalisation of findings in South Africa and contribute to future studies. If the role of older persons' cell phone use and the needs that could be addressed by these roles are understood and adequately portrayed, then the necessary support to adopt cell phone use for the possible satisfaction of their needs can be given to older persons within the South African context, thereby possibly contributing to their well-being. This study excavated and contributed new knowledge to the field of cell phone technology and older persons' needs.

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa.
- Chen, K., Chan, A. H. S., & Tsang, S. N. H. (2013, March). *Usage of mobile phones amongst elderly people in Hong Kong*. Paper presented at the Proceedings of the International Multi Conference of Engineers and Computer Scientists, Hong Kong.
- Conci, M., Pianesi, F., & Zancanaro, M. (2009). Useful, social and enjoyable: Mobile phone adoption by older people. In T. Gross, J. Gulliksen, P. Kotzé, L. Oestreicher, P. Palanque, R. O. Prates, & M. Winckler (Eds.), *Human-Computer Interaction—INTERACT 2009* (pp. 63-76). Berlin, Heidelberg: Springer.
- Leung, R., McGrenere, J., & Graf, P. (2008). *The learnability of mobile application interfaces needs improvement*. Paper presented at the Proceedings of British HCI Workshop on HCI and the Older Population, British Columbia, Vancouver. Canada.
- Mallenius, S., Rossi, M., & Tuunainen, V. K. (2007). *Factors affecting the adoption and use of mobile devices and services by elderly people - results from a pilot study*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.130.2463&rep=rep1&type=pdf>
- McLeod, S. (2007). *Maslow's hierarchy of needs*. Retrieved from <http://www.simplypsychology.org/maslow.html>
- Nieuwenhuis, J. (2007). Qualitative research designs and data gathering techniques. In K. Maree (Ed.), *First steps in research* (pp. 69-97). Pretoria, South Africa: Van Schaik Publishers.

- Pattison, M., & Stedmon, A. (2006). Inclusive design and human factors: Designing mobile phones for older users. *PsychNology Journal*, 4(3), 267-284.
- Roos, V. (2008). The Mmogo-method®: Discovering symbolic community interactions. *Journal of Psychology in Africa*, 18(4), 659-667. Retrieved from <http://dx.doi.org/10.1080/14330237.2008.10820249>
- Roos, V. (2012). The Mmogo-method®: An exploration of experiences through visual projections. *Qualitative Research in Psychology*, 9(3), 249-261.
- Tang, H., & Kao, S. (2005). *Understanding the user model of the elderly people while using mobile phones*. Retrieved from researchgate.net.

COMPLETE REFERENCE LIST

References

- Abascal, J., & Civit, A. (2001, May). *Universal access to mobile telephony as a way to enhance the autonomy of elderly people*. In Proceedings of the 2001 EC/NSF workshop on Universal accessibility of ubiquitous computing: Providing for the elderly (pp. 93-99). ACM.
- Aboderin, I. (2005). Changing family relationships in developing nations. In M. L. Johnson (Ed.), *The Cambridge handbook of age and ageing* (pp. 469–476). Cambridge, United Kingdom: Cambridge University Press.
- Aboderin, I. (2006). *Intergenerational support and old age in Africa*. New Brunswick, NJ: Transaction Publishers.
- Aboderin, I. (2012a). Ageing Africa: Opportunities for development. In J. Beard, S. Biggs, D. Bloom, L. Fried, P. Hogan, A. Kalache, & J. Olshansky (Ed.), *Global population ageing: Peril or promise?* (pp. 69-73). Geneva: World Economic Forum.
- Aboderin, I. (2012b). Giants of the 21st century: global poverty, inequalities and ageing in Sub-Saharan Africa: A focus for policy and scholarship. *Journal of Population Ageing*, 5(2), 87–90.
- Aboderin, I., & Ferreira, M. (2008). Linking ageing to development agendas in Sub-Saharan Africa: Challenges and approaches. *Journal of Population Ageing*, 1(5), 51–73.
- Audit Commission. (2004). *Older people - independence and wellbeing*. Retrieved from http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.audit-commission.gov.uk%2FSiteCollectionDocuments%2FAuditCommissionReports%2FNationalStudies%2FOLDERPeople_overarch.pdf&ei=DLfkU-

ueB8Wf7Aaks4CoCA&usg=AFQjCNHdHKT83kb4d5KDe6vckMzVReHPRQ&sig2=cGp5SsvGQO9_th3waCNKqg&bvm=bv.72676100,d.ZWU

- Bengston, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63(2), 1–16.
- Binti, S., & Malik, A. B. D. (2011). *Older people, mobile technology and culture: An Investigation of appropriate methods and personas in Malaysia and the UK* (Unpublished doctoral dissertation). University of York, York.
- Boslaugh, S. (2014). *Secondary data sources for public health: A practical guide*. Cambridge University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa.
- Chen, K., Chan, A. H. S., & Tsang, S. N. H. (2013, March). *Usage of mobile phones amongst elderly people in Hong Kong*. Paper presented at the Proceedings of the International Multi Conference of Engineers and Computer Scientists, Hong Kong.
- City of Cape Town, 2010. *Demographics scenario*. Retrieved from <https://www.capetown.gov.za/en/sdf/Documents/Nov2010/DemographicsDiscussionPaperAugust2010.pdf>.
- Conci, M., Pianesi, F., & Zancanaro, M. (2009). Useful, social and enjoyable: Mobile phone adoption by older people. In T. Gross, J. Gulliksen, P. Kotzé, L. Oestreicher, P. Palanque, R. O. Prates, & M. Winckler (Eds.), *Human-Computer Interaction—INTERACT 2009* (pp. 63-76). Berlin, Heidelberg: Springer.

- Coughlin, J. F. (1999). Technology needs of aging boomers: As the elderly population grows more numerous and more active, the public and private sectors will have to develop specialized products and services. *Issues in Science and Technology*, 16, 53-60.
- Czaja, S. J., & Hiltz, S. R. (2005). Digital aids for an aging society. *Communications of the ACM*, 48(10), 43-44.
- Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67. doi: 10.1006/ceps.1999.1020.
- Devine, P. (2003). Secondary data analysis. In R. L. Miller & J. D. Irewer (Eds.). *The A-Z of social research: A dictionary of key social sciences research concepts* (pp. 285-288). SAGE Publications Ltd.
- Dimmick, J. (2003). *Media competition and co existence: The theory of the niche*. Mahwah, NJ: Lawrence Erlbaum.
- Dimmick, J. W., Sikand, J., & Patterson, S. J. (1994). The gratifications of the household telephone: Sociability, instrumentality, and reassurance. *Communication Research*, 21, 643-644.
- Feist, H., & McDougall, K. (2013, August). *Older people's use of new communication technologies: research findings & policy implications*. Paper presented at the Australian Population and Migration Research Centre, South Australia.
- Fent, T., Aparicio Diaz, B., & Prskawetz, A. (2013). Family policies in the context of low fertility and social structure. *Demographic Research*, 29, 37. 1-38. doi: 10.4054/DemRes.2013.29.37.

- Finchum, T., & Weber, J. (2000). Applying continuity theory to older adults friendships. *Journal of Aging and Identity*, 5(3), 159-168.
- Ghosh, R., Lindeman, D., Ratan, S., & Steinmetz, V. (2014). *The new era of connected aging: A Framework for understanding technologies that support older adults in aging in place*. Retrieved from <http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBoQFjAA&url=http%3A%2F%2Fwww.techandaging.org%2FConnectedAgingFramework.pdf&ei=3QLIU-PRCq7G7AaxvICYBg&usg=AFQjCNHZHYUeJSjLaJhMMDHQIzzk1yPg4A&sig2=60HC2jDTFoyzthvSEzo5lQ&bvm=bv.72676100,d.ZWU>
- Grosh, M., & Glewwe, P. (1995). *A guide to living standards measurement study surveys and their data sets* (Vol. 120). World Bank Publications.
- Grosh, M., & Glewwe, P. (2000). *Designing household survey questionnaires for developing countries*. Washington, DC: World Bank Publications.
- Guba, E. G. (1981). ERIC/ECTJ annual review paper: Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology* 29(2), 75-91. Retrieved from <http://www.jstor.org/stable/30219811>.
- Harper, S. (2011a). Demographic transition: Positioning the age-structural change perspective. *Population Ageing*, 4(1), 119-120.
- Harper, S. (2011b). Giants of the 21st century: Longevity and disability. *Journal of Population Ageing*, 4(4), 203–206.

- Higgins, C. (n.d.). *6 ways cell phones are changing the world (beyond the ways you're probably thinking)*. Retrieved 2 July 2015 from mentalfloss.com/.../6-ways-cell-phones-are-changing-the-world-beyond-ways-youre-probably-thinking
- Hyde-Clarke, N., & Van Tonder, T. (2001). Revisiting the 'Leapfrog' debate in light of current trends of mobile phone internet usage in the greater Johannesburg area, South Africa. *Journal of African Media Studies*, 3(2), 263-276. doi:10.1386/jams.3.2.263_1
- Horwitz, R. B., & Currie, W. (2007). Another instance where privatisation trumped liberalisation: The politics of telecommunications reform in South Africa – A ten year retrospective. *Telecommunications Policy*, 31(8-9), 445-462. doi:10.1016/j.telpol.2007.05.008
- Independent Age. (n.d.). *Older people, technology and community*. Retrieved from <http://www.gulbenkian.org.uk/pdffiles/Older-people-technology-and-community.pdf>
- Ivan, L., & Fernandez-Ardevol, M. (2013). Older people and mobile communication in two European contexts. *Revista Română de Comunicare și Relații Publice*, (3), 83-98.
- Jin, B., & Park, N. (2012). In-person contact begets calling and texting: Interpersonal motives for cell phone use, face-to-face interaction, and loneliness. *Cyberpsychology, Behaviour and Networking*, 13(6), 611-618.
- Joe, J., & Demiris, G. (2013). Older adults and mobile phones for health: A review. *J Bomed Inform*, 46(5), 1-17. doi: 10.1016/j.jbi.2013.06.008
- Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, United Kingdom: Cambridge University Press.

- Keating, E., Nagai, E., Hadder, N., & Kowalsky, J. (2007). *The role of the mobile phone in the welfare of aged and disabled people*. Retrieved from http://www.mobaken.jp/kennkyuu/chousa/2006/research06_05/finalreport_06-05.pdf.
- Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *The American Journal of Occupational Therapy*, 45(3), 214-222.
- Kurniawan, S. (2006). An exploratory study of how older women use mobile phones. In P. Dourish & A. Friday (Eds.), *UbiComp 2006: Ubiquitous Computing* (pp. 105-122). Berlin, Heidelberg: Springer.
- Kurniawan, S. (2007). Mobile phone design for older persons. *Interactions*, 24(4), 24-25.
- Kurniawan, S. (2008). Older people and mobile phones: A multi-method investigation. *International Journal of Human-Computer Studies*, 66(12), 889-901.
- LaBanca, F. (2010). *Trustworthiness in qualitative research*. Retrieved from <http://problemfinding.labanca.net/2010/05/24/trustworthiness-in-qualitative-research/>
- Leung, R., McGrenere, J., & Graf, P. (2008). *The learnability of mobile application interfaces needs improvement*. Paper presented at the Proceedings of British HCI Workshop on HCI and the Older Population, British Columbia, Vancouver. Canada.
- Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly*, 77, 308-320.
- Ling, C., Hwang, W., & Salvendy, G. (2006). Diversified users' satisfaction with advanced mobile phone features. *Universal Access in the Information Society*, 5(2), 239-249.
- Mallenius, S., Rossi, M., & Tuunainen, V. K. (2007). *Factors affecting the adoption and use of mobile devices and services by elderly people - results from a pilot study*. Retrieved from

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.130.2463&rep=rep1&type=pdf>

- Mann, W. C. (2003). Assistive technology. In N. Charness & K.W. Schaie (Eds.), *Impact of technology on successful aging* (pp. 177–202). New York, NY: Springer Publishing Company.
- Mann, W., Helal, S., Davenport, D., Justiss, M., Tomita, M., & Kemp, B. (2004). Use of cell phones by elders with impairments: Overall appraisal, satisfaction, and suggestions. *Technology & Disability, 16*(1), 49-57.
- Maslow, A. H. (1970). *Motivation and personality*. New York, NY: Harper & Row.
- Massimi, M., Baecker, W., & Wu, M. (2007, October). *Using participatory activities with seniors to critique, build and evaluate mobile phones*. Paper presented at the Proceedings of the 9th international ACM SIGaccess conference on Computers and accessibility, Tempe, Arizona. USA.
- McLeod, S. (2007). *Maslow's hierarchy of needs*. Retrieved from <http://www.simplypsychology.org/maslow.html>
- McCreadie, C., & Tinker, A. (2005). The acceptibility of assistive technology to older people. *Ageing & Society, 25*, 91-110.
- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.
- Meso, P, Musa, P., & Mbarika, V. (2005). Towards a model of consumer use of mobile information and communication technology in LDCs: the case of sub-Saharan Africa. *Info Systems Journal, 15*, 119-146.

- Naismith, L, Lonsdale, P., Vavoula, G., & Sharple, M. (2004). *Literature review in mobile technologies and learning*. Retrieved from http://archive.futurelab.org.uk/resources/documents/lit_reviews/Mobile_Review.pdf
- Nambalamba, A., & Chikoko, M. (2011). *Aging population challenges in Africa*. Department of Social Development : Pretoria.
- Nieuwenhuis, J. (2007). Qualitative research designs and data gathering techniques. In K. Maree (Ed.), *First steps in research* (pp. 69-97). Pretoria, South Africa: Van Schaik Publishers.
- O'Keefe, G. J., & Sulanowski, B. K. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly*, 72, 922–33.
- Oksman, V. (2006). Young people and seniors in Finnish 'Mobile Information Society'. *Journal of Interactive Media in Education*, (2), 1-21.
- Palamuleni, M., Kalule-Sabiti, I., & Makiwane, M. (2007). Fertility and childbearing in South Africa. In A.Y. Amoateng, & T. B. Heaton (Eds.), *Families and households in post-apartheid South Africa: socio-demographic perspectives* (pp. 113-134). Cape Town, South Africa: HSRC Press.
- Pattison, M., & Stedmon, A. (2006). Inclusive design and human factors: Designing mobile phones for older users. *PsychNology Journal*, 4(3), 267-284.
- Picard, R. (1989). *Media economics*. Newbury Park, CA: Sage.
- Pillay, N.K., & Maharaj, P. (2013). In P. Maharaj (Ed.), *Aging and health in Africa: International perspectives on aging* (pp. 41-114). New York, NY: Springer.
- Plaza, I., Martin, L., Martin, S., & Medrano, C. (2011). Mobile applications in an aging society: Status and trends. *Journal of Systems and Software*, 84(11), 1977-1988.
- Porter, G., Hampshire, K., Abane, A., Munthali, A., Robson, E., Bango, A., & Milner, J. (2015). Intergenerational relations and the power of the cell phone: Perspectives on

- young people's phone usage in sub-Saharan Africa. *Geoforum*, 64, 37-46.
doi:org/10.1016/j.geoforum.2015.06.002
- Ramirez, A., Dimmick, J., Feaster, J., & Lin, S. (2008). Revisiting interpersonal media competition: The gratification niches of instant messaging, e-mail, and the telephone. *Communication Research*, 35, 529-547.
- Rébola, C. B., & Jones, B. (2011). Sympathetic devices: Communication technologies for inclusion. *Physical & Occupational Therapy In Geriatrics*, 29(1), 44-58.
- Roos, V. (2008). The Mmogo-method®: Discovering symbolic community interactions. *Journal of Psychology in Africa*, 18(4), 659-667. Retrieved from <http://dx.doi.org/10.1080/14330237.2008.10820249>
- Roos, V. (2012). The Mmogo-method® An exploration of experiences through visual projections. *Qualitative Research in Psychology*, 9(3), 249-261.
- Sandelowski, M. (1986). The problem of rigor in qualitative research. *Advances in Nursing Science*, 8(3), 27-37.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* 22, 63-75
- Simons, J. A., Irwin, D. B., & Drinnien, B. A. (1987). *Maslow's hierarchy of needs*. Retrieved from <http://cetl.gtu.ge/DOCS/Teacing/Collection%20Honolulu/Human%20Development/MASLOW.doc>.
- Smith, A. (2012). *The best (and worst) of mobile connectivity*. Retrieved from <http://pewinternet.org/Reports/2012/Best-Worst-Mobile.aspx>
- Soremekun, O., & Malgwi, C. A. (2013). Exploring Patterns in ICT Growth and Development in Africa: A Kohonen Map Analysis. *The Review of Regional Studies*, 43, 175-190.

- Statistics South Africa. (2013). *Census 2013: Mid-year population estimates (P0302)*. Pretoria: SSA. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022011.pdf>
- Statistics South Africa. (2015). *Mid-year population estimates 2015*. Retrieved from <http://www.statssa.gov.za/publications/P0302/P03022015.pdf>.
- Sterns, E. (2005). Curriculum design and program to train older adults to use personal digital assistants. *Gerontologist*, 45(6), 828-834.
- Tang, H, & Kao, S. (2005). *Understanding the user model of the elderly people while using mobile phones*. Retrieved from researchgate.net.
- Teddlie, C, & Yu, F. (2007). Mixed methods sampling: A Typology with examples. *Journal of Mixed Methods Research*, 1(1), 77-100.
- Thorne, S., Kirkham, S. R., & O'Flynn-Magee, K. (2004). The analytic challenge in interpretive description. *International Journal of Qualitative Methods*, 3(1), 1-11.
- Tillema, T., Dijst, M., & Schwanen, T. (2010). Face-to-face and electronic communications in maintaining social networks: The influence of geographical and relational distance and of information content. *New Media & Society*, 12(6), 965-983.
- United Nations [UN]. (2013). *The millennium development goals report 2013*. Retrieved from <http://www.un.org/millenniumgoals/pdf/report-2013/mdg-report-2013-english.pdf>
- United Nations Children Fund [UNICEF]. (2012). *South African mobile generation: Study on South African young people on mobiles*. Retrieved from http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf
- United Nations Department of Economic and Social Affairs: Population Division [UNDESA]. (2010). *World population prospects: the 2010 revision*. Retrieved from <http://esa.un.org/unpd/wpp/index.html>

- United Nations Economic and Social Council [UNESCO]. (2013). *Millennium Development Goals (MDG) report*. New York. (E/UN.2013/MDG2013).
- United Nations Population Division [UNPD]. (2013). *World population prospects: The 2012 revision (UNDPD) report*. New York. Retr.
from:http://esa.un.org/wpp/unpp/panel_indicators.htm.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Wei, R., & Lo, V. H. (2006). Staying connected while on the move: Mobile phone use and social connectedness. *New Media & Society*, 8, 53-72.
- West, D. M. (2012, May), *How mobile devices are transforming healthcare*. Paper presented at the Centre for Technology Innovation at Brookings, Massachusetts, Washington.
- Worringham, C., Rojek, A., & Stewart, I. (2011). *Development and feasibility of a smartphone, ECG and GPS based systems for remotely monitoring exercise in cardiac rehabilitation*. Retrieved from
www.plosone.org/article/info%2F10.1371%2Fjournal.pone.0014669
- Wu, C., Chan, C., & Chen, Y. (n.d.). *The digital gap between openness and closeness of relational divide upon the mobile phone usage*. Retrieved from
<http://www.ios.sinica.edu.tw/ios/people/personal/wupaper/SE-Grad.pdf>
- Zuppo, C. M. (2012). Defining ICT in a boundaryless world: The development of a working hierarchy. *International Journal of Managing Information Technology*, 4(3), 13-22.
doi:10.5121/ijmit.2012.4302

Addendum

Afrikaans and Setswana quotes to English

Theme 1: Cell Phone Use as a Form of Safety

1.1. Emergency situations

“and you want to be able to SMS your children or familiar people in emergency situations.”

“en jy wil kinders of bekendes sms as daar noodsituasies is”

“...but she simply must phone; she wants to know whether I’m still there, or whether she should come and look for me or whatever”

“... maar bel moet sy bel sy wil weet of ek nog daar is of sy my moet kom soek of watookal”

“I was saying, if you find the gates at home locked you can phone people inside the house to open the gate for you.”

“hee, kore ke se ke bolela la reya di familing. Ha o kreya gate e notletswe (ee), ha o na le ona wa letheka, nako enngwe akere ba tla tloha bare ha ba ho bone (mm) jwalo otlabe o ba founela ba batla batlo ho bulela (batlo go bulela. Ee ma) mm.”

“Very important, especially since I have a prosthetic leg – if I fall, I can’t get up by myself. I have to be able to phone my husband.”

“Baie belangrik, veral omdat ek ‘n kunsbeen het – as ek val dan kan ek nie opstaan self nie. Ek moet my man bel”

“...perhaps if I’m sick, not feeling well, that they should come if necessary and first take me to a clinic.”

“... as ek nou miskien siek is wat ek nie lekker voel nie, dat hul moet kom as dit nodig is, dan moet hul my eers kliniek toe vat ...”

1.2 Travelling

“...perhaps if you’re stranded by the roadside and the car broke down and you don’t know what to do, then at least there is always someone to contact.”

“... as jy dalk langs die pad staan en die kar het gaan staan en jy weet nie wat om te doen nie dan is daar darem altyd iemand om te kontak.”

“...you know, it’s phone calls and your messages and that means a lot – to be able to SMS children or loved ones in emergency situations on the road.”

“..., jy weet dis oproepe en jou boodskappe en dit is baie as jy op die pad is en jy wil kinders of bekendes sms as daar noodsituasies is.”

“...we belong to Crisis and Call...they monitor my route...of course, they organise roadside assistance.”

“... ons behoort aan Crisis and Call ... monitor hulle my roete ... hulle reel vir my natuurlik op die pad bystand ...”

“Or to tell my son when we visit Springbok, ‘Okay listen, we’re here now or this how far we are...’”

“Of om vir my seun te sê as ons op Springbok gaan kuier, okay hoor hier ons is nou hier of ons trek nou daar ...”

“...and when I’m on holiday with the children and some of the grandchildren and to find out whether my little dog is still fine.”

“... en kuier as ek op vakansie is met die kinders, en van die kleinkinders en vind uit of my hondjie nog reg is.”

1.3 Medical services

”When you are sick you can phone an ambulance, and it can arrive quickly”

“Cell ke e diretse hore ya thusa (ee). Cellphone ha o na le mathata a (inaudible-01:00:14) (ee), o kgona ho founa ka yona (ee), ha o kula hara bosihu o kgona ho founela ambulance etle ka speed (ee), ee.”

“...the first aid people...for safety, yes.”

“... die noodhulpmense ... vir veiligheid ja.”

Theme 2: Sense of Control

2.1 Staying informed on happenings and acquaintances’ lives, news and achievements

“If you want information from the service centre, then you phone them.

“As jy wil informasie hê by die Dienssentrum, dan skakel jy hulle.”

“...or if there’s a church function, like a fair, we tell one another.”

“... of as daar ‘n funksie is by die kerk, ‘n bazaar of so ons sê mekaar.”

“I’m involved with in a project to get information regarding the progress of the project...”

“...go founela mekgwera yame eo re kenang projek rotle, go fumana lesedi ka tse dingwe tsa dintho tse e tsagalang projekeng...”

“you see other family photos that you wouldn’t normally have seen, because the family lives far away, so in other words you now have contact with almost all of them, because they put new photos on Facebook...”

“... jy sien ander se familiefoto’s wat jy nie sou gesien het nie, want familie bly ver so met ander woorde nou’t jy amper kontak met hulle almal want almal van hulle sit ‘n nuwe foto op Facebook ...”

“...children regularly inform me about their achievements...people put everything on Facebook, their whole lives...”

“... kinders laat weet my gereeld van die prestasies ... die mense sit alles op Facebook hulle hele lewe, ...”

“I use my phone to call my friends ..., as well as informing them about other people’s funerals.”

“Ke dirisetsa founo yame ..., le kgo bolela ditsala tsa gage ka diphitlo tsa batho ba bangwe.”

2.2 Managing business affairs

“I can say it’s me, I am calling my kids. Inside the house a cellphone is useful because I am able to buy electricity with my cellphone, rather than having to waste money on transport to go to town and buy electricity.”

*“motho o, nkanna kare ke nna. Ke na le cell mare robehile (eya mama). Nkanna kare ke nna (mm), ke founela ngwana (ee). Ka nako enngwe ha ke sa founela bana, cell e botlhokwa ka gore ka nako nngwe ha ke founela bana (mm), ngwanake o ko crèche (ee). Mo tlung e tlabele (**inaudible- 55:52**) . botlhokwa ba phone, ke mole ke a mo founela. Ke kgona go founa ka yone (o ko tlung) o ko tlung (ee mma) le ena nako e nngwe wa ngfounela. Gape, le mot lung ya thusa cell (ee), yaka ke dutse ha, nna ke dula le ditlogolwana (ee), ha ke sana ntate (ee), ene maspala wa nthusa le ka motlakase (ee), maspala o re etseditse bobebe. Motlakase o, ha*

re sa o lata ko tropong, o kena mo seleng (mo seleng),ha o fetsa ho tsena mo selling, wa ontsha oo kenya mo leboteng (mm) o sa patella R20 ya goya toropong (ee).”

“...like me, who doesn’t have a car, so I cannot always go to the bank and clothing shops and so forth, it’s very good to get information quickly.”

“...soos ek wat nie ’n kar het nie, wat nie kan altyd bank toe gaan nie of naby klere winkels en so, is dit baie goed om informasie vinnig te kry...”

“And you know immediately if money has been withdrawn from your bank account, because the bank sends you a message; if you don’t have a cell phone connected to your banking, you wouldn’t know. Then there is a scam and you won’t know about it.”

“En jy weet dadelik as daar geld van jou bankrekening onttrek is want dan stuur die bank vir jou ’n boodskap, as jy nie ’n selfoon het nie wat daarmee gekonnekteer is nie dan gaan jy dit nie weet nie. Dan is daar ’n bedrogspul wat uitgaan en jy weet nie daarvan nie.”

“Yes, if you received your email from...these days, the postal service can often not be trusted. So then you get your bill and you know what’s going on in your, especially like a medical aid.”

“Ja as jy jou e-mail gekry van ... baie keer die pos kan jy nie vertrou nie, nie meer in vandag se tyd nie. So dan het jy jou rekening of jy weet wat aangaan op jou, veral soos ’n mediese fonds.”

“...if I have a problem, with Telkom or something, then I can phone them. Or if I’m looking for someone to mow the lawn and I have the phone number, then I phone them. Recently the geyser was broken and I saw the phone numbers in the Gazette and then I called them. Then they came to repair it.”

“... as ek ‘n probleem het. Soos Telkom of iets dan kan ek hulle bel. Of ek soek iemand om die gras te sny, en ek het die telefoonnommer, dan bel ek hulle. Net nou was die geysers stukkend, toe sien ek in die, in die Gazette die nommers, toe bel ek hulle. Toe kom maak hulle reg.”

“...they send you one that says you were at that specific doctor and they will pay him three days after that specific date or they send you your complete, not bill, your complete statement.”

“... hulle stuur vir jou een en sê jy was by daardie dokter en hulle gaan hom betaal drie dae na daai datum of hulle stuur jou hele, nie rekening nie, jou hele staat vir jou.”

Theme 3: Aid in Daily Routine

“It’s very important to me. If I have to set an alarm, I set it on my phone...”

“Hy’s baie belangrik vir my. As ek moet uhm alarm stel, dan stele k my foon, ...”

“I take many photos with it...when we’re on holiday and I photograph my garden...”

“Nee, ek neem foto’s baie met hom ... as ons op vakansie is, en ek neem my tuin af ...”

“...you can take photos, other people can send you photos of their lives and so forth...”

“... jy kan foto’s neem, ander mense kan vir jou foto’s stuur van hulle doen en late en so aan ...”

“...I loaded the weather report, and tomorrow, if I wonder, ‘Will it rain?’, I can always check my weather report...”

“... ek het die weerberig opgesit, dan as ek more wonder: Gaan dit reën?, dan kan ek altyd op my weerberig gaan kyk...”

“...for instance, if we’ve lost one another in a shop, or if I want to ask my daughter who lives with us whether she needs anything from Pick ‘n Pay...”

“... as ek bv. in die winkel is en ons het mekaar verloor, of as ek vir my meisiekind wil vra wat by ons bly, het jy iets nodig hier uit Pick ‘n Pay...”

Theme 4: Staying Connected with Family and Friends

4.1 Maintaining relationships by frequent cell phone contact

“I call my friends if I miss them or if I want to know how they are doing.”

“Ke founela bakgera bame ga ke ba gopotsi kappa ke batla goitsi matsoo a bona.”

“To stay in contact with friends and family.”

“Om in kontak te bly met vriende en my familie.”

“Ma’am, would you say that cell phones and laptops, etc. strengthen your relationship?”

Uhm, sal mevrou sê, uhm, die selfoon en die laptop en daai goed maak julle verhouding sterker?

“Yes, yes. Absolutely, yes.”

“Ja, ja. Absoluut, ja.”

“Yes, because when I get a nice message or beautiful photo from someone, I can show it to her and, in turn, if she has taken a picture, or photographed my granddaughter, someone else or some place, she can send it to me...if I get a nice or spiritual message, I can send it to her...the phone helps with everyday interaction.”

“Ja, want as daar ‘n as ek mooi boodskappie kry of ek kry ‘n mooi foto van iemand dan wys ek dit vir haar en sy weer ‘n foto vat of van my kleindogter geneem het of van iemand geneem

het 'n fototjie geneem het iewers dan stuur sy weer vir my ja ons ons ... as ek 'n mooi boodskappie, geestelike boodskappie dan stuur ek dit vir haar ... foon help met elke dag se interaksie."

4.2 Maintaining relationships with family and friends that are abroad/far

"So you're well-connected, even with people overseas, as well as people nearby, so you're a part of the picture."

"So jys baie goed geconnect selfs met mense wat oorsee is en mense wat naby is so jy is deel van die prentjie."

"Yes, like I said, my niece's photos appear regularly and you can reply immediately; you can ask her questions about the photos and everything she posts."

"Ja, soos ek sê my suster se dogter se foto's kom gereeld op en jy kan dadelik, en jy kan vir haar antwoord daarop, jy kan vir haar vrae vra oor foto's wat sy opsit en alles."

"...for us the most important thing is to contact our children...we have children that live far away."

"... vir ons is dit die belangrikste om ons kinders te kontak ... ons het kinder swat bietjie ver is."

Consent Forms: Afrikaans, English and Setswana



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: (018) 299-4900

Web: <http://www.nwu.ac.za>

**SCHOOL OF PSYCHOSOCIAL
BEHAVIOURAL SCIENCES**

Tel: 018-299-1722

Fax 018-299-1730

e-mail: Vera.Roos@nwu.ac.za

25/26 Februarie 2014

InterGenerational Networks *through* Information Technology (IGNITe): Older persons' perspectives

TOESTEMMING OM 'N NAVORSINGSDEELNEMER TE WEES

Ons is 'n span navorsers van die Noordwes-Universiteit wat navorsing doen oor ouer persone se gebruikspatrone van mobiele tegnologie en intergenerasionele verhoudings. Ons wil jou graag uitnooi om aan ons studie deel te neem. Hier is meer inligting oor die navorsing wat jou sal inlig waaroor dit gaan sodat jy weet waaroor dit gaan voor jy toestemming gee vir jou deelname.

1. DOEL VAN DIE STUDIE

Die doel van die studie is om 'n beter begrip te kry van hoe ouer persone hulle mobiele fone gebruik en van hulle ervarings. Die navorsing word gedoen in Ikageng, Promosa, en Potchefstroom in die Noordwes Provinsie van Suid-Afrika. Jy word gevra om aan die navorsing deel te neem omdat jy 'n persoon ouer as 60 jaar is en 'n selfoon gebruik en ons wil graag van jou perspektiewe en ervarings verneem.

2. PROSEDURE

Indien jy toestem om aan die navorsing deel te neem, sal die volgende van jou verlang word:

- Voltooi 'n vraelys saam met een van die lede van die navorsingspan. Die vraelys bestaan uit 42 vrae wat ongeveer 20 minute gaan neem om te voltooi.
- Deel jou ervaringe met 'n lid van die navorsingspan deur middel van 'n semi-gestruktureerde onderhoud. Dit sal ongeveer 20min neem en digitaal opgeneem word.
- Neem deel aan 'n fokusgroep waar daar vir jou 'n bol klei, krale en stokkies gegee word en dan sal daar vir jou gevra word om iets te bou van hoe jy jou foon gebruik. Jy sal dan gevra word om jou persepsies en ervarings in 'n fokusgroepgesprek met ander deelnemers te deel.

3. RISIKO'S/ONGEMAK

Deelname aan navorsing waarin perspektiewe en ervarings gedeel word kan soms pynlik en emosioneel wees. Indien jy enige ongemak gedurende die onderhoud ervaar, het jy toegang tot 'n sielkundige. Jou privaatheid word gedeeltelik geskend aangesien die navorsingspan weet wat jou naam is en ander mense jou antwoorde kan hoor. Jou naam sal egter nooit bekend gemaak word nie en die data sal as konfidensieël gehanteer word. Niemand sal weet wie jy is in enige publikasies wat uit die navorsing mag voortspruit nie, slegs die span navorsers sal met die inligting werk. Alle sensitiewe inligting sal beskerm word deur dit toegesluit te hou en op 'n rekenaar te berg wat beskerm word met 'n wagwoord.

4. VOORDELE

Deur aan die navorsingsprojek deel te neem sal jy die navorsers help om beter te verstaan hoe ouer persone hul selfone gebruik en om nuwe metodes te ontwikkel wat hulle in die toekoms kan help.

5. KOSTES

Daar is geen koste aan jou deelname aan hierdie navorsing verbonde nie.

6. BETALING

Jy sal nie enige betaling vir deelname ontvang nie.

7. VRAE

Jy is welkom om enige vrae te vra aan die lede van die navorsingspan voor jy besluit om toestemming te gee. Jy is ook welkom om Prof Vera (0829257946) te kontak as jy enige verder vrae het oor jou toestemming.



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25/26 February 2014

**InterGenerational Networks *through* Information Technology
(IGNITe): Older persons' perspectives**

CONSENT TO BE A RESEARCH PARTICIPANT

We are a team of researchers from the North-West University working on older persons' user patterns of mobile technology and intergenerational relationships. We would like to invite you to participate in our study. Here is some more information about the study to tell you what you need to know before giving consent.

1. PURPOSE OF THE STUDY

The purpose of this study is to get a better understanding of how older people use their mobile phones and also to get a better understanding their experiences. The research will be done in Ikageng, Promosa, and Potchefstroom in the North West Province of South Africa. You are being asked to participate in this study because you are a person older than 60 years that use a mobile phone and we want to hear some of your views and experiences.

2. PROCEDURE

If you agree to be in this study you will expected to do one of the following:

- Complete a questionnaire with one of the members of the research team. The questionnaire consists of 42 questions and will take about 20 minutes to complete.
- Share your experience during a semi-structured interview that will be conducted with you by one of the members of the research team. It will take about 20 minutes and be digitally recorded.

- Participate in a focus group where you will be given a lump of clay and some beads and straws and asked to build something to show us how you use your phone. You will then be asked to share your views and experiences in a focus group discussion with other participants.

3. RISKS/DISCOMFORTS

Sharing your views and experiences could be painful and emotional. Should you have any discomfort during the data gathering, you will have access to a counselor. Some of your privacy might be lost during this study due to the fact that the research team will know your name and other people will listen to your answers in the focus group. Your name will never be made known and your data will be handled as confidential as possible. Nobody will know that it is you in any publications resulting from this study and only the team of researchers will work with the information that you shared. All sensitive information will be protected by locking it up and storing it on a password protected computer.

4. BENEFITS

By being involved in this research project you will help the researchers to better understand how older persons use their mobile phone in order to develop new ways that might help them in the future.

5. COSTS

There will be no cost to you as a result of your participation in this study.

6. PAYMENT

You will receive no payment for participation.

7. QUESTIONS

You are welcome to ask any questions to a member of the research team before you decide to give consent. You are also welcome to contact Prof Vera (0829257946) if you have any further questions concerning your consent.

CONSENT FORM

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.

You are free to decline to be in this study, or to withdraw at any point even after you have signed the form to give consent without any consequences.

You do not give up any rights when signing this form.

Should you be willing to participate you are requested to sign below:

I _____ hereby voluntarily consent to participate in the above mentioned study. I am not coerced in any way to participate and I understand that I can withdraw at any time should I feel uncomfortable during the study. I also understand that my name will not be disclosed to anybody who is not part of the study and that the information will be kept confidential and not linked to my name at any stage. I also understand what I might benefit from participation as well as what might be the possible risks and should I need counseling someone will be available.

Date

Signature of the participant

Date

Signature of the person obtaining consent



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25/26 Tlhakole 2014

**InterGenerational Networks *through* Information Technology
(IGNITe): Older persons' perspectives**

TUMELANO YA GO TSAYA KAROLO MO PATLISISONG

Re sethoha sa ba batlisisi go tswa kwa Universiting ya Bokone Bophirima, re batlisisa mokgwa wa tiriso ya technology ka mogala wa letheke mo bagolong go latela le kamano ya mo . Re rata go go laletsa go tsaya karolo mo dipatlisisong tsa rona. Fa tlase ke tshedimosetsoe okeditsweng ka ga dipatlisiso tse, go go itsisi tsothe tse o tlhokang go di itsi pele o ka neelana ka tumelano ya go tsaya karolo.

1. MOSOLA WA DIPATLISISO

Mosola wa dipatlisiso tse ke go neelana ka kitso e e atologileng ka gore bagudi ba dirisa megala ya bona ya matheka jang, le maitemogelo a bona ka tiriso ya megala ya letheke. Dipatlisiso di tla dirwa kwa Ikageng Promosa le Potchefstroom mo profenseng ya Bokone Bophirima e eing mo Afrika Borwa. O kopiwa go tsaya karolo mo dipatlisisong tse ka gore o mogodi yo o nang le dingwaga di fetang some-a-marataro (60), yo o dirisang mogala wa letheke. Jaanong re batla go utlwa dikakanyo le maitemogelo a gago.

2. DIPOELO TSA DIPATLISISO

Ga o dumela go tsaya karolo mo dipatlisisong tse, o solofelwa go dira sengwe satse di latelang:

- Tlatsa formo ya dipotso le mongwe w aba setlhopa sa ba batlisisi. Form ya dipotso e na le dipotso dile some-a-mane pedi (42) mme e tla tsaya metsotso ele some-pedi (20) go e tlatsa.
- Neelana ka maitemogelo a gago mo kopanong ya sephiri le mongwe wa ba setlhopa sa ba batlisisi. Kopano e tla tsaya metsotso ele some-pedi (20), mme nako e tla gatisiwa.
- Tsaya karolo mo kopanong ya botlhe mo o tla neelwa karolo ya mmopa, dibaga le di mothombo, a ka ona o tla kopiwang go aga sengwe se se bontshang gore o dirisa jang mogala wa gago wa letheka. O tla kopiwa gape gore o neelane ka dikakanyo le maitemogelo a gago ka kopano le batsaya karolo ba bangwe.

3. DIKOTSI TSA DIPATLISISO

Go neelana ka dikakanyo le maitemogelo a gago go na le go utlwiswa botlhoko. Mme fa o ka amega ka tsela ngwe morago ga go neelana ka maitemogelo a gago, o tla kgona go bona thuso go tswa mo counsellor. Bontlha bongwe jwa sephiri sa ikitsiso ya gago bo ka latlhega ka ntlha ya gore babatlisisi ba tla itsi leina la gago ebile ba tsaya karolo ba bangwe ba tla utlwa dikarabo tsa gago mo kopanong ya botlhe. Leina la gago le dikarabo tsa gago di ka se itsisiwe, mme di tla tswarwa ka sephiri. Ga go ope o ka itsing gore ke wena mo diphasalatsong tsa dibuka tse di tla dirawng go tswa mo dipatlisisong tse, ke fela ba batlisisi bat la dirang ka tshedimose tso e e tswang mo go wena. Tshedimose tse e botlhokwa ka ga wena e tla sireletsiwa ka go e lotlelela mo khomputareng e e nang le nomore ya sephiri.

4. MAUNGO A DIPATLISISO

Ga o tsaya karolo mo dipatlisisong tse, o tla thusa ba batlisisi go tshaloganya sentle gore bagudi ba dirisa jang megala ya bona ya letheka go simolola ditsetlana tse dingwe tsa go ithusa mo bokamoso.

5. DITSHENYEGELO

Ga gone go nna le dituelo dipe mo go wena ka ntlha ya go tsaya karolo mo dipatlisisong tse.

6. DITUELO

Ga one o duelelwa go tsaya karolo mo dipatlisisong tse.

7. DIPOTSO

O letleletswe go ka botsa dipotso mo go mongwe wa ba batlisisi pele o dumelana le go tsaya karolo mo dipatlisisong tse. O amogetswe go ikgolaganya le Prof Vera mo nomoreng e ya mogala (0829257946) ga ona le ditlitlebo kapa dipotsa ka go tsaya karolo mo dipatlisisong tse.

FORMO YA TUMELANO

GOPOLA GORE GO TSAYA KAROLO MO DIPATLISISONG TSE KE
BOITHAOPA, GA GO PATELEDIWE.

O letleletswe go gana go tsaya karolo mo dipatlisisong kgotsa go emisa nako
engwe le engwe le ga o setse o signile formo ya go neelana ka tumelano ya
go tsaya karolo kontle ga ditlamorago dipe.

Ga o neelane ka ditshwanelo dipe tsa gago ga o signa tumelano e

Ga o dumela go tsaya karolo o kopiwa go signa mo mothalong o o fa tlase:

Nna _____ ke dumela go tsaya karolo
mo dipatlisisong tse di fa go dimo. Ga ke a patelediwa ka tsela epe go tsaya karolo,
ebile ke tšhaloganya gore nka nna ka emisa nako ngwe le ngwe ga ke sa tšhole ke
batla go tšwelela go nna karolo ya dipatlisiso tse. Ke tšhaloganya gore leina la ka le
ka se itsisiwe ope o eseng karolo ya dipatlisiso , le tshedimosetso e tla nna sephiri,
mme ga ene a amangwa le leina la me ka gope. Ke tšhaloganya mosola le dikotsi tsa
go tsaya karolo mo dipatlisisong tse, mme kea itsi gore ga nka tšhoka go kgotatsiwa,
go na le mongwe o tla nna teng.

Letlha

Tshaeno ya motsaya-karolo

Letlha

Tshaeno ya mo amogela botsaya-karolo