HEALTH COMMUNICATION AND THE DIGITAL DIVIDE: COVID-19 AMONGST SENIOR CITIZENS IN SOWETO, GAUTENG PROVINCE

by

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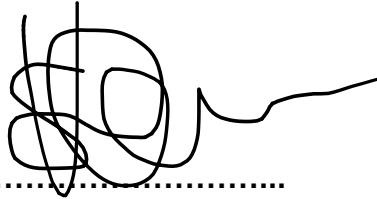at the

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DECLARATION OF AUTHORSHIP

Health communication and the digital divide: COVID-19 amongst senior citizens in Soweto, Gauteng Province is my own work. All the sources that I have used or quoted have been indicated and acknowledged by complete references, and this work has not been submitted before for any other degree at any other institution.

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ABSTRACT

During the pandemic, 80% of COVID-19 cases reported were amongst the elderly population, with the history of digital divide amongst the population. In the same vein, because of its segregationist history South Africa remains the most unequal country in the whole world, with a Gini-coefficient amounting to 0.63. This research aimed to investigate how lack of access to digital communication tools, used for health communication campaigns, affected the elderly during the COVID-19 pandemic among senior citizens in Soweto, Gauteng.

The population of the study included senior citizens and the data were analysed through thematic analysis and revealed that the attitude towards ICTs played the most significant role in preventing senior citizens to gain access to COVID-19 information through technological means, and that information was obtained through physical social networking and traditional mainstream media.

Despite their familiarity with the COVID-19 regulations, most senior citizens did not comply with the COVID-19 regulations put in place, particularly shopping activities. There are low e-commerce engagement activities among senior citizens, most of them are shopping the traditional way. The study recommends that a similar study be conducted on a different population group. The government must build trust with citizens. Trust must be the basis of every relationship; this will make it easier for citizens to accept health communication.

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LIST OF ABBREVIATIONS

ICTs- Information Communication Technologies

ICT-Information communication Technology

TAM- Technology Acceptance Model

UTAT- Unified Technology Acceptance

DDT- Digital Divide Theory

DDTAM-Digital Divide Theory Technology Acceptance Model

Turfloop Research Ethics Committee (TREC)

CHAPTER ONE: OVERVIEW OF THE STUDY

1.1. BACKGROUND AND MOTIVATION

In today's rapidly evolving world, advancements in technology have revolutionised the way we communicate and access information. The increasing availability and use of digital devices have transformed various industries, including the field of healthcare (Aceto, Persico, & Pescapé, 2018). However, as technology continues to progress, it has become evident that not everyone has equal access or proficiency in navigating the digital landscape. This disparity, known as the digital divide, poses significant challenges in ensuring comprehensive and equitable healthcare for all (Dalton & Proctor, 2014).

The aim of this study was to investigate the role played by the digital divide in accelerating the rate of COVID-19 infections among senior citizens. According to Hilbert (2014), internet use all over the world has shown an exponential growth rate in the last years. Despite the growth, internet access is still considered limited amongst some countries (James, 2021). On a similar note, Ahmed (2007) argues that distribution of ICT usage is unequal, and most developing nations—especially those in Africa—run the risk of being left behind. On the contrary, Avgerou, Hayes, and Rovere, (2016) argue that over the last 15 years, there has been a significant increase in the availability of ICTs in developing countries as compared to developed countries. Indicatively, it is estimated that fixed wired broadband internet subscriptions have increased from 71 to357 m between 2005 and 2013. On the contrary

This limitation is referred to as digital divide. According to Noll, Older-Aguilar, Rosston and Ross (2000), the digital divide is referred to as the differences that exist in terms of access and use of Information Communication Technologies (ICTs) in correlation with race, place of residence, ethnicity, income, gender, and other socio-economic status measures. Furthermore, with a Gini index of 0.63, South Africa continues to be the most unequal nation in the world as a result of its history of racial segregation (Stiegler & Bouchard, 2020). On the other hand, Van Jaarsveld (2020) says that the ability to access ICTs or cost and affordability plays a small role on reasons why older individuals lack usage or attempts to familiarise themselves with new ICTs. Khilnani, Schulz and Robinson (2020) suggest that differentiated usage is consistent with broader patterns relating to digital inequality when it comes to age and socio-economic

position, as well as many types of digital disadvantages ranging from accessibility to devices and network to the skills to utilise them efficiently for maximum benefit.

At the beginning of March 2020, the president of South Africa Cyril Ramaphosa announced that COVID-19 had become a pandemic and South Africa soon became the most affected country in Africa with the highest infections (Stiegler & Bouchard, 2020). The categories considered to be most susceptible during the pandemic were older individuals as well as those who had underlying illnesses; these are also two groups that were traditionally more prone to face digital disparities (Khilnani, Schulz & Robinson, 2020). Overall, older persons suffered the highest rates of social isolation and loneliness, excluding the COVID-19 epidemic (Cosco, Fortuna, Wister, Riadi, Wagner & Sixsmith, 2021). Because they looked to have more health difficulties than younger persons and were urged to stay out of the public, the elderly were disproportionately impacted by the threat of COVID-19 infections (Lam, Lu, Shi & Covinsky, 2020). According to the National Centre of Health Statistics (2020), over 80% of COVID-19- related fatalities occurred in people over the age of 60. Provisional death tolls were based on death certificate data that the National Centre for Health Statistics had received and classified as of May 19, 2021, and that was updated every Wednesday by 5pm.

Various authors have conducted research to address and investigate the impact of digital divide among elderly people during COVID-19, but little research has been conducted to investigate the potential that digital divide has in increasing the rate of COVID-19 infections among the population. The digital skills gap is wide and extends beyond physical access, to a study conducted by Hargittai (2002), who referred to it as a "second level" digital divide, and has been documented in several studies, including Hargittai and Dobransky (2017), Hargittai (2019), and van Deursen and van Dijk (2010). This research thus aimed to investigate how lack of access to digital communication tools, used for health communication campaigns, affected the elderly during the COVID-19 pandemic.

1.2. RESEARCH PROBLEM

The elderly population is increasingly targeted by various online scams, including romance scams, phishing attacks, and COVID-19-related schemes, which are often con-

ducted through social media platforms (Baig, Ahmed & Memon, 2021). These fraudulent activities not only pose financial risks but also contribute to the overall negative perception and apprehension towards digital communication among older individuals. Studies have shown that older individuals, especially those aged 60 and above, were at a higher risk of severe illness and death due to COVID-19 (Abid & Javaid, 2020). Additionally, the restrictions imposed to maintain social distancing further isolated this population, exacerbating feelings of loneliness and social isolation (Abid & Javaid, 2020). While social technology platforms could potentially facilitate critical social interactions during times of social distancing, many older individuals lack the necessary technological access, experience, and skills (Abid & Javaid, 2020).

The digital divide and its impact on health communication is a complex and crucial issue that hinders the progress of society in many aspects (Oyedemi, 2012). During the COVID-19 pandemic, it became evident that older individuals were disproportionately affected by both the virus and the resulting lockdown measures (Snape & Viner, 2020). Unfortunately, a significant portion of the elderly population lacked access to digital devices and the internet, limiting their ability to benefit from various online resources (Abid, Bari, Younas, Tahir Javaid, & Imran, 2020).

This research aimed to highlight the challenges and problems related to the digital divide within communities with senior citizens and examine their potential influence on the spread of COVID-19 infections. By understanding the specific barriers faced by older individuals in accessing and utilising digital communication tools, we can develop targeted strategies to bridge the digital divide in the context of   communication.

1.3.   LITERATURE REVIEW

The literature review aimed to locate the study within the existing literature relating to health communication, digital divide, and the challenges faced by senior citizens during the COVIDI-19 pandemic.

1.3.1. DETERMINANTS AND MEASURES OF DIGITAL EXCLUSION

This section of the study reviewed previously conducted literature aimed to investigate possible factors that are deemed as causes to the gap in population groups' accessibility of digital resources and participation in the digital era. Helsper and Van

Deursen (2017) define digital exclusion as "means of eliminating individuals or social groups from the mainstream of social activity, specifically caused by lack of access or skills to make use of new technologies". Bunyan and Collins (2013) identify cost, skills and access as possible factors that are likely to cause digital exclusion and this study used these factors to investigate how these factors contribute towards the acceleration of COVID-19 rate infections among senior citizens during the pandemic.

1.3.1. ICT ACCESS AND DIGITAL INEQUALITIES

According to international and national statistics sources, South Africa has restricted internet coverage (Oyedemi, 2012). Oyedemi argues that despite the availability of infrastructure, citizens still encountered difficulties using ICTs due low connectivity coverage in some parts of the country. According to Hale (2013), there is a strong link between digital inequalities and differences in ICT adoption on a variety of levels, including rural location and socio-economic class; resulting in less ability to contact providers and lower health outcomes. However, it has been shown that the electronic incentives available cannot compensate for all the hurdles to digital inclusion, which include levels of education, internet availability, and income. When it comes to digital inequalities, digital resources access has long been considered as a key problem, this includes issues such as connection speed and availability to high-quality equipment (Davison & Cotten, 2003). One of the most critical factors relating to digital health communication disadvantage in terms of health information seeking are digital skills (Jacobs, Amuta & Jeon, 2017). There is a similar connection to education in using the internet for more diversified and variety of eHealth activities, such as information seeking for health goals such as exercise (Cotten & Gupta, 2004). This is confirmed by Kurniawan, Irawati and Eliria's (2016) study, it discovered that current individual mobile internet use and internet access in South Africa were lower than previously predicted in the literature. Furthermore, there were significant gender differences, as well as significant differences in internet and computer use, mobile phone ownership and mobile Internet access, to news.

1.3.2. ATTITUDES OF SENIOR CITIZENS TOWARDS ICT ADOPTION

Neves, Amaro, and Fonseca (2013) argue that a variety of variables contribute to digital skill and experience limits. This includes attitudes, such as the fact that older people are generally sceptical of new ICTs or have a belief that they will find it hard to make use of these technologies. A study was conducted to investigate how or what older individuals define digital ICT as and experiences they have encountered in terms of digital exclusion were examined in sessions using qualitative methodsComputers and telephones were not correctly defined or explained by older persons, according to this study. The findings confirm the hypothesis the older person's group, some of whom were "successful users," had a broad understanding the use of digital technology, are eager to learn more, and prefer to acquire knowledge through tailored one-on-one learning sessions. This conclusion backs up earlier research that has shown the role of self-efficacy in boosting digital ICTs engagement and learning (Hsu & Chiu, 2004). Participants indicated a lack of trust in online activity as a potential impediment to their development of self-efficacy, as well as concerns about keeping personal data private.

1.3.3. ICT AFFORDABILITY BY SENIOR CITIZENS

Those with the financial resources, as well as network connection, equipment, and digital abilities, can satisfy their chronic health supply demands. Levels of poverty on the other hand, had grown substantially, due to restricted business operations during the COVID-19 epidemic. As of April 2020, one in every five Americans in the United States reported having problems paying bills since the pandemic started in February 2020; they also reported to have faced more financial difficulties during and struggled to pay for basic utilities, including medical aid, rent, food, one out of every ten persons has also reported to have had trouble affording health insurance or prescription drugs (Kirzinger, 2020). Lam, Lu, Shi and Covinsky (2020) conducted a study on the unpreparedness of elderly people in the United States to use telemedicine during the COVID-19 Pandemic. Given the relationship between poverty and telemedicine unreadiness, the study proposed that communications equipment be considered a medical need. In addition, accessibility elements such as closed captioning for deaf persons should be provided to virtual visits. Lack of ICT access, skills and attitudes required to effectively use eHealth systems are amongst the difficulties disadvantaged social groups are confronted with. (Khilnani et al., 2020).

1.3.4. THE USE OF ICTS BY SENIOR CITIZENS FOR HEALTH PURPOSES

Akhter Hasib, Chowdhury, Sakib, Monirujjaman Khan, Alsufyani, Alsufyani, and Bourouis (2022) argue that ICT plays an important role in providing convenient services, it also has the potential of improving health communication. They suggest that patients must be able to upload data from their devices to the cloud and view and keep track of their medical records. This is an expansion from Khilnani et al. (2020), who argue about differences relating to age, accessibility, usability as well as issues with the maintenance of ICTs and technostress that have had an effect on the likelihood of individual user confidence when using the internet. According to the authors, older adult patients, according to the researcher, were more likely to have skill deficiencies than younger ones (Khilnani et al., 2020). Findings the United States revealed that in 2019, roughly 80% of older persons (aged over 60 years) suffer from at least one chronic condition, 30% of the population group suffering from two or more chronic conditions (Muhammad & Meher, 2021).

Lam, Lu, Shi and Covinsky (2020) argue on the patterns of unreadiness among older adults to adopt Telemedicine in the United States during the COVID-19 pandemic. They suggest that problems relating to the hearing, talking, or dementia, over 20% of patients in their late ages were not ready to make use of phone visits, according to the findings. It was also revealed that they had less education, lower income, and worse self-reported health; in total, 72 percent of persons aged 85 and up matched unreadiness criteria. Amongst all the countries that had the highest number of COVID-19 infections in the world as of July 2020 South Africa was sitting on the countries, which had the highest number of COVID-19 infections in the world as of July 2020, with Gauteng Province accounting for the majority of those infections (Lewis & Mulla, 2021).

1.3.5. THE IMPACT OF THE DIGITAL DIVIDE ON SENIOR CITIZENS DURING THE COVID-19 PANDEMIC

This section of the study reviewed studies previously conducted to explore and investigate the challenges influenced by the gap in digital access and participation among elderly people during the COVID-19 pandemic. According to Gierveld and Tilburg (2006), says that ICT has now become an important instrument for preventing the negative effects of long-term loneliness and isolation by allowing people to communicate and connect with their friends, close relatives, and loved ones. Virtual

socialising and online activities have become widespread, and they have helped people avoid becoming completely isolated when under lockdown (Van Jaarsveld, 2020). He claims that when it comes to using digital media to socialise, one difficulty that older people confront is that they have less access than younger people in industrialised nations throughout the world. For example, younger people possess smartphones at much younger ages than older people, and the ownership gap between younger and older people is expanding, and the elderly are more prevalent in these rising economies (Silver, 2019). Some are due to the fact that many older people's work careers did not entail the usage of modern digital technology (Friemel, 2016). Furthermore, the concerns are on a global scale.

Colomina, Margalef, Youngs and Jones (2021) argue that digital inequalities are regarded a significant problem, especially in developing nations and emerging democracies. Previous research indicates that there are issues with regards to digital skills and experience amongst the elderly in all countries throughout the world, including China (Wang & Wu, 2022), from Australia (Boulton-Lewis, Buys, Lovie-Kitchin, Barnett & David, 2007), Portugal (Neves, 2013), the Netherlands, Hungary, and Switzerland (Colomina, Margalef, Youngs & Jones, 2021). In many regions, online education is the new normal, since many schools and colleges turn to online programmes to keep students on schedule with their studies (Van Jaarsveld, 2020). One of the most important measures of social well-being is loneliness. It is defined as "the uncomfortable experience that arises when a person's network of social interactions is lacking in some essential aspect, either numerically or qualitatively and represents an individual's subjective judgment of his or her social engagement" (Perlman & Peplau ,1981:31).

The COVID-19 pandemic has in a short time impacted many individuals negatively and most of the challenges relate to the inability to make use of the internet. The literature review conducted discussed the impact of COVID-19 in our society and the struggles that the elderly population face daily during this period.

1.4. THEORETICAL FRAMEWORKS

The study utilised the Technology Acceptance Model (TAM) and the Digital Divide Theory (DDT) to gain a better comprehension of the role played by the digital divide to accelerate the rate of COVID-19 infection. TAM suggests "providing an explanation

of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations" (Davis, 1989; Davis, Bagozzi & Warshaw, 1989). DDT, on the other hand, focuses on current differences in internet or computer access and usage across various demographic groups such as age, gender, and ethnicity. The application of this theory tested the hypothesis that senior persons may encounter challenges and may be unable to utilise internet technologies owing to the cost in terms of affordability and capacity necessary to use ICTs during COVID-19. TAM consists of two variables; 1. **Perceived usefulness**, which is defined as "the degree to which an individual believes that using particular ICTs would be beneficial". The variable was used to determine if the elderly population perceive the internet to be a useful tool that will assist them in preventing the COVID-19 infection; and 2. **Perceived ease of use**, which is defined as "the degree to which an individual believes that using a particular ICT would be free from effort". The second variable will be useful in determining the perceived easiness when it comes to ICT use in general. This includes the ability to navigate through the internet and the ability to obtain COVID-19 health information without difficulties. In their definition of attitude, Cantril and Allport (1935) state that "attitudes are learned pre-dispositions to respond to an object." It is generally accepted that attitudes are hypothetical constructs representing relatively long-lasting feelings toward or evaluative judgments of a person, object or issue (Zajonc & Markus, 1982) and are linked to behaviour. Attitude plays a major role in influencing one's decision to adopt new technologies. Hacker and Steiner (2001) point out that the individual use of the internet enables them to obtain useful information, valuable political updates, and useful learning political information. Political and health communication play a vital role during the pandemic, for the sake of every individual's safety and well-being, and the platforms used to disseminate this information might not be in favour of the elderly. As people age, they are likely to start experiencing numerous difficulties both physically and mentally, including the deterioration of eyesight, hearing, cognitive abilities, and movement. Despite facing difficulties relating to their physical bodies, this population is confronted with challenges pertaining to access. The study uses the DDT and the TAM to explore these challenges and their potential to escalate the rate of COVID-19 infection among the elderly population.

1.5. PURPOSE OF THE STUDY AND RESEARCH QUESTIONS

The aim and objectives of the study are outlined below.

1.5.1. AIM OF THE STUDY

The study aimed to investigate the dynamic relationship between the rise in COVID-19 infections and the level of digital exclusion amongst senior citizens.

1.5.2. OBJECTIVES

The objectives of the study were to:

- examine level of ICT access amongst senior citizens.
- investigate the challenges faced by senior citizens during COVID-19 in the digital era.
- determine the attitudes of senior citizens towards ICTs use.

1.5.3. RESEARCH QUESTIONS

- What is the level of ICT access amongst senior citizens?

- How did senior citizens face challenges during COVID-19 in the digital era?

- What are the attitudes of senior citizens towards ICT use?

1.6. RESEARCH METHODOLOGY

1.6.1. RESEARCH DESIGN

The COVID-19 pandemic has brought a significant shift in healthcare communication, with an increased reliance on digital platforms. However, a digital divide exists, particularly among elderly individuals, hindering their access to timely and accurate health information. This qualitative research aimed to explore the challenges faced by elderly people in Soweto regarding health communication during COVID-19 and investigate potential strategies to bridge the digital divide for this vulnerable population. A qualitative design's goal and role is to comprehend the meaning of human activity by expressing the inherent or essential qualities of social objects or human experience (Denzin & Lincoln, 2008). The design was therefore used to examine the different experiences of every individual participant about the use of ICTs during the COVID-19 pandemic and how these experiences have the potential to consequently affect the level of the rate of COVID-19 infections among citizens. Recent studies showed that more than 15 countries had strikingly higher COVID-19

mortality rates amongst persons aged over 60 compared to younger individuals. Men have also been reported to have higher risk of COVID-19 death than women (Yanez, Weiss, Romand & Treggiari, 2020).

1.6.1. TARGET POPULATION

COVID-19 infection reports by the National health statistics showed that 80% of the recorded deaths due to COVID-19 occurred amongst those who are over the age of 60 (National Centre of Health Statistics, 2020). The sample was generated from the. The senior citizens were part of the Jesus is Lord Christian Centre, a church organisation structure in Kagiso Soweto, were recipients of the SASSA grant and resided in Gauteng.

1.6.2. SAMPLING (PROCESS) AND TECHNIQUE

The researcher collected a representative sample of both elders and youngsters. Purposive sampling, also known as judgement sampling, is the practise of selecting participants based on the characteristics that each individual possesses. It is a non-random method that does not require underlying assumptions or a set number of participants (Etikan, Musa & Alkassim, 2016). The following participant categories made up the sample population:

 Fourty seniors over the age of 60 (Twenty men and Twenty women) were involved in the study. They were SASSA grant beneficiaries living in Soweto. They were important for determining digital exclusion experiences during the COVID-19 epidemic.

1.6.3. STUDY AREA

The study was conducted in Soweto, Gauteng, Johannesburg. The location has been identified as one the COVID-19 hotspots in South Africa. An organisation has been identified, Jesus is Lord Christian Centre, a church in Soweto, Gauteng. According to Karcher and Karcher (1980:410), "the single most important apart from family in the lives of senior citizens, is the church". The church fulfilled the function of identifying ideal participants for the study, this includes especially needy individuals (the elderly).

1.6.4. DATA COLLECTION METHOD

The study collected data through semi-structured interviews, this method aimed to collect data in an open-ended manner, to explore the beliefs, thoughts, and their feelings about particular topics and to delve deeply into personal and sometimes

sensitive issues (Fam Med Community Health, 2019). A total of 40 interview sessions were conducted amongst elderly citizens. The data collecting procedure in qualitative techniques in community-based research generally involves seeing, listening, and engaging with people in their natural surroundings to learn about occurrences in their life (MacDonald, 2012).

A semi-structured interview was employed as a tool to guide and facilitate the data collection process. The same set of questions used to interview participants, and the responses were stored in an audio recorder and later transcribed for analysis purposes. Participants were interviewed in 40 separate individual sessions, 40 elderly (Ten males and Ten Females). An audio recording was utilised as storage, which was then transcribed and translated where necessary. Participants' behaviours were observed during interviews to better understand the attitudes that each individual participant has towards the internet.

1.6.5. DATA ANALYSIS METHOD

Typically, the researcher used a theme method to assess the acquired data. A thematic analysis enabled the researcher to engage with data and inductively seek to draw current themes from the data (Pistrang, Jay, Gessler & Barker, 2013). The approach included immersing oneself in data collection, generating initial codes, searching for themes, reviewing themes, defining and labelling themes, and finally producing the report. The qualitative content analysis is "a research method for the subjective interpretation of the content of text data through a systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005:1278). The NVivo programme was used to organise themes. NVivo. The qualitative data analysis software was designed to manage the coding operations and is often regarded as the finest in this respect. The programme reduced manual tasks greatly, allowing the researcher more time to spot trends, identify themes, and make conclusions (Hilal & Alabri, 2013).

1.6.6. QUALITY CRITERIA

The quality of results in qualitative research can be tested based on their confirmability, transferability, credibility, and dependability. Quality criteria are the specific elements and functions selected by the researcher, tested and measured to meet quality objectives and to ensure transferability.

1.6.7.1. CONFIRMABILITY

Confirmability is determined by objectivity in data gathering, analysis, and presentation. (Glesne, 2011), and (Lincoln & Guba, 1985). The main aim to achieve the confirmability of the results is through avoiding biasness and being neutral. These are the main things that govern a researcher's observation and analysis to guarantee the conformability of their studies. Therefore, the same set of questions were used to test participants.

1.6.7.2. TRANSFERABILITY

To determine transferability, the researcher adequately made a critical description of the original context of the research to make judgements of the results (Koch, 1994). The researcher has outlined and given all vital details regarding the all the demographic information concerning the participants.

1.6.7.3. CREDIBILITY

Guba and Lincoln (1981) define credibility as the recommended criterion against which the truth value of a qualitative investigation should be measured; this pertains to the extent to which the findings may be related to reality. The results were credible in a sense that participants are of exposed to the same environmental factors credibility, the accurate representation of multiple realities.

1.6.7.4. DEPENDABILITY

To assess the trustworthiness of a study, the researcher evaluated the procedure by which the end result was generated and provided readers with accurate descriptions that they could recognise (Horsburgh, 2003). Consistency was achieved through utilising the same methods of analysis of participants' demographic profiles. Much like the function of reliability in quantitative research, dependability refers to the consistency and the replicability of the results.

1.7.   SIGNIFICANCE OF THE STUDY

The study significantly contributed to examining the gap that existed amongst the elderly population in terms of usability, accessibility, and the attitude that each population has towards the adoption of new technologies. The study also contributed towards the promotion of e-awareness among elders as means to assist in curbing the

spread of the virus as well as e-literacy to assist educate pensioners on how they can effectively use digital technologies to the best interest of their needs. The study also effectively contributed towards promoting the strengthening citizen's adherence of the COVID-19 regulation measures put in place by the state.

1.8. ETHICAL CONSIDERATIONS

Ethics are vital aspects that govern the research process. Considering how feedback is provided, researchers considered issues of honesty, applicability, harm reduction, and confidentiality (Brodsky, Buckingham, Scheibler & Mannarini, 2016). Ethics are the most important aspect of the data collection process and the researcher take seriously all the ethical standards that govern the data "collection" process. The following ethical aspects were considered during the study conduction:

1.8.1. INFORMED CONSENT

Consent detailing the aims and objectives of the study to collect data from individual participants was requested by the researcher in writing and verbally, prior to interview sessions. It was vital to inform participants beforehand to avoid any inconveniences during the collection process. No data were collected from participants without having obtained permission.

1.8.2. PERMISSION TO UNDERTAKE THE STUDY

The study complied with all the regulating bodies governing all the studies undertaken. The conducting of this study was supervised by permissions obtained from relevant regulatory bodies, Turfloop Research Ethics Committee (TREC) of the University of Limpopo and the Department of Health in the Limpopo region.

1.8.3. ANONYMITY AND CONFIDENTIALITY

To ensure that the confidentiality of the participants, the researcher considered concealing the identities of the informants, to avoid invasion of privacy. All the informants were labelled as anonymous, meaning that only their responses were disclosed.

1.8.4. RESPECT OF PARTICIPANT'S RIGHTS AND DIGNITY

All research participants have rights, and it is the duty of the researcher to ensure that these rights are protected and not violated by any research or study project. The researcher considered protecting every individual's rights regardless of their

demographic backgrounds. All interviews were conducted in line with the COVID-19 rules to ensure the protection of participants' health.

1.9. CONCLUSION

The COVID-19 posed a threat to every individual's health but was especially dangerous to the elderly. To keep the virus from spreading, social isolation became the universal standard. The internet played a vital role in assisting people to perform their daily tasks and to replace the traditional way of doing things. But, once online, older individuals were confronted with the added difficulty of being disproportionately targeted by disinformation and frauds, both of which were rampant in the COVID-19 environment. The research's intention was to address problems that older adults experienced in using digital media during the COVID-19 pandemic, as well as some of the population's untapped assets that could have been useful to assist them live successful online lives.

1.10. CHAPTER LAYOUT

CHAPTER ONE – BACKGROUND:

This chapter presented the rationale and the scope of the study and summarised the background and context of COVID-19 and digital divide amongst senior citizens.

CHAPTER TWO – LITERATURE REVIEW AND THEORETICAL FRAMEWORK:

This chapter reviewed previous studies related to the study to locate the study in the existing literature. This chapter explained TAM and the DDT as the theories that underpinned the study.

CHAPTER THREE – METHODOLOGY:

This chapter discussed in detail the method of data collection and analysis.

CHAPTER FOUR – ANALYSIS AND INTERPRETATION FINDINGS:

This chapter presented the findings and their analysis. This helped the researcher to measure the attitudes and awareness following the introduction of health communication about the vaccine.

CHAPTER FIVE – SUMMARY OF FINDINGS

This chapter presented a summary of the findings of this study.

CHAPTER SIX – CONCLUSION:

This chapter provided the conclusion of the study and reflected on the major findings that emerged from the study.

CHAPTER 2:
LITERATURE REVIEW

2.1.   INTRODUCTION

In recent years, the use of Information and Communication Technology (ICT) has become increasingly important for individuals of all ages. However, there is a growing concern about the accessibility of ICT for senior citizens, who may face unique challenges in utilising these technologies. This literature review aimed to explore the current state of ICT accessibility among senior citizens, identify the factors influencing their access and usage, and highlight the gaps in our understanding. Additionally, this review proposed future directions for investigating and improving ICT accessibility among senior citizens.

The chapter compared and contrasted previously conducted literature trelated to the use, challenges and impact of ICT use and access encountered by the elderly population during the COVID-19 pandemic. The use of ICT became more common in both developed and developing countries during the pandemic, as means to avoid social contact. Evidence of COVID-19's influence on social health inequities piled up, with women, older persons, homeless populations, and low-income households being disproportionately affected by the crisis (Tsai & Wilson, 2020; Wenham, Smith & Morgan, 2020).

Older adults, among other populations, continued to be victims of the negative impact of the pandemic due their vulnerability to the disease. Study conducted by Nyashanu, Simbanegavi and Gibson (2020) investigated the impact of COVID-19 in Gauteng discovered that participants were affected by a lack of space to practice social distancing, overburdened infrastructure, a lack of savings, a loss of income and a lack of food, hunger and diseases, anxiety and depression, and a lack of access to education during the research. Similar findings were revealed by Kim, Burgess, Chiwandire, Kwinda, Tsai, Norris, and Mendenhall (2021), in Soweto, Gauteng, who found that worse depressive symptoms, lower perceived infection risk and greater concern about COVID-19 were correlated with higher COVID-19 prevention knowledge as well as low income.

2.2.   THE DIGITAL DIVIDE WITHIN THE SOUTH AFRICAN CONTEXT

Although the digital gap among the elderly is undoubtedly not a new issue, the COVID-19 epidemic has demonstrated the need of finding a solution (Van Jaarsveld, 2020). Some population groups appear to be falling behind as more individuals adapted to using ICT during the epidemic. According to Castells (2002), the digital divide is characterised by disparities in access to ICTs and the internet. This continuous issue of limited access to ICT has been explained in various ways by different academics. Barzilai-Nahon (2006) describes the digital divide as differences in access to, distribution of, and usage of ICTs, which offers a somewhat broader viewpoint.

Van Dijk and Hacker (2003) gave a more thorough and nuanced view of the digital divide disparities. They found four categories of barriers that lead to digital disparities: Barriers to 'mental access' (a lack of basic digital and online experience due to a lack of interest, digital anxiety, and/or the unappealing nature of new technology); a lack of material access (not owning or having access to computers and ICT infrastructure); a lack of skill access (a lack of ICT skills); and/or a lack of ICT usage (a lack of meaningful ICT usage and/or the opportunities to do so).

Rural areas in South Africa have been severely impacted by a lack of access to digital technology, which can exacerbate loneliness and lead to a lack of social detachment owing to a desire for social engagement (Oyedemi & Mogano, 2018). According to Fischer, Van Tonder Gumede and Lalla-Edward (2020), the COVID-19 lockdown compelled individuals to expand their usage of ICTs, and they want to continue using ICTs after the lockdown is removed. While ICTs have been more beneficial in supporting the preservation of lockdown restrictions, the instrument has a number of drawbacks that some people are concerned about. Buhalis and Moldavska (2021) demonstrate that an increased ICT use was observed in a range of disciplines; nonetheless, limitations such as privacy, unfamiliarity, and data security were observed.

2.3. DISPARITIES IN THE USE AND ADOPTION OF ICTS FOR HEALTH COMMUNICATION BETWEEN DEVELOPED AND DEVELOPING COUNTRIES.

This component of the literature review examined the use of ICT for health communication, as well as the differences in adoption patterns between developed and developing countries. According to (Stoumpos, Kitsios, and Talias, 2023) Electronic health is one of the most popular applications of information and communication technology, and it has considerably improved healthcare delivery by providing universal access to high-quality care at a lower cost.

Although ICT provides various benefits, certain areas remain isolated. According to Heeks (2017), the ways in which Information and Communication Technology (ICT) is used for health communication vary substantially across developed and developing countries. Bedeley, and Palvia (2014) in exploratory research carried out in Ghana to assess the readiness of public healthcare facilities in developing nations to use health information technology. They argues that Issues identified include inadequate ICT infrastructure, a lack of fundamental ICT knowledge and abilities, internet accessibility and reliability, financial sustainability, and electronic record privacy and security concerns (Bedeley, and Palvia, 2014).on the same note Yusif, Hafeez-Baig, and Soar (2020) argue that while e-health services are increasing popularity and adoption in developing countries, these countries face significant challenges when it comes to establishing and deploying such services on a large scale.

Furthermore, Lucas, (2008) argues that developing countries face unique challenges when it comes to implementing information and communication technology (ICT) for health communication. The broad use of ICT in healthcare is hampered by a lack of reliable internet connectivity, poor healthcare infrastructure, and low levels of digital literacy (Lucas,2008). However, many developing countries as South Africa are aggressively using information and communication technology (ICT) to address difficulties. He argues that mobile phones are widely used to disseminate health information, conduct remote consultations, and provide health prompts in areas with limited internet access. Furthermore, telemedicine projects are being implemented to expand care to underserved populations living in remote places (Lucas,2008).

According to Reis, Visser, and Frankel (2013), in industrialised nations, information and communication technology (ICT) plays a large and influential role in health communication. According to the United Nations (2023), developed countries are shifting from older to more modern networks, such as 5G. Low-income countries, on the other hand, are only able to use 2G and 3G networks due to barriers to 5G implementation. These challenges include costly infrastructure, unpredictable electricity, and regulatory constraints. Statistics acts as According to the United Nations (2023), the Internet utilisation rate in the least developed countries is expected to be just 36%, while the global average is 66%.

The presence of advanced healthcare systems, widespread internet access, and high levels of digital proficiency promote the implementation of various information and communication technology (ICT) strategies (Milakovich, 2012). The strategies include telemedicine, internet health portals, mobile health applications, and wearable devices. Furthermore Janett, and Yeracaris, (2020) say that developed countries such as the United States of America benefit from comprehensive health information systems, electronic medical records, and interoperability standards that facilitate communication between healthcare professionals and patients. They argue that social media platforms and online communities play an important role in disseminating health information and encouraging public health campaigns.

According to Ejiaku (2014), wealthier nations have made large investments in the development and maintenance of information technology infrastructure, whereas emerging nations have made modest efforts in this respect. Many developing countries lack the means to expand their information technology infrastructure within their borders (Ejiaku, 2014). The author contends that, in view of sustainable development and the growing relevance of information technology (IT), developing countries must acquire and adopt IT. He blames slower growth in developing countries on inadequate government policies, poor infrastructure, and insufficient training and skills, all of which impede the transfer and acceptance of information technology.

According to the World Health Organisation (2016), the African population is expected to have the highest frequency of global diseases, despite some e-health uptake. To recap, wealthier countries have better ICT infrastructure and resources for health communication, but poorer countries are gradually embracing ICT to address their own healthcare challenges. They suggest that to ensure equitable access to ICT-based health communication for all, we must bridge the digital divide, develop healthcare infrastructure, and promote digital literacy, (World Health Organisation, 2016).

2.4. THE USE OF ICTS AS HEALTH COMMUNICATION TOOL DURING COVID-19

The phrase "health communication" refers to the study or application of communication strategies to enhance the health sector (Mheidly & Fares, 2020). The efficacy of the media in health communication is based on strong written, verbal, and visual communication tactics that can influence public perceptions and perspectives (Centres for Disease Control and Prevention, 2020). With the lockdown legislation in place, the majority of COVID-19 health communication materials were distributed online. The media, according to Thomas, Petersen, Walker, Christenson, Cowley, Kosari, Baby and Naunton (2018), are a potent tool for disseminating wellness education. They play a fundamental role in the public's response to a pandemic, as they serve as a portal for communication between governments, health institutions, and people.

According to the United Nations (2020), the organisation has a responsibility to respond to the infodemic by establishing a UN Coronavirus (COVID-19) site to provide the public with credible and up-to-date information. Government officials, including presidents and health ministers, should provide information on the number of cases and keep the public informed about the infection and its control, presenting facts and effective measures, and engaging the public through social media (The United Nations, 2020). According to Rufai and Bunce (2020), Twitter in particular has shown to be an effective platform for disseminating health information. A content analysis of Group of Seven (G7) global leaders' Twitter usage in reaction to COVID-19 indicated that 82.8% of their COVID-19-related tweets were informational, 9.4% were morale-boosting, and 6.9% were political.

In light of this, it is recommended that additional efforts be made to encourage a research culture that uses the present growth of communication media to promote healthy lives and behaviours in low-income nations. In a study conducted by Intawong, Olson and Chariyalertsak (2021) on the use of applications to fight the COVID-19 pandemic in the in Thailand, it was concluded that application technologies were effective in communication health information. The authors argue that the people should take responsibility for their own health and that medical and public health workers should work more efficiently to reduce resource demand while still meeting health needs.

Pan, Cui and Qian (2020) suggest that during lockdown, apps were used to transition the majority of offline leisure and home activities online. The elderly found it extremely difficult to move online since most of them did not know how to purchase, receive food deliveries, use video chat, or perform other tasks online. The relative incapacity to substitute in-person conversation with digital communication is one way that the negative effects of the COVID-19 pandemic may burden the already disadvantaged disproportionately (Khilnani et al., 2020).

Nguyen, Hargittai and Marler (2021) argue that those with higher levels of socioeconomic privilege and digital privilege had a better likelihood of growing their digital communication and a lower risk of doing so. They claim that those who were younger, wealthier, better educated, and more experienced in internet use were more likely to have adopted digital communication. Therefore, they were more likely to have lessened digital communication than their peers.

2.5. PATTERNS OF ICT ACCEPTANCE AMONG SENIOR CITIZENS

According to the literature on the digital divide, persons in their third age continue to fall behind younger generations in ICT adoption and use (Rainie & Zickuhr, 2015). According to Niehaves and Plattfaut (2014), persons in this age range are more hesitant to accept digital technologies and engage in less online activities, such as searching and banking, than younger adults (Zickuhr & Smith, 2012). Salam, Saha, Rahman and Mutsuddi (2021) suggest that the role of perceived capability in the use of mobile banking must be managed properly as customers will conduct their transactions using mobile banking services due to deadly spread of COVID-19. Talukder, Sorwar, Bao, Ahmed and Palash (2020) conducted research with the goal

of constructing a theoretical model based on the expanded Unified Theory of Technology Acceptance and Use. They contend that wearable healthcare technology (WHT) has the potential to increase access to healthcare information, particularly for the elderly, and to enable them to participate actively in managing personal health. Despite their potential benefits, the acceptance and usage by the elderly are considerably low. In addition, ICT anxiety and resistance to change posed important but negative influences on wearable healthcare technologies acceptance.

According to Diako, Lubbe and Klopper (2012), senior citizen bank clients of South African banks with access to technology-based banking services and products are more interested in learning more about ICT banking goods and services. Msweli (2020) performed a similar study with the goal of investigating variables that impact the elderly's adoption of mobile banking ICT in South Africa. According to the report, the elderly have a low rate of adoption of mobile banking ICT. The research found that barriers to adoption included a lack of understanding and information, security concerns, lack of trust, language barriers, demographic factors, the complexity of mobile banking applications, and resistance to change. Three key factors that support the adoption of mobile banking were recognised as convenience, unrestricted access, and cost-effectiveness.

According to Quan-Haase, Martin, and Schreurs (2016), inequality has a significant impact on the experience of digital engagement in the third age, and there appears to be involuntary and sometimes reluctant ICT adoption by our digital seniors. They also contend that family members, particularly grown-up children and grandchildren, sometimes force their opinions about the use of a given ICT on elders. Low-income households, who are likely less well equipped in terms of technical gadgets, both in quantity and quality, bear the brunt of the COVID-19 crisis's immediate and long-term economic implications (Fernandes, 2020). This is especially true for the demographic that is most at danger of death if infected with the virus, such as the elderly and persons with chronic health issues.

2.6. PERCEIVED TECHNOLOGICAL CHALLENGES AND THE IMPACT OF COVID-19 AMONGST SENIORS

The COVID-19 pandemic has disproportionately affected the majority of social groups, with greater rates of testing positive as well as higher rates of mortality, according to

Shah, Sachdeva, and Dodiuk-Gad (2020). Older folks, ethnic minorities, persons with underlying diseases, and those with poor socioeconomic position are among these populations. This has been compounded by these groups' lack of access to ICTs, particularly if critical COVID-19 information is delivered solely through ICTs.

According to Knepple Carney, Graf, Hudson, and Wilson (2021), COVID-19 disruption appears to have less of an influence on stress and negative affect with age. They contend that the effect of COVID-19 disruption on well-being does not differ between middle-aged (around the age of 50) and older persons, despite the fact that older adults felt higher disruption. The reasons are congruent with a survey that found older persons to be the most resilient to PTSD after 9/11, as well as recent findings from the (Centres for Disease Control and Prevention, 2020) about clinical depression and anxiety. The way people understand interruptions caused by COVID-19 may differ from how they view other crises. The risk of serious disease or death from COVID-19 grows with age, with people over the age of 85 being at the greatest risk.

Wu (2020) argues that the COVID-19 epidemic will have a long-term and severe effect on the health and well-being of older persons worldwide. Social isolation and loneliness are anticipated to become key risk factors for older individuals' health outcomes. Some techniques for addressing these concerns can be used in a variety of nations. According to Wu (2020), these strategies include increasing awareness of the health and medical consequences of social isolation and loneliness among the health care workforce and the general public. Wu (2020) suggests that governments and institutions should develop innovative ICT-based interventions, which allow the mobilisation of resources that could potentially address loneliness and isolation of elderly people during pandemics from family members and community-based networks.

Heid, Cartwright, Wilson-Genderson, and Pruchno (2021) studied the obstacles faced by elderly persons during the first months of the COVID-19 pandemic. These studies give an early insight into how older individuals have responded to directions to maintain physical distance to control the spread of COVID-19, as well as the situations that older people find most difficult. According to the authors, older people are avoiding public areas, postponing doctors' appointments and medical treatments, spending

less time with friends and family, cancelling out-of-town vacations, and modifying plans to attend family reunions.

Van Jaarsveld (2010) argues that the older population has not reaped the same benefits as many other younger groups since they have traditionally had significant inequity in access to and capacity to use technology. With stricter lockdown measures, higher risks of mental and physical health issues, and the pandemic's worst consequences falling disproportionately on the older population, the effects of these restrictions have not been minimised, as seen by the digital divide.

2.7.   EXISTING GAP BETWEEN THE YOUTH AND THE ELDERLY IN TERMS OF ICTS ADOPTION

According to Calandro, Gillwald, Moyo and Stock (2010), mobile phone ownership in some African nations has increased significantly from less than 2% in 2000 to more than 90% now. Middleton (2013) attributes South Africa's subpar state, when compared to other nations and even to many emerging nations, to decaying and inadequate infrastructure. This has not yet come to pass though. Lesame (2013) claims that South Africa has lower rates of individual internet usage, computer ownership, and broadband subscriptions when compared to wealthy nations as well as other developing nations. In contrast to other nations, Oyedemi (2012) highlights the underlying aspects of inequality in South African society, which go beyond merely access to ICTs. Oyedemi (2009) contends that home access enables users to utilise ICTs' capabilities to their fullest potential to a greater extent. However, he suggests that within-group analyses of ICT access should replace between-group analyses, as significant discrepancies were also discovered between socioeconomic classes, between rural and urban locations, and among ethnic groupings.

Based to a global study, notable inequalities in educational attainment were also discovered (Van Dijk & Hacker, 2003). Throughout the pandemic, only those with university degrees were found to use ICT at quite high levels, and this trend is rising throughout the developing globe. This is especially true in Africa. According to a longitudinal study conducted from 2008 to 2018, Grishchenko (2020) calculated the size and dynamics of the digital divide in Russia's access to and usage of the internet by major socioeconomic categories discovered that while the digital divide is closing,

its gaps still exist. The respondents' wealth, age, and kind of housing are all related to the degree of polarisation.

The low-income, aged, disabled, and rural residents are the social categories most at risk for not having access to ICTs and using the internet. The reversal movements in the digital divide were mostly observed in connection to internet usage among middle-aged and young people as well as among genders. In addition, based on the respondents' income and type of home, we identified the socioeconomic groups that had the greatest difficulty closing the digital gap throughout the study period. The bulk of the population lacks easy access to the availability of the online and digital channels that are generally utilised in high-income nations to maintain social relationships and get around restrictions on in-person interaction (Frissa & Dessalegn, 2020).

According to research by Seifert, Cotten and Xie (2020), the COVID-19 epidemic has kept elderly people out of a culture that values physical social interaction. Vulnerable groups, such as older folks, frequently get excluded from digital services because they choose not to use the internet, do not have the requisite hardware or network access, or lack technical expertise. Further research by Figueroa and Aguilera in 2020 revealed that elderly persons, who already experience significant levels of loneliness, are more prone to this epidemic. Increased physical morbidities, mortality, and feelings of sadness and anxiety are all highly correlated with this.

2.8. CONCEPTUAL FRAMEWORK

This section of the study sought to situate the study within the existing theories. Two theories were used for this study. The first applied theory is the Technology Acceptance Model (TAM). Davis (1989) found that there are two factors that determine the useful of a technological system or that the tool will be accepted by potential users: (1) Perceived usefulness, and (2) Perceived ease of use. TAM has evolved through the years and other factors and is still in use until today with numerous extended factors. The expansion was on external factors by (Venkatesh & Davis, 2000), which and used to develop the Unified Theory Acceptance Model. External variables include social factors that have the potential to influence the attitude of the user. Venkatesh and Bala's (2008), extension which was in the e-commerce context factored in the effects of trust and perceived risk on the usage of the system. To meet the objectives of this study, the researcher used PU and PEU. The second theory that was applied

is the Digital Divide Theory (DDT). According to Economic and Social Commission for Asia and the Pacific (2019), DDT is used to identity and assess the gap in ICT access. Divide is assessed in three levels (1): Economic divide, which refers to the gap in affordability, (2) Usability divide refers herein the gap in ease and quick access to ICTs on individual capacity, and (3) Empowerment divide referring the gaps that exist in the ability for institutions offer opportunities for internet use. In this study, the researcher utilised Economic and Usability divide in alignment with the population's demographics. This included assessing their levels of income, age, education, race, gender, and employment.

2.8.1. TECHNOLOGY ACCEPTANCE MODEL

The user's attitude towards employing a technology is a key component of TAM. This mindset directly affects how the product is actually used, which is a good sign of how well-liked it is. The Behavioural Intention (BI) is the main emphasis, say Vogelsang and Steinhüser (2013). TAM includes four structures in its original form. Perceived Usefulness (PU) and Perceived Ease of Use (PEU) make up the attitude towards utilising an ICT. These constructs have an impact on the Intention to usage (IU), which is the step before actual usage in the model.

A central element of TAM is the user's attitude towards using a technology:

• Perceived Usefulness is dependent on two independent constructs, Perceived Ease of Use of the new technologies and their features.

 • Perceived Ease of Use of the new ICT devices is dependent on two independent constructs, Web Site Usability, and Internet Usability.

• Attitude toward Using the new ICT devices is dependent on two independent constructs, Perceived Ease of Use of ICT and Perceived Usefulness of the new ICT device.

 • Behavioural Intention to Use new ICT device is dependent on two independent constructs, Perceived Usefulness of the Web Site and Attitude toward using the new ICT device.

• The primary dependent construct in the study is Actual System Usage of the new ICT device and is dependent on one independent construct, Behavioural Intention to Use the new ICT device.

The above constructs are represented in the following TAM diagram:
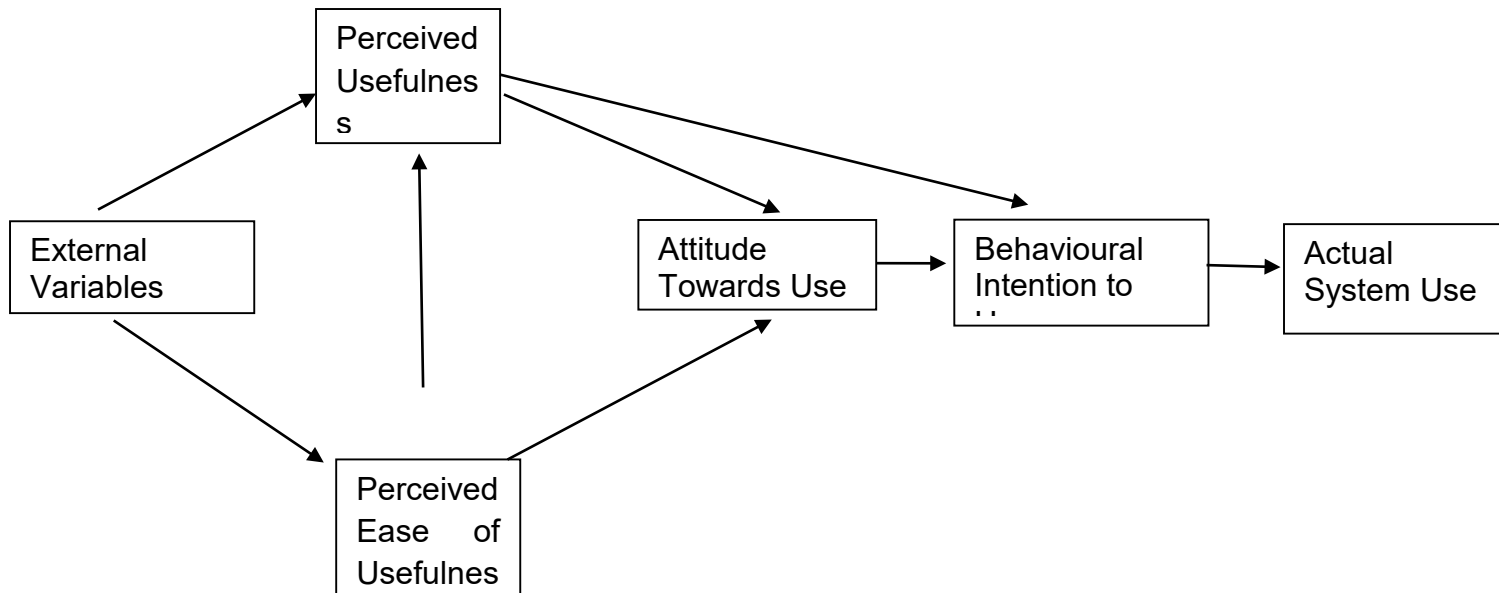
The TAM also suggests that perceptions of usefulness and ease of use are mediated. To effectively investigate the contribution of the digital divide in accelerating rise of COVID-19 infections amongst senior citizens, the study adopted a qualitative research methodology. A qualitative design's goal and role is to comprehend the meaning of human activity by expressing the inherent or essential qualities of social objects or human experience (Denzin & Lincoln, 2008). Whilst TAM is mostly a quantitative model, this study utilised the TAM framework and conducted an analysis qualitatively, much like Williams, Saunderson and Dhoest (2021) in their study on the UTAT (Universal Theory of Technology Acceptance), which is also a quantitative model that they analysed qualitatively.

2.8.2. THE DIGITAL DIVIDE THEORETICAL MODEL

Peña-López (2007) describes digital divide in three stages, Economic Divide (The accessibility of information), Usability Divide (how information is utilised) and Empowerment Divide (how information is received). They found that perceived ease of use significantly affected users' extrinsic and intrinsic motivation, while apprehensiveness about internet use had a negative effect on intrinsic motivation. The Digital Divide Model (DDMTAM), depicted in Figure 2, integrates TAM with the

determining and mediating factors from the DDT and then adapts the result to model the personal use ICTs by the elderly during the COVID-19 pandemic.

Determining Factors
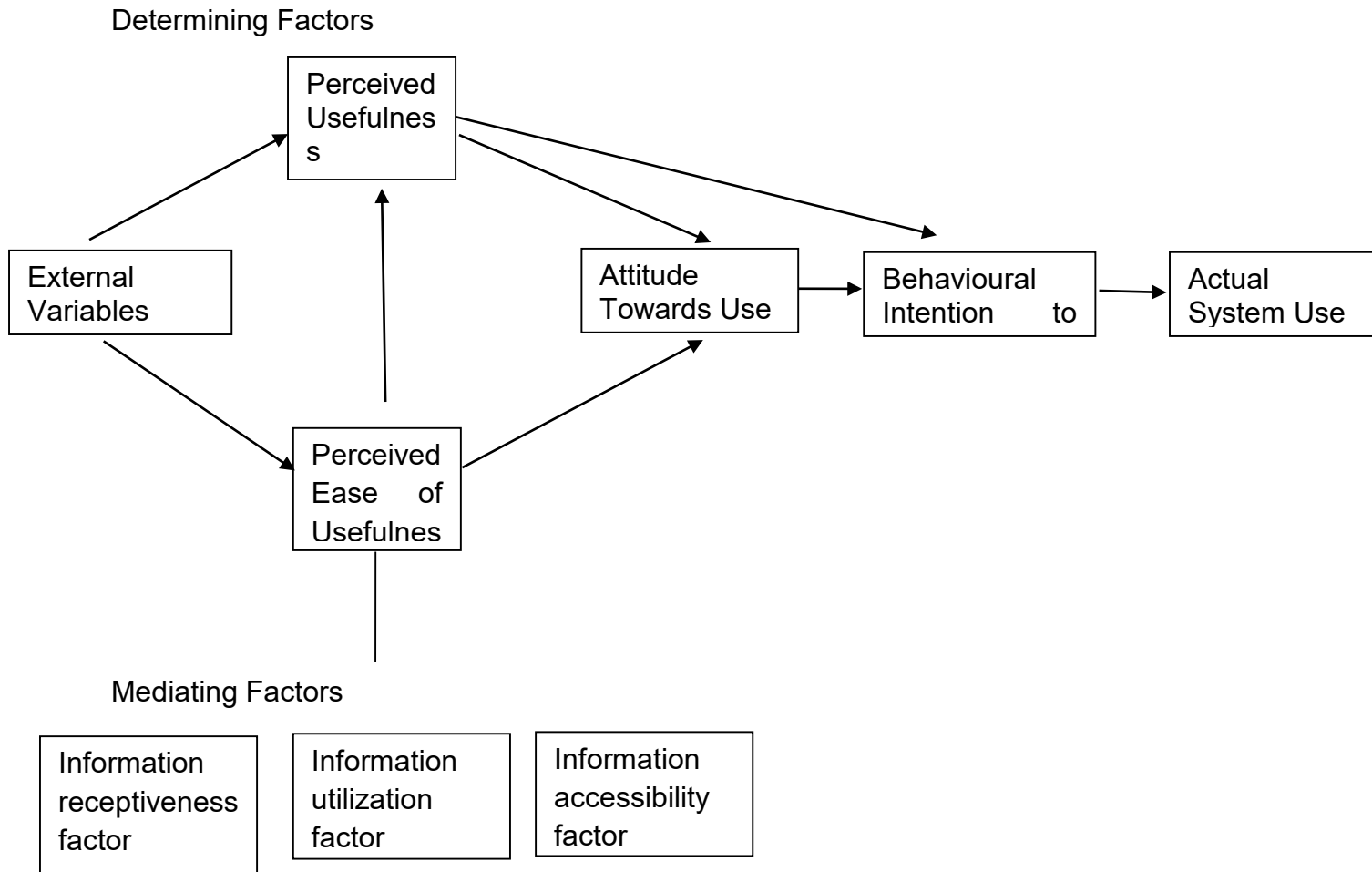
Mediating Factors

This model summarises the most fundamental factors incorporated into the models listing the following factors: Information accessibility (IA), Perceived Ease of Use (PEU), Perceived Usefulness (PU), Information Utilisation (IU), Behavioural Intention (BI), and Information receptiveness (IR). Note that perceived ease of usefulness is the common factor across all the models.

2.8.3. CURRENT RESEARCH ON COVID 19 AND THE ELDERLY: NATIONALLY AND INTERNATIONALLY

From a technological perspective, Tyler, McKee, Alzueta, Perrin, Kingsley, Baker and Arango-Lasprilla (2021), say that the COVID-19 pandemic has provoked massive, immediate, and unprecedented changes in population use of digital technologies. They suggest that these changes amongst other factors were driven by anxiety and

loneliness. According to Tyler, McKee, Alzueta, Perrin, Kingsley, Baker and Arango-Lasprilla (2021), the COVID-19 epidemic has had detrimental impacts on older individuals' mental health on a global scale. The new findings have immediate ramifications for mental health interventions that may be provided to older persons to aid in psychological adjustment that is healthy.

In another study conducted by Herrera, Elgueta, Fernández, Giacoman, Leal, Marshall, Rubio and Bustamante (2021), say that COVID-19 pandemic has resulted in some adverse effects on quality of life, especially in older adults. On the other hand, the study indicates that there has been an improvement on the adoption of ICTs as well as social networks by older adults, although there is still prevalence of reluctance. Furthermore, Lai and Widmar (2021), say that there is currently no shortage on social and psychological resources that could allow older adults to face the challenges presented the COVID-19 pandemic, including future pandemics. These authors suggest that there is a scarcity of research investigating the effects of the confinement imposed by government restrictions to curb the spread of the virus. A study conducted by Visagie, and Turok (2021) shows that despite some protection provided by the expansion of government cash handouts, evidence shows that South Africa's rural communities have faced a greater impact from the economic downturn. The government's reaction to the crisis will be affected in a number of significant ways going forward.

2.9. CONCLUSION

The present uneven distribution of ICTs is most likely due to digital causes. As the usage of ICTs develops dramatically during the COVID-19 crisis, so do the consequences of digital disparities. Given the reliance on ICTs in many aspects of life, digital inequalities put the most technologically disadvantaged people at greater risk of contracting the virus and suffering from negative consequences of the crisis as a whole. These challenges are related to digital skills, perceived use, ICT access, and budgetary limits. As previously said, one of the ways digital disparities manifest during the COVID-19 crisis is through Internet access - or the lack thereof.

According to the literature, it is still difficult for older persons to complete various daily life necessary tasks or activities, and there is a significant digital divide gap prevalence among this demographic. Much research has concentrated on the second and third

levels of the digital divide. However, new evidence suggests that the first level of the digital divide is persistent and may exacerbate the other difference (Aissaoui, 2021).

CHAPTER 3:
RESEARCH METHODOLOGY

3.1. INTRODUCTION

The COVID-19 pandemic had a huge impact on all levels of society- from individuals to organisational operations. There also has been a sudden drastic and sudden impact on the practices of both workplaces and within organisations, which has forced a shift from the traditional systems (Carroll & Conboy, 2020). Use of ICTs has become very crucial and relevant in today's world, especially during the pandemic where organisations, corporations and global companies operate in the technological sphere with the aim of adhering to the regulations put into place by national governments and the temporary closure of workplace premises. Alongside many countries, South Africa is one of the countries that had to endure the consequences of the pandemic, which came with severe restrictions on individual's daily activities and movement aimed to ease the widespread increase and spread of the virus (Matli, 2020).

Chapter Two reviewed literature on the digital divide among the elderly, from international, national to local level based on the use, implications and technological challenges encountered by elderly during COVID-19 pandemic. This chapter described the methodological approach that was used to carry out and conduct all processes of the study. The chapter was divided into three different sections, and it comprises eight methodological components. The first section discussed the methodological orientation, the second discussed the research design of the study, which outlined the procedures used as data collection methods. The last section utilised exploratory methods of analysis, and all ethical issues related to data collection procedures that were followed.

3.2. RESEARCH OBJECTIVES

Research objectives are the main aims that the researcher is trying to achieve by conducting the study. ICTs acceptance is a crucial concern in today's world, especially during the pandemic, which has resulted in many companies moving digital. The researcher has identified a huge gap in the acceptance, use and challenges of using ICTs amongst the elderly population and a prevalence high COVID-19 infections rate amongst the population.

This study aimed to:

a) examine level of ICT access amongst senior citizens.
b) investigate the challenges faced by senior citizens during COVID-19 in the digital era.
c) determine the attitudes of senior citizens towards ICTs use.

3.3.   RESEARCH QUESTIONS

The research questions of this study were as follows:

a) What is the level of ICT access amongst senior citizens?

b) How did senior citizens face challenges during COVID-19 in the digital era?

c) What are the attitudes of senior citizens towards ICT use?

3.4.   METHODOLOGICAL APPROACH

The COVID-19 pandemic brought a significant shift in healthcare communication, with an increased reliance on digital platforms. However, a digital divide exists, particularly among elderly individuals, hindering their access to timely and accurate health information. This qualitative research aimed to explore the challenges faced by elderly people in Soweto regarding health communication during COVID-19 and investigated potential strategies to bridge the digital divide for this vulnerable population.

This study employed the qualitative research design to gain an in-depth understanding of the experiences and perspectives of elderly individuals regarding health communication during the COVID-19 pandemic. Purposive sampling was used to select a sample of 40 elderly individuals aged 60 and above residing in Soweto. Efforts were made to ensure diversity in terms of gender, socioeconomic status, and accessibility to digital technologies. Data were collected through semi-structured interviews. The interviews allowed participants to share their experiences, challenges, and strategies related to health communication and digital technology use during

COVID-19. Thematic analysis was used to analyse the qualitative data. Transcripts of interviews were coded, categorised, and clustered into emerging themes and sub-themes. The analysis was iterative, involving constant comparisons, and interactions between themes and sub-themes. Informed consent was obtained from all participants, and their confidentiality and privacy were ensured. Ethical approval from relevant institutional review boards was sought before conducting the study.

3.4.1. INTERPRETIVISM

Interpretivism was developed through critique of positivism with a subjective perspective. According to Van Maneen (1979: 520) "the label qualitative methods at its best is an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate and otherwise come to terms with meaning not the frequency, of less naturally occurring phenomena in the social world". Positivist researchers believe that qualitative research is suitable for exploring phenomena and is mainly concerned with measuring results through observations and experience. Considering the nature of the study, which required the researcher to interact with each participant to examine their attitudes and views on ICT use, interpretivism can be generalised to everyone, and considers differences such as cultures, circumstances, as well as times leading to development of different social realities (Alharahsheh & Pius, 2020).

According to Alharahsheh and Pius (2020), there are several common qualities of interpretivist research, and they include: A focus on the whole experience, avoiding partiality, identify problems based on interest, involvement as well as commitment. Informing strategies for health communication: By understanding the subjective experiences and unique challenges faced by elderly individuals in Soweto, interpretivism helped provide insights to develop tailored strategies for health communication during COVID-19. Overall, interpretivism was used to explore and understand the complex and multifaceted aspects of health communication and the digital divide amongst elderly people in Soweto during the COVID-19 pandemic. It acknowledged the importance of subjective experiences, sociocultural context, and power dynamics in shaping these phenomena, providing valuable insights to inform interventions and policies.

3.4.2. THE OUTSIDER/OUTSIDER PERSPECTIVE

The research approach is a strategy and set of processes that progresses from general hypotheses to specific techniques for gathering, analysing, and interpreting data. Therefore, it is reliant on the type of research challenge being addressed (Chetty, 1996). The researcher was not part of the population from which participants were identified, therefore an outside-in approach was used to reach out to the population and establish the position among the population. The organisation from which the population originated caters for all demographic categories in terms of population groups, and for this reason, the researcher is also affiliated to the organisation as part of the youth. This made the population to be easily accessible to the researcher. Participants' ages on the study ranged from 60 upwards (elderly population). The researcher approached the church leaders responsible for the elderly committee, who assisted in sending the messages to the intended audience/participants. This made it possible to inform and gain access to the population.

3.4.3. QUALITATIVE RESEARCH APPROACH

This study used a qualitative approach. A method and strategy known as the research approach combines general assumptions with particular procedures for gathering, analysing, and interpreting data. It depends on the type of research problem being addressed (Chetty, 1996). The qualitative research method is inherently humanistic. 'These phenomena include how individuals view elements of their lives, their behaviours, how organisations work, and how interactions shape relationships,' write Teherani, Martimianakis, Stenfors-Hayes, Wadhwa, and Varpio (2015:6770). Interactional procedures are used to acquire knowledge. In qualitative research, the primary data gathering tool is the researcher. The researcher investigated why events occur, what occurs, and what those occurrences signify to the persons under study. 'Qualitative research tries to address concerns related with gaining a knowledge of the meaning and experience components of persons' lives and social settings,' says Fossey, Harvey, McDermott and Davidson (2002:14). In this example, the researcher employed a qualitative technique to better understand elderly adults' views towards ICT use.

3.5.   RESEARCH DESIGN

The design was beneficial in outlining all of the strategies utilised to guide data gathering and analysis. According to Myers, Well and Lorch (2012), research design is critical for providing thorough coverage of the research principles and ideas required to make sense of real-world data. In this situation, the design aided the researcher in developing effective ways for analysing all research findings. An emphasis is placed on identifying various approaches, such as those concentrating on text analysis, and various modes of data collecting, as well as criteria for assessing qualitative research. The distinctions in study design between quantitative and qualitative research are then traced (Jackson, Drummond & Camara, 2007).

3.5.2. EXPLORATORY DESIGN

Because of the study's aim, an exploratory design was used. Exploratory research, as described by Swedenberg (2020:17), is an attempt to discover something new and interesting by working through research topic. Furthermore, the exploratory approach allows for flexibility and adaptability in the research process. It allowed researcher to uncover new and unexpected findings, identify emerging trends, and explore diverse experiences within the elderly population. This contributed to a more nuanced understanding of the challenges faced by elderly people in Soweto and inform the development of tailored interventions.

Exploratory research is consciously placing oneself in situations where discovery is both conceivable and wide (Stebbins, 2001). Non-exploratory research, on the other hand, results in the repeating of what is previously known. The researcher investigated an entirely new issue. One of the key purposes of exploratory research is to ensure that the study being done has not already been conducted to fill a research gap. To guarantee that the intended study was not a repetition of previous research, the researcher evaluated existing literature in the same field of study (Swedenberg, 2020). It is important to note that while the exploratory approach is useful for gaining a comprehensive understanding of the health communication and digital divide among elderly people in Soweto during COVID-19, it is just the first step in the research process.

3.5.3. SEMI-STRUCTURED INTERVIEWS

Semi-structured interviews were employed to obtain data from participants in the research. According to Rabionet (2011), qualitative interviewing is a versatile and

effective instrument for capturing people's voices and the ways they make sense of their experiences. He outlines the six steps of learning to conduct semi-structured interviews as follows: (a) deciding on the sort of interview; (b) developing ethical standards; (c) developing the interview protocol; (d) conducting and recording the interview; (e) developing the interview procedure; and (f) reporting the results. The researcher created a list of pre-planned questions to ask participants during the interviews (Rabionet, 2011). The identical set of questions was employed. According to Adams (2015), in a semi-structured interview, questions are asked that are more relevant to the research difficulties, or questions that try to answer the research problem. The interviewer sequenced the questions to meet the research difficulties that the researcher had outlined before to doing the study. Appendix "A" contains the interview schedule, the letter to informants, and consent forms.

3.6.   RESEARCH SETTING

The term "setting" above refers to place, space, or venue where the research process takes place. The researcher collected data from elderly church congregants. Semi-structured interviews were used to collect data from participants, after church services. Participants were requested behind after the services, interviews were conducted inside the church premises. The church represents a potentially effective channel for delivering health programmes to African Americans (Resnicow, Jackson, Wang, De, McCarty, Dudley & Baranowski, 2001). Many Black churches, churches also represent excellent research setting,

3.7.   TARGET POPULATION

Identifying the target population includes setting up a criterion which individuals must meet in order for them to become part of the participants. The first stage in the sampling process is to clearly define target population (Taherdoost, 2016). Gauteng is one of the main provinces that dominate in COVID-19 cases, the province has been identified as a hotspot, with elderly people topping the list of fatalities reported. South Africa also, amongst many African countries, more than any other African countries, has suffered loss of lives due to COVID-19. The researcher chose elderly congregants from Jesus Is Lord Church, in Soweto as participants in the study. The participants were also SASSA pension grant recipients.

3.8.   SAMPLE TECHNIQUE

The sample was derived from the first population, which was selected on a basis of non-probability purposive sampling. According to Etikan, Musa and Alkassim (2016), purposive sampling aims to concentrate on persons who will be more useful to the relevant study than random sample studies, which aim to encompass a varied cross section of ages, ethnicities, and cultures. Unlike quantitative studies, which sample a large number of participants to generalise findings, qualitative studies sample a small number of individuals depending on their capacity to satisfy the needed requirement for participation in the study. The statra included both male and female participants. After critically analysing the problem, the researcher purposefully selected two gender categories from of genders from the population, 20 males and 20 females to participate. SASSA grant recipients included individuals who earn a little or those who do not earn anything at all, and given the cost to access ICTs, these participants could hardly afford to own advanced technological devices. The researcher, therefore, chose SASSA grant recipients as participants in the study because their inability to afford new technologies access placed them at the risk of getting infected.

PILOT STUDY

A pilot study of five elderly individuals, who were selected randomly was conducted prior engaging in the collection process. A pilot study is part of a larger, preceding study (Connelly, 2008). The process was undertaken to assess the suitability and to help the researcher decide whether to proceed with the study or not. The participants on the pilot study did not participate in the actual study. Language errors and irrelevancy were problems identified by the language editor. The problems were addressed by the researcher as recommended.

3.9.   DATA COLLECTION

The researcher used semi-structured interviews as a data collection tool. Data collection tools refers to the instruments or devices used to collect data. 'A semi-structured interview is a verbal interchange where one person the interviewer attempts to elicit information from another person by asking them questions' (Longhurst, 2003, p. 143). The researcher handed out consent forms to every individual respondent before the commencement of the data collection process and the non-disclosure agreement was read out to each participant to assure confidentiality. The respondents

were not familiarised with the interview questions prior the interview, to avoid producing conditioned results. The semi-structured interview questionnaire was divided into two sub-headings, demographics and content questions. The collection process observed all COVID-19 regulations put into place by the Department of Health, to ensure the safety of the participants and the researcher considering the vulnerability of the population. This included, wearing of face mask during the interviews, keeping a safe sitting distance, sanitising of hands and finally the interviews took place in a well-ventilated room.

3.9.1. STRUCTURE OF INTERVIEW QUESTIONS

The interviewer's presence provides structure to the interview scenario. Because both verbal and nonverbal communication are feasible, communication is optimised (McIntosh & Morse, 2015). The interview questions were designed with the study's objectives in mind. The first component of the study questions focused on the demographics of the participants, while the second segment focused on objective-oriented inquiries. The interviewer utilised more sophisticated interview schedules to clarify questions anytime the participant looked to be puzzled. According to McIntosh and Morse, the physical presence of the interviewer may allow him or her to detect any discomfort or disquiet on the side of the responder and give a break or emotional support, making face-to-face interviews more ethical.

3.10. DATA ANALYSIS

'Qualitative analysis is a process of examining, synthesising, and interpreting data to define and explain the phenomena or social environments being researched,' according to Fossey et al. (2002:14). Using thematic analysis, the researcher found existing themes in the obtained data, which was subsequently coded using Nvivo software. The analysis was completed in accordance with the current study goals. This was done to test the hypothesis among current group participants to help with the generalisation of findings concerning pre-existing knowledge, attitudes, and beliefs, Perceived Usefulness (PU), and Perceived Ease of Use (PEU) towards ICT adoption. As a result, semi-structured interview data analysis is intended to give a thorough and accurate descriptive overview of participants' opinions.

3.10.1.   THEMATIC ANALYSIS

Thematic analysis was performed on all verbatim transcriptions from structured interviews using Nvivo software. To assess all of the participants' replies, the researcher employed a theme method. The initial objective was to generate codes from the data. The researcher began by reviewing all of the participants' replies to the same question. The researcher then employed normal coding procedures, marking relevant words or phrases and creating margin comments that highlight essential elements in each response (McIntosh & Morse, 2021). The participant's number was inserted before each item number on all pages of the transcripts (Morse & Field, 1995). When the typist submitted the transcript, the material was reviewed against the audiotape to guarantee the correctness of the data.

3.10.2. NVIVO

The researcher used the Nvivo software for data storage. If software for categorising qualitative data is to be utilised, it should be able to first sort/categorise data by item before applying the research codes (McIntosh & Morse, 2021). The Nvivo software application assisted with efficient data storage and coding procedures (Creswell, 2009). The software was essential in assisting to ensure that the right the data follow the right pattern of categorisation.

3.11. SIGNIFICANCE OF THE STUDY

The focus of this study was to identify the gap that existing in terms of ICT use and to help change the attitudes of elderly people towards ICTs and contribute to curbing the rate of infections. The researcher structured interview questions that were answered by all the participants who were part of the study. The research has contributed to the current health knowledge that exist amongst the elderly population around the area of Soweto. Issues such as the embracement of new technologies during the pandemic by the elderly population was emphasised by the researcher during interviews, to promote the use of ICTs instead of doing everything the traditional way, which increases the risk of infection. The study was significant due its relevance in the current pandemic where the world has gone digital.

3.12. QUALITATIVE RIGOUR

Similar to validity and reliability used in quantitative research, qualitative rigour aims to address the unique attributes of qualitative research (Thomas & Magilvy, 2011).

Rigour, in qualitative terms, is a way to establish trust or confidence in the findings of a research study. The quality of results in qualitative research can be tested based on the following: credibility, the accurate representation of multiple realities; transferability, the applicability of the findings to other settings; (d) dependability, the consistency of findings; and (e) confirmability, objectivity in data collection, analysis, and presentation (Glesne, 2011; Lincoln & Guba,1985).

Credibility. To ensure credibility, the researcher used a pilot study, which was aimed at asking question that are relatable. All participants' responses were reviewed and analysed to draw emerging themes from similar responses.

Transferability: The same data collection methods were used on both population (youth and the elderly), despite the differences in technological challenges and experiences.

Dependability: A descriptive detail of the methodological process was provided; in steps and the events they follow.

Confirmability: The researcher took note of all participants' feeling and ensured that there was no biasness in they in which interviews were carried, this includes that environment and the circumstances in which interviewing process took place.

3.13. ETHICAL CONSIDERATIONS

The study followed ethical stages before embarking the process of data collection. The first stage the researcher went through was to present the research proposal to the School of Language and Communication Studies committee, the presentation was held via Google meet due to COVID-19 regulations which did not permit face to face gathering at that time. The presentation was attended by different delegated members of the Committee and the research supervisor. Following the approval, the research proposal was examined by the Higher Degrees Faculty Committee. Before the commencement of the data collection process, the research applied for ethical clearance from the TREC (Turfloop Research Ethics Committee).

3.13.1.   PERMISSION TO CONDUCT THE STUDY

With so many ethical issues around human study, the researcher followed a number of procedures to obtain permission to conduct the study. Firstly, the researcher sought

ethical clearance certificate from TREC. Secondly, the researcher sought permission from the leader/pastor of the church through following the protocol. The church executive committee escalated the matter to the church leader. Lastly, the researcher sought permission from the old age committee who assisted the researcher to identify suitable participants for the study.

3.13.2.   VOLUNTARILY PARTICIPATION

The researcher made it clear to the participants that participation in the study is completely voluntarily, no incentives were to be received as a reward for participation and there were no penalties, if they had decided to withdraw from participating.

3.13.3.   INFORMED CONSENT

The researcher asked the participants for permission to conduct the study. Each individual participant received a letter of permission describing the goal, advantages of participation, and that there were no dangers associated with participating in the study. Informed consent, according to Miller and Boulton (2007), is a notion that aims to capture and explain what is considered to be the right connection between researcher and study participant. Definitions have typically underlined individual autonomy and the right to self-determination.

3.13.4.   ANONYMITY AND CONFIDENTIALITY

In order to do social research ethically, participants must maintain their anonymity and confidentiality (Crow & Wiles, 2008). When asking for their agreement, the participants were informed about the importance of anonymity and given the option to have their identities obscured. Levine (1981) highlights that, unless express agreement has been granted, the information that each participant communicates with the researcher should not be disclosed to others in any way. Participants' names or a history of their replies cannot be connected to any of the responses.

3.13.5.   CONCLUSION

The methodology used in this study enabled the researcher to explore the attitudes of senior citizens towards ICTs in Gauteng, Soweto, especially during the pandemic and how it contributes to the rise of COVID-19 infections among the population. Firstly, the researcher presented the research's approaches and gave detailed discussions of the study. The researcher selected the qualitative approach as applicable to the study and justified their decision for their choice. The researcher outlined the design of the study

in detail, as it was necessary to give account of the methodologies that were used to gather and interpret the data of the study.

CHAPTER 4:
QUALITATIVE DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1. INTRODUCTION

This chapter analysed the data and interpreted the results as well as drawing conclusion derived from 40 participants' qualitative data. Semi-structured interview questions were utilised to obtain data from participants, which was then thematically examined. The themes discussed in this report were formulated through a comprehensive analysis of various factors related to the COVID-19 pandemic. The aim was to understand the impact and response to the pandemic across different demographics and sectors, including participants' age and gender, ethnicity and language, economic demographics, and government and private organisations' health communication efforts. By examining these themes, we hoped to gain insights into how different groups have been affected and to identify potential disparities in the pandemic's impact. This analysis also encompasses the efforts made by governments and private organisations to communicate information and guidelines related to health and safety during the pandemic. The data collected were compiled from various sources, including surveys, interviews, and official reports, to provide a comprehensive and objective overview of the current situation and response to the COVID-19 pandemic. Through this research, we aim to contribute to a better understanding of the pandemic and inform future strategies for minimising its impact and ensuring effective communication.

4.2. PARTICIPANTS' DEMOGRAPHICS

Demographics are critical for researchers to have a comprehensive picture of the community they are studying. Demographics are critical for this study since the researcher has to establish each participant's economic situation to assess cost and accessibility. Furthermore, the researcher's educational background aids in understanding where the challenges encountered by participants arise from, as well as the influence education has on the usability of a technical system.

4.3. AGE AND GENDER

Demographics are critical for researchers to have a comprehensive picture of the community they are studying. Demographics are critical for this study since the

researcher has to establish each participant's economic situation to assess cost and accessibility. Furthermore, the researcher's educational background aids in understanding where the challenges encountered by participants arise from, as well as the influence education has on the usability of a technical system.

Age and Gender categories		
AGE	FEMALES	MALES
60	2	1
62	0	3
63	1	1
64	1	0
65	2	0
66	4	3
67	3	2
71	0	2
74	1	2
74	1	2
77	2	3
79	3	1

Figure 4.2.1.1 Summary table (age and gender)

4.4. ETHNICITY AND LANGUAGE

Participants were also asked to declare their ethnic group, which was classified as African, White, Indian, Coloured, or Other. The participants were all African. The table below shows the many languages spoken by participants, as well as the number of

participants who speak each language. It is important note that some participants were multilingual, meaning they spoke more than one language.

Language spoken	Number of participants
IsiZulu	13
Xitsonga	7
Sesotho	16
Northern-Sotho	4
Tshivenḓa	5

Figure 4.2.1.2 Summary table (Spoken Languages)

4.5.   ECONOMIC DEMOGRAPHICS

Economic demographics were valuable context for understanding the broader social and economic factors that contribute to the digital divide among senior citizens. Analysing economic demographics in relation to health communication and the digital divide provided crucial insights into the specific needs and challenges faced by senior citizens in Soweto during the COVID-19 pandemic. This information helped inform policies and interventions to ensure equitable access to health information and support for this vulnerable population.

Economic demographics	
Level of education	Participants were also asked to identify their level of education since, as stated in Chapter 2, age and race affect people's level of education, according to Shah, Sachdeva, and Dodiuk-Gad (2020). Four of the participants had never attended school. 11 had completed primary school, 9 had completed high

	school, 5 had completed matriculation, 4 had received higher certificates, 3 had obtained diplomas, and 1 had obtained a bachelor's degree. 1 received a PhD
Occupation	Most participants indicated they are not employed, who had an occupation were self-employed.
Income	The majority of the participants are dependent on the SASSA grant. Only a few of the interviewed participants have other sources of income such as retirement funds. This played a huge role in the affordably of access.

Figure 4.2.1.3 Summary table (Economic demographics)

4.6. GOVERNMENT AND PRIVATE ORGANISATIONS HEALTH COMMUNICATION EFFORTS DURING THE COVID-19 PANDEMIC

During the COVID-19 epidemic, the government was in charge of arming residents with knowledge that allowed them to assume individual responsibility in the battle against the virus. GCIS established a specialised WhatsApp information service and a 24-hour Coronavirus helpline at this period. Many South Africans searching for information on the virus in government assistance used the sacoronavirus.co.za and www.gov.za websites as their first line of inquiry. According to the South African government, the department's social media outlets were used to spread government messaging. "[They] played a role in disseminating information and allowing for public engagement to address questions and concerns" [and] public service announcements were also included in the communication strategy. As mentioned in the literature review that government officials, including presidents and health ministers, should provide

information on the number of cases and keep the public informed about the infection and its control, presenting facts and effective measures, and engaging the public through social media (The United Nations, 2020) "We worked closely with the broadcasters and used television," she explained. While social media has been beneficial in terms of information distribution, it has also proven to be a breeding ground for the propagation of lies and disinformation (South African government, 2021).

Private enterprises were eager to collaborate with the government and the Department of Health to give verifiable and trustworthy information to aid in the control of COVID-19. The COVID-19 epidemic has compelled businesses to adapt to the danger and innovate in corporate governance. One of the most often used ways by all firms to lower the danger of disease was social distance, but in order to avoid human connection, corporations had to change their communication tactics. Innovative communication tactics used by businesses to transmit COVID-19 messages. Most employees were obliged to work from home or from network service providers at severe lockdown levels.

The government ensured that we are exposed to the COVID-19 regulations wherever we would find ourselves. The information was accessible everywhere to remind us of how we ought to behave during the pandemic. There were social distancing stickers on the floor, for us to keep a safe following distance. Although people did not follow the instruction despite all the communication efforts made. I mean no one can say they didn't know what to do to keep safe during the pandemic. It was shown on our Television, at the malls, even public transports, all the information was there. To supplement these, there were people working with the government to conduct people. Black people do not listen, and they are lazy to read anything, most of them will only listen if they get beaten up. I believe that is the main reason why there were soldiers deployed by the government to ensure Full Corporation from the citizens. I don't think the government would have the government would just deploy members of the Army after educating people so much on the virus. Everyone knew that there is COVID-19, the disease is dangerous, and it kills. But what shall we say.

Respondent 8, Male, 62

The findings suggest a perspective on the government's efforts to communicate and enforce COVID-19 regulations, as well as observations on public compliance and behaviour.

Firstly, Government Communication Efforts: The participant acknowledges that the government made significant efforts to ensure that COVID-19 regulations were widely communicated and accessible to the public. This included various channels such as television, malls, and public transport, indicating a comprehensive approach to dissemination. Health communication messages were made available to everybody. This finding reported is similar to Lubinga and Sitto (2022), who say that the function of health communication in a pandemic disaster is critical because it leads to the propagation of communal perceptions of the crisis that drive community responses. Furthermore, the presence of visual cues for safety. The mention of social distancing stickers on the floor indicates that visual cues were provided to remind individuals to maintain a safe distance from others. This suggests an attempt to facilitate compliance with safety measures in public spaces.

Despite the widespread communication efforts, the findings note that some individuals did not follow the instructions outlined in the regulations. This indicates a perceived lack of adherence to safety protocols despite the availability of information. There's a viewpoint expressed regarding public behaviour, specifically towards Black individuals. The statement suggests a belief that some people may not take COVID-19 regulations seriously and may only respond to enforcement measures, such as being beaten. Furthermore, despite the efforts in communication, there's a sense of scepticism or questioning regarding the government's decision to deploy soldiers. The statement suggests that the severity of the measures might not have been expected after extensive education on the virus.

Finally, there's a recognition of the seriousness of COVID-19 as a dangerous disease that poses a significant threat to public health and safety. Overall, the findings reflect a perspective on the government's communication and enforcement efforts during the COVID-19 pandemic, as well as observations on public compliance and perceptions of behaviour, particularly within the Black community. There's also a sense of uncertainty or concern regarding the effectiveness of these measures despite widespread education on the virus.

I don't see what the government did to help us stay safe. If they really did their job, why then did we bury millions of people. They say we must not do this, before you know they have changed. The government is behind all of this. People wear facial masks, but they still die, they sanitize, they even lock themselves up, but they continue to die like flies. So, tell me then, what is the government doing? Our government has done nothing, there no government, all they know is to spend that state funds while we suffer and bring us diseases from abroad. There is no mistake in what is going on in our country, the government knows everything.

Interviewer: But do think they did enough in terms of telling what do, in order to stay safe during that pandemic. Do you know the rules, one has to keep avoiding getting infected?

Respondent 24: Yes of course, they told us what to do. I know I must stay at home and wear a mask whenever I go out.

Respondent 24, Female

The findings from Respondent 24 highlight several important points regarding the government's response to the COVID-19 pandemic:

Acknowledgment of Government Communication Efforts: Respondent 24 acknowledges that the government made efforts to communicate health information to the public. This suggests an awareness of the various communication channels and materials utilized by the government to disseminate information about COVID-19. Despite the government's communication efforts, Respondent 24 contends that it fell short in ensuring citizen safety. This implies a perceived disconnect between the government's actions and the actual protection of citizens from the virus.

The respondent argues that the imposed restrictions were ineffective in protecting civilians. This suggests a belief that the measures implemented by the government,

such as lockdowns or social distancing regulations, did not adequately mitigate the spread of COVID-19 or prevent harm to the population.

Citing the global death toll, the respondent provides external evidence to support the assertion that the government's response was inadequate. This indicates a broader perspective on the severity of the pandemic and its impact on a global scale. Furthermore, lack of trust in the government exacerbates the perception of its ineffectiveness in responding to the pandemic. This distrust may stem from various factors, such as perceived incompetence, lack of transparency, or previous experiences with governmental actions. A study conducted by Visagie, and Turok (2021) found that despite some protection provided by the expansion of government cash handouts, evidence shows that South Africa's rural communities have faced a greater impact from the economic downturn.

Overall, these findings underscore the complexity of public perceptions regarding the government's role in addressing the COVID-19 pandemic. While efforts were made to communicate health information, there is criticism regarding the effectiveness of the government's response and a lack of trust in its actions.

4.7. PERCEIVED CAUSES

This chapter explicitly discusses (1) the perceived reasons of COVID-19 and (2) the research respondents' perceptions of COVID-19 compliance. In contrast to the second data chapter, which explores perceived reasons of the digital divide, accessibility, and perceptions surrounding ICT usage and the TAM method addresses, and perceived uses of ICTs by senior adults, the themes provide an overview of the study topic. The first question in this chapter inquiries about the information participants have regarding COVId-19 received from the use of their phones.

The second theme examines research participants' perceptions towards the actions taken by the government of the Republic of South Africa in contributing to the reduction of COVID-19 fatalities. The third subject is a discussion of COVID-19 compliance, which highlights the population's understanding of rules and their levels of compliance among the elderly. The topics connected to Lockdown and views of COVID-19 compliance include a discussion, comparison, and contrast of informants'

perspectives towards conventional and digital media in relation to COVID-19 regulatory compliance. Following that is a discussion of the influence of COVID-19 as described by informants.

The chapter included an examination of perceived causes of COVID-19 as expressed by informants. This will lay the foundation for further analysis of the thesis, followed by an examination of perceptions regarding COVID-19 regulations compliance. In other words, I am asking informants about the daily beliefs surrounding compliance.

4.8.   PERCEIVED CAUSES OF COVID-19

This section explored the central understanding of research informants with regard to the causes of COVID-19. This section on beliefs related to causation also includes the notion of 'honour', it is argued that the notion of honour as a cultural is an indicator of cultural beliefs expressed through gathering in large numbers for funerals to pay respect to the deceased and giving them a dignified send-off. It is viewed as "perceived causes' since some cultural and religious practices may have an effect on beliefs responsible for the proliferation of COVID-19. The primary conclusion from the first portion was that study informants had differing opinions about the suspension of customary rights to cultural dignity and violations of rules as a danger to the right to life. However, the informants agreed that COVID-19 is created by the virus as a result of non-compliance with the COVID-19 laws.

 Funerals have grown into a significant institution in many countries, serving numerous functions. Funerals allow families and communities to respect the deceased while also comforting the bereaved (Case, Garrib, Menendez & Olgiati, 2013).

4.9.   COVID-19: SOCIAL GATHERINGS, SOCIAL DISTANCING, AND THE IMPACT OF LOCKDOWN

Potelwa (2016, 5-6) characterises the mainstream South African notion of tradition in regard to the term 'ubuntu' as follows: The South African (Zulu) phrase refers to humanity, but it also refers to the expression of compassion, justice, reciprocity, dignity, harmony, and humanity in the purpose of constructing, sustaining, and developing the community. When Western ideology and culture are pounded into the African kid at the expense of African values and culture, it ensures the death of "Africanness" and the implantation of "Westernness" (Gumbo, 2014).

Polelwa proposed that family and community collaboration were always important parts of dealing with death in the spirit of Ubuntu (humanity), where *umntu ngumntu ngabantu* (a person is a person by the people around him). He argues that death prompted a spirit of collaboration and caring in the rural sections of the old Transkei where he grew up, as in the word *ndwandwe*, which he states refers to a type of cooperation among women in a neighbourhood where they gather together to support one another. He compares it to the practise of ilima, in which men, women, and children work together to weed or harvest the land (Potelwa, 2016:6).

He contends that the region's initial burial societies were an extension of this mentality, but also linked individuals from the same rural communities across town and country. Potelwa recounts how, just after South Africa's democratic transition, this spirit of collaboration was aroused when his father died. He recalls the ritual's humility and the lengthy time of sorrow. On the contrary, the Department of Health's lockdown regulations proposed that a maximum of 50 persons be permitted per burial, strictly direct family members, and that any cultural or religious events be held for a restricted length of time (Jaja, Anyanwu & Jaja, 2020).

Furthermore, the government proposed that South Africans temporarily forego some of their human rights as an act of Ubuntu in the battle against COVID-19. This entails engaging in different pro-social health-protection practises as well as restricting some freedoms like as the ability to move and gather (Bohler-Muller, et al. 2021). This section investigates study informants' perspectives, understanding, and comments on the apparent causes of COVID-19. When asked about the apparent causes of COVID-19, it was described as the major spread of COVID-19. It was obvious that older folks believed the ailment was caused by a virus rather than other plausible explanations. Physical health (poor immune systems) and compliance were identified as two significant role factors.

> *When you talk about the causes of COVID-19 and why its increasing so fast. You talk about whether if people are able to follow the rules and regulations that have been into place. If we all listened to the government and what they say we must do in order for us to be safe we would not be where we are today, from the first person who was diagnosed.*

> *Many of us get sick as we grow older. We start to develop many health complications from nowhere, which is the reason why it is us the elderly who are dying in large numbers. It's so painful because our kids do not listen when you tell them to stay at home because they are putting all of us at risk. I lost a friend of mine due to the disease. She had nowhere to go, she followed everything that the government said we must do, but her grandchildren did not listen. They went out, came back with the disease, and costed us a life.*

Despite not being exposed to a variety of information sources. Senior individuals provided a detailed description of the condition and its aetiology. They explained the risks of not following the norms and laws. Informants clearly explained the value of practise over knowledge. However, the two parts must coexist; individuals must simply know the rules and be up to speed on the virus, but not put the information to good use. Despite all the knowledge of COVID-19 regulations and the knowledge of the perceived causes of COVID-19, it is quite clear that there was unwillingness from some of the informants to subscribe to the preventive measures for the perceived causes of the virus. Some of the informants regarded preventive measures as a punishment and as a violation of their human rights. A similar argument was asserted by Sing, and Tembo (2022) who found that the measures adopted by the South African government were in some respects disproportional and violated the constitutional and human rights principles.

According Helfer (2021), although a declaration of a national state of disaster allows for the limiting of rights subject to the limitation clause in Section 36 of the Constitution, the question is whether these rights are nonetheless given effect during a national state of disaster, even if they are partially limited. Section 21 of the Constitution provides the right to free movement and residence, which has been severely restricted owing to rigorous lockdown laws such as physical proximity avoidance and local and foreign travel prohibitions. For most people, especially the poor and vulnerable, the limitation of this constitutional human right directly affects their employment and

livelihood with some expressing that they would rather die of COVID-19 than of hunger.

These findings are consistent with those of Heid, Cartwright, et al., (2021) who found that older adults (91%) reported that the COVID-19 pandemic has presented significant challenges. Their findings suggests that older people report difficulties across eight domains: *Social Relationships, Activity Restrictions, Psychological, Health, Financial, Global Environment, Death*, and *Home Care*. The analyses below are based on data from 1,272 people who completed the questionnaire between May 4 and May 17, 2020.

Key role players

> *We understand that covid-19 is dangerous, but the lockdown regulations were too hard on some of us because we lost contact with our relatives. They can't lock us up as if we are animals, we are human beings, we have relatives and friends we need to talk to. But we can't do all of that because they are restricting our movements, and getting soldiers to beat people up, it's as if President Nelson Mandela fought for nothing. To me this took me back to the apartheid regimen where we had no rights, the only difference is that it is the very same black people who are acting like "boeres".*

The findings suggest a sentiment of frustration and disillusionment with the lockdown regulations implemented due to COVID-19. Recognition of COVID-19's Severity: The statement acknowledges the seriousness of COVID-19 as a threat to public health. It shows an understanding of the need for precautions and regulations to combat the spread of the virus. While acknowledging the necessity of lockdown measures, the findings highlight the negative impact these regulations have had on individuals, particularly in terms of losing contact with relatives. This loss of social connection is seen as a significant hardship. Similarly, Cosco, (et al., 2021) asserts that older persons suffered the highest rates of social isolation and loneliness, excluding the COVID-19 epidemic). Additionally, Abid & Javaid, 2020). the restrictions imposed to maintain social distancing further isolated this population, exacerbating feelings of loneliness and social isolation. While social technology platforms could potentially

facilitate critical social interactions during times of social distancing, many older individuals lack the necessary technological access, experience, and skills.

There's a strong assertion of human dignity and the rights of individuals. The statement argues against being treated like animals and emphasizes the need for human connection with friends and family, suggesting that this should not be restricted. The mention of soldiers beating people up suggests a perception of excessive enforcement of lockdown measures. This is viewed as unjust and exacerbating the difficulties faced by individuals during the lockdown. Drawing a parallel to the apartheid era, the findings express a sense of historical injustice and deprivation of rights. The comparison implies that the current situation feels reminiscent of a time when basic rights were denied, despite the sacrifices made during the struggle against apartheid. The reference to President Nelson Mandela and the suggestion that his efforts may have been in vain indicates a disillusionment with current leadership and governance. There's a feeling that the ideals of freedom and equality for which Mandela fought are not being upheld.

Lastly, there's a critique of the perceived hypocrisy of fellow black individuals enforcing strict measures akin to the actions of the oppressive "boeres" during apartheid. This suggests a betrayal of shared identity and a sense of frustration with the lack of solidarity within the community. Overall, the findings reflect a complex mix of emotions, including frustration, disillusionment, and a sense of injustice, stemming from the perceived disproportionate impact of lockdown regulations on social freedoms and the historical context of oppression.

4.10. PERCEIVED CHALLENGES DURING THE COVID-19 PANDEMIC

This section aims to demonstrate how the government was positioned during the pandemic, as well as the role it played in ensuring that the country functions and that citizens are safe from the disease. The government of South Africa, like any other country, played a role in ensuring the well-being of all citizens.

4.11. PERCEIVED COVID-19 COMPLIANCE CHALLENGES

This section discusses what by senior citizens perceived challenging in relations to compliance during the COVID-19 pandemic. and how they each subscribed to the COVID-19 regulations. It further discussed participants' beliefs regarding the effectiveness of the regulations in curbing the spread of the virus. By examining the link between compliance and beliefs, this section will argue how beliefs influence decisions to comply or violate regulations. The section argues that beliefs should not be treated separately from any other factors that causes people to comply and engage in certain behaviours. The purpose of this would be for the creation of law-abiding environment for the elderly.

Example 1. Key role players

> *Everything in this life is solely based on someone's faith. That is why a lot of people who stayed home and complied, still did not make it out of the lockdown alive. If you believe you will live, you will leave, but if you believe you will die you will die. So, everyone must just press harder on what they believe in, so that they are protected. I don't think a person can protect themselves out of their own abilities, they must subscribe to certain beliefs, and their Gods.*

The first example comes from a deacon who has served in the church for over 30 years. He explains the disease's ferocity and how it has taken the lives of good people. The informant demonstrates how compliance does not always protect and work His answer demonstrates that he is lobbying for the church and the religious system. The response also demonstrates that most individuals do not consider compliance to be vital, as well as the reasons why most residents violate the COVID-19 requirements. This begs the question of whether or not this informant subscribes to or complies with the COVID-19 requirements. If the church elders are not in an adequate position to comply with the regulations, the gospel or the message that is being preached to the congregation must be questioned or assessed.

The government needs examine the messages preached in churches, in order to find the drivers of non-compliance amongst this population. The government has a role to play to find institutions opposing their vision or their efforts to curb the spread of the

virus. From the second example the women show how compliance is not always effective, however the informant does not entirely tarnish down the efforts made by government to curb the spread. From her response, the participant shows the faith the faith she possesses when it comes to her religion, but at the same time the informant has nothing negative to say about compliance. The informant believes in prayer for protection and that it can be used by as supplement not a substitution to compliance.

Responses from most informants suggested that they did not believe in using compliance as a tool for protection. The response therefore prompted the researcher to ask to follow up questions about what they did during the pandemic and how they each practised compliance   to assess their level of compliance to the regulations. These were the responses:

Key role players:

I stayed indoors for the first two months of the pandemic, but I realised that, it is of no use as life is moving and everyone is looking up to me to provide them with a meal. From the third month I find work. I do piece jobs because my children are all unemployed, my wife recently died. Do you expect me to sit down and wait for the government to come to my rescue? No, I have to make means to so that I provide for my family. The government can never be able to feed each one of us because we are a lot. I have complied, stayed home, where I could but I can't stay home forever, I need to go out there with other man.

From the above response, the participant shows that they had willingness to comply to the regulation, but due the prolonged period of the pandemic they somehow could not continue to fully comply. Participants indicted that they did comply at the beginning of the pandemic but along the way there are circumstances which forced them to stop complying. One informant indicated how the wearing of mask became uncomfortable for them and that they were forced to sometimes take if off because they would run of breath. According to Head (2022) the challenge of COVID-19 is a wicked problem and due to the nature of the challenge, the challenge requires that institutions come with complex solutions.

This finding was unexpected and suggests that senior citizens found it challenging to comply with the covid-19 regulations, despite their knowledge and awareness of the COVID-19 regulations. These findings are inconstant and opposes the finding that the Department of Health ensured that all facilities were provided with personal protective equipment and are monitored for compliance with all the precautionary measures to contain the further spread of the virus (Department of Social Development, 2020).

4.12. LEVEL OF DIGITAL DIVIDE, ACCESSIBILITY, `AND PERCEPTIONS REGARDING ICT USE

This chapter examined the role of accessibility, affordability and literate relations and the way they impact on ICT use in the context being researched. Literacy was the key theme that frequently emerged in all the interviews and the data presented here that shows any approach that aims to address the digital gap, as well as other causes of digital divide, must consider this aspect. The second key theme that emerged was the attitude of ignorance that showed that most participants were unwilling to learn and have already ruled themselves out. This is supported by studies, such as Neves, Amaro, et al., (2013), examined in the literature review.

The chapter also examined the participants' demographics, based on the interviews. The researcher discussed literacy and attitudes of participants together, in this chapter, because both themes take into considerations of digital divide, its manifestation thereof and current efforts to address it. This chapter discusses the perceived causes of digital divide, accessibility, and perceptions regarding ICT use. It was found that lack of knowledge also plays a significant role when it comes to perceived attitudes. The following issues in relation to attitudes are discussed: ignorance, ICT adoption, and lastly lack of knowledge.

4.12.1. PREVALENCE OF ICT USE

This section investigated the prevalence of ICT use in the setting under investigation. The majority of the significant participants centred on the problem of reliance. Some participants utilise ICT, with the sole distinction being that it is obtained through third parties. An examination of participant's' use of ICTs revealed the following DDT and the TAM as per conceptual framework (perceived Ease of Use and Information Accessibility) shows that there are a lot of challenges faced by senior citizens when it

comes to ease in the use of technology. Furthermore, access to ICTs was impacted by the inability to make use of ICTs on their individual or personal capacity.

Key role players

My son is very much familiar with these things. Whenever I hear something from my friends, I just tell him to come search it for me. During we were updated about all the new updates. Even with my grant he is the one who showed me how I could see my balance without even traveling to the bank. I mean that was not usual during our times. I mean talking someone while you can see them on your phone.

4.12.3. Perceived Causes Digital Divide

This section examines the drivers of digital divide among. There are distinct factors drive digital divide. There are three themes that emerged from the interviews, affordability, accessibility, and illiteracy. Amongst the themes illiteracy kept on emerging more than the other themes.

- Affordability

This section investigates the accessibility of Information and Communication Technologies (ICTs) within this specific demographic. The analysis includes an examination of participants' income demographics to gauge affordability levels for accessing necessary information. Based on the responses collected, a majority of participants reported full reliance on social grants, which often fell short in covering their expenses. This widespread reliance on social grants indicates a prevalent lack of affordability within this group. According to the department of Social Department (2020), with regard to income support, the South African Social Security Agency (SASSA) currently pays old age grant to over 3 million persons aged 60 years and above on a monthly basis. The recipients of old age grant received a top-up of R250 as part of government's socio-economic measures to mitigate the impact of COVID-19 on the poor and most vulnerable. However, it's noteworthy that despite relying solely on social grants, some participants received additional support from their children, effectively covering all their expenses. This suggests that, technically, they had surplus funds available and were in a position to afford purchasing smartphones.

Asia and the Pacific (2019), DDT is used to identity and assess the gap in ICT access. Divide is assessed in three levels (1): Economic divide, which refers to the gap in affordability. South Africa continues to be the most unequal nation in the world as a result of its history of racial segregation (Stiegler & Bouchard, 2020).The findings are also similar to Khilnani, Schulz and Robinson (2020) who suggest that differentiated usage is consistent with broader patterns relating to digital inequality when it comes to age and socio-economic position, as well as many types of digital disadvantages ranging from accessibility to devices and network to the skills to utilise them efficiently for maximum benefit. On the contrary, Van Jaarsveld (2020) says that the ability to access ICTs or cost and affordability plays a small role on reasons why older individuals lack usage or attempts to familiarise themselves with new ICTs.

Key role players

> *Things are expensive these days. You just have to be grateful, if you can be able to afford the basic needs. Smartphones are luxuries and you can only own them if you don't have anything else to do with your money. You can never get to the end of these things because they are always coming up with new things every day. I also don't see the need to buy it, if I can do whatever want with this small. There is person who own that kind of phone and me are the same because we are both able to make calls.*
>
> *Interviewer: If you could afford to buy a smartphone, would you buy?*
>
> *Yes, only if I could use it because I'm not much good when it comes to these things of technologies. So, I don't know whether I would or not.*

Based on the demographic data outlined earlier in this chapter, a primary concern within this population is the issue of affordability. The income levels reported are relatively modest, averaging around R25,000 annually. However, it's important to note that this income is not solely attributed to individuals, as many respondents mentioned having dependents. According to the Organisation for Economic Cooperation and Development (1999), household or individual income is a critical determinant of the

presence of personal computers (PCs) and the extent of internet connectivity within households. Particularly in the early stages of technology adoption, income distribution plays a pivotal role, with higher income brackets typically gaining access to information and communication technologies (ICTs) first, thus driving initial uptake rates.

- Illiteracy

The findings from this study shed light on the relationship between individuals' proficiency in Information and Communication Technologies (ICTs), their literacy levels, and educational backgrounds.

The study found that participants expressed a lack of confidence in independently using ICTs, which led to an investigation into their proficiency in this area. This indicates that perceived self-efficacy plays a significant role in individuals' engagement with technology. A noteworthy observation was that a majority of interviewees associated their lack of smartphone ownership with their educational level. This suggests that educational attainment may influence access to and adoption of modern technologies like smartphones. Higher levels of education were found to be correlated with increased access to and utilization of ICTs both at home and in the workplace. This highlights the role of education as a determinant of ICT proficiency and usage patterns.

The study integrated variables from the Digital Divide Theory and the Technology Acceptance Model, emphasizing the importance of education or literacy in facilitating access to and usage of ICTs. These frameworks help contextualize the findings within broader theoretical perspectives. Importance of Education in Perceived Ease of Use and Perceived Usefulness: The findings suggest that education enables individuals to feel more comfortable using ICTs (perceived ease of use) and to better understand the benefits of these tools (perceived usefulness). This highlights the role of education in shaping perceptions and attitudes toward technology. The study found that individuals' attitudes toward ICTs were closely tied to their knowledge levels. This indicates that education influences not only actual usage but also the willingness to engage with and accept technology innovations. Organisation for Economic Cooperation and Development, 1999, found that Individuals are more likely to have access to and utilise ICTs in both the home and the workplace if they have a higher level of education.

The study highlighted the importance of individuals who lacked cell phones and relied on others for smartphone usage. This subgroup represents a particularly vulnerable population in terms of ICT access and underscores the need for targeted interventions to bridge the digital divide. In summary, these findings underscore the multifaceted relationship between education, literacy, and ICT proficiency, highlighting the role of education in shaping individuals' access to, attitudes toward, and utilization of technology. They also emphasize the importance of addressing socioeconomic disparities to ensure equitable access to ICTs for all members of society.

Key role players

> *I wish I could use the smartphone for myself, but I can't use it because I am not educated at all. Smartphones requires you to have a fresh mind and be intelligent like the kids of nowadays, they know so much than we knew at our times. These days when a child is born, they already own a smartphone before they could even see people, so how do you expect them to not know everything. For us, when we were growing only person in the whole village had a cell phone, and just a cell phone for making calls, not these new cell phones that are used to view inappropriate things.*

4.12.4 ATTITUDE TOWARDS ICT USE AND ADOPTION

This section findings   on attitudes of elderly persons towards internet use. It included a thorough overview of this population's opinions towards smartphone ownership and adjusting to ICT., On the question of ICT adoption this study found that many older people have negative impressions about smartphone use, which may be one of the primary reasons why many of them do not own them.

The responses generated from the participants indicated that they had negative attitudes towards the use digital ICTs and that they were not willing to learn about the use of technology. Their attitudes further indicated how this population is not willing to catch up with the current trends and status due to the rating they have given

themselves. When respondents were asked on their willingness to be familiar with the technologies these are the responses they had to give.

Key role players

> *For me, whether I become able to use a phone or not, I don't see any difference because it's not like there are things, I can't do due the inability to use a phone. We have been living in this world for the longest time and never in a single day have we struggled before we don't have phones. If it was that, most of us would be dead by now, but here we are because those things are not important. I don't see any problem with the way in which my life is, I think I'm good with the way I am. These phones are the very same reasons why our society is messed up. Our kids do not even listen because they value the information, they get from their phones more than what we must advise them as parents. They want to practise everything they see on their phones because that's they are exposed to.*

The respondent's reply indicates a lack of interest in this situation. The respondent demonstrates a pessimistic view of ICTs and a negative attitude towards the use of smartphones and their impact on the new generation. The turmoil in the world is believed to be mostly driven by the information that the younger generation is exposed to, leading them to feel angry towards the elderly. This highlights the impact of ICT influence. These findings suggest that despite technical advancements aimed at protecting everyone and people from disease transmission, the gap will persist due to prevailing mindsets.

The findings about attitudes suggest that senior citizens had negative attitudes towards which is one of the contributing reasons towards the low adoption of ICT. These findings a supported by the TAM theory used in the study which suggests that attitude plays an important role in one's decision to use new technologies. Studies found that senior citizens found it difficult to cope with the rapid change in ICT use during the pandemic.

The study's findings emphasize a multi-faceted issue with regards to Information and Communication Technology (ICT) adoption among seniors. These facets include the psychological aspects of acceptance, practical skill levels, and societal infrastructure.

Negative attitudes towards technology can stem from the fear of the unknown and a self-perception that learning new technologies is beyond one's capabilities, particularly if seniors perceive technology as something designed for younger generations. Seniors might also believe that there's a high risk of making errors, which can be discouraging. This finding is consistent with (Hedman, Nygård, Almkvist, & Kottorp, 2015, Blok, van Ingen, de Boer, & Slootman, M., 2020) the limited technology use among this population as a result of their decline. Furthermore, deficiencies in knowledge, declining cognitive condition, lacking communication competences, and motoric decline decreased perceived ease of using ICTs for this group.

Based on the findings, in relations to perceived ease of use digital illiteracy is indeed a significant barrier. Many seniors have not had the opportunity to learn or be trained in the digital skills that are now considered essential for using most ICT tools. This gap can leave them feeling alienated and resistive towards adopting new technologies. Lack of interest could be linked to a lack of perceived relevance; if the senior demographic does not see a clear benefit or enhancement to their life from using ICT, they will not be motivated to engage with it. Here, the benefits of technology might not be effectively communicated to them, or the technologies provided might not be aligned with their interests or needs. The Technology Acceptance Model (TAM) provides insights into how technological adoption decisions are made. For seniors, if technology is not perceived as useful or easy to use, their willingness to adopt it will be low.

A key strategy based on TAM would be not only to educate but also to adapt technologies to make them more user-friendly and directly related to the seniors' daily activities and interests. The Digital Divide theory mentions the existence of a gap between different demographics' access to and usage of technology. It's important to note that the digital divide is not just one of ability or literacy but also of access. Many seniors may live in environments with poor digital infrastructure or not have the financial means to afford modern ICT tools.

The conclusion drawn from the study points towards a need for a multi-pronged approach to encourage ICT adoption among seniors. This would include tailored education to improve digital literacy, designing more intuitive technologies that are - senior-friendly, demonstrating the practical benefits and enjoyment that can be derived from technology use, and addressing the societal issues of access and affordability. Overall, effectively bridging the digital divide for seniors requires consideration of their unique needs and challenges, and a concerted effort by technology developers, policymakers, and community leaders to ensure that technology serves as an enabler rather than a barrier to their participation in the digital world.

CHAPTER: 5
SUMMARY OF FINDINGS

5.1.   INTRODUCTION

This section of the study is a thorough review of the study, this reflects on all the steps and processes that were followed to complete this study. This includes research findings, conclusions, limitations, and recommendations emanating from the collected data and the literature reviews analysed in all the relevant chapters. The researcher has identified findings for this study, this discussion will follow research implications concerning digital divide among the elderly population. Here, the researcher further discusses how ICT adopting could be useful in restraining unnecessary movements during the pandemic to avoid congestions and law-breaking where necessary. The researcher further elaborates the impact of internet use and digital communication among the elderly citizens in Soweto.

5.2.   SUMMARY OF THE FINDINGS

The study focus was on the investigation of health communication and digital divide amongst senior citizens in Soweto, Gauteng Province during the COVID-19 pandemic. To answer the research questions or find answers to research problem, the initial step was to set feasible objectives of the study. These objectives were pointers and guided all the processes which were followed in data collection and what led to the findings in this study.

5.3.   EXAMINE THE LEVEL OF ICT ACCESS AMONGST SENIOR CITIZENS.

The primary goal of the study was to examine the level of ICT access among senior citizens. This was cantered around finding the potential of digital and lack of health information access in accelerating COVID-19 infections among citizens. This involved conducting semi-structured interviews, and which were formulated in relation to the level of ICT access. Firstly, despite the availability and improvement of technological infrastructure in the region, there is a low level of ICT access among senior citizens. This indicates that many older individuals in Gauteng face barriers in accessing and utilizing digital technologies. Similarly

The study identified various factors that contribute to this low level of access. Affordability was found to be a significant barrier, as many senior citizens may not have the financial means to purchase or maintain ICT devices and internet connections. Additionally, income levels and educational background were also found to impact ICT access, with those who have lower incomes and less education facing greater challenges in accessing and using digital technologies. Similar findings on the studies carried out in the same region by Nyashanu, Simbanegavi and Gibson (2020) investigated the impact of COVID-19 in Gauteng discovered that participants were affected by a lack of space to practice social distancing, overburdened infrastructure, a lack of savings, a loss of income and a lack of food, hunger and diseases, anxiety and depression, and a lack of access to education during the research. Similar findings were revealed by Kim, Burgess, Chiwandire, Kwinda, Tsai, Norris, and Mendenhall (2021), in Soweto, Gauteng, who found that worse depressive symptoms, lower perceived infection risk and greater concern about COVID-19 were correlated with higher COVID-19 prevention knowledge as well as low income.

Furthermore, the study revealed that the COVID-19 pandemic had a significant impact on the financial position of senior citizens, with major job losses leading to further difficulties in affording ICT devices and services. Despite these challenges, the study found that access to health communication was not a problem for senior citizens, as complex communication channels were put in place to ensure the availability of health information.

5.4. INVESTIGATE TECHNOLOGICAL CHALLENGES AMONGST SENIOR CITIZENS DURING THE PANDEMIC

The findings indicate that there is a significant variation in the level of ICT access among this demographic. While some senior citizens have access to smartphones, laptops, and internet connectivity, a considerable portion faces challenges in accessing and utilizing these technologies.

One of the major challenges faced by senior citizens during the digital era is the digital divide. This finding is similar to oyedemi (2012), who argues that the digital divide and its impact on health communication is a complex and crucial issue that hinders the

progress of society in many aspects. This refers to the gap between individuals who have access to and can effectively use ICT tools and those who do not. The study reveals that many senior citizens struggle due to the lack of access to technology, limited internet connectivity, and inadequate digital skills. These factors hinder their ability to fully engage with ICT and benefit from its potential.

Another challenge highlighted in the study is the increased social isolation experienced by senior citizens during the pandemic. As various activities shifted online, those without ICT access or skills found it difficult to stay connected with their loved ones, community, and support networks. This exacerbates feelings of loneliness and isolation among this demographic. The challenge is similar to the argument made by Cosco, Fortuna, Wister, Riadi, Wagner and Sixsmith, (2021) who claims that overall, older persons suffered the highest rates of social isolation and loneliness, excluding the COVID-19 epidemic.

Furthermore, senior citizens faced challenges in accessing accurate and timely health information related to COVID-19. The study reveals that those without ICT access struggled to stay updated on the latest guidelines, safety measures, and vaccination information. This lack of access to reliable health information may have significant implications for their well-being and ability to make informed decisions regarding their health.

5.5.   DETERMINE ATTITUDES AND BEHAVIOURAL INTENTIONS OF SENIOR CITIZENS TOWARDS ICT USE.

The study's final purpose was to identify elderly adults' attitudes and behavioural intentions towards technology.

1. Digital Divide Theory:

The study highlights a potential digital divide among senior citizens in Gauteng. The negative attitudes expressed towards ICT use, specifically blaming it for bad conduct among young people and a perceived lack of morals, suggest a gap in understanding and perception of technology. This divide may be influenced by factors such as limited access to resources, lack of digital skills, and cultural beliefs. To address this divide,

it is important to provide access to ICT resources, promote digital literacy programs, and address cultural concerns through education and awareness initiatives.

2. Technology Acceptance Model (TAM):

The study also indicates that some senior citizens recognize the benefits of ICTs, especially during the COVID-19 pandemic. The positive perception of ICTs in terms of communication and adherence to COVID-19 standards highlights the perceived usefulness of technology. According to and Steinhüser (2013), a central element of TAM is the user's attitude towards using a technology. To enhance attitudes and behavioural intentions towards ICT use, it is crucial to emphasize the ease of use, relevance, and personal benefits of technology. Providing training and support tailored to the specific needs and concerns of senior citizens can help increase their acceptance and adoption of ICTs.

By incorporating the Digital Divide Theory and TAM, we can gain insights into the attitudes and behavioural intentions of senior citizens towards ICT use in Gauteng, South Africa. This analysis can guide efforts to bridge the digital divide by addressing access, skills, and cultural factors, while promoting the perceived usefulness and ease of use of ICTs among the elderly population.

CHAPTER 6:
CONCLUSION

6.1. INTRODUCTION

The conclusion made from this study suggests that that there is high prevalence of digital divide among senior citizens and that the COVID-19 pandemic might not have had enough impact to be able to bridge the existing gap. The study further concluded that digital technologies were essential in assisting to curb the spread of the COVID-19 infections, and if they were used strategically, they could have prevented most of the infections. Ultimately, the research study offers significant observations on the extent of ICT accessibility among elderly individuals in South Africa throughout the COVID-19 pandemic. The findings emphasise the difficulties encountered by this particular group, including the disparity in digital resources, lack of social interaction, and restricted availability of health-related knowledge. However, a significant number of elderly individuals exhibit favourable dispositions towards the utilisation of information and communication technology (ICT) and a readiness to acquire new knowledge. These findings emphasise the need of addressing the distinct requirements and worries of elderly individuals in order to close the gap in digital access and encourage the widespread adoption of inclusive information and communication technology The study therefore concluded that digital divide has played a significant role in accelerating the rate of COVID-19 infections amongst senior citizens in Soweto, Gauteng Province.

6.2. IMPLICATIONS FOR FUTURE RESEARCH AND INTERVENTIONS

Gaining insight into the usability obstacles encountered by elderly individuals within the COVID-19 pandemic is crucial for formulating efficacious tactics and solutions. Potential future investigations may focus on the creation of intuitive information and communication technology (ICT) instruments designed expressly to cater to the requirements of elderly individuals. Additionally, efforts to enhance the digital skills and internet availability within this demographic could be pursued. In addition, collaborations across government entities, organisations, and community associations can serve to narrow the digital gap and establish essential support networks that enable elderly individuals to effectively use and derive advantages from information and communication technology (ICT) during times of public health crises.

The COVID-19 epidemic has emphasised the need of ICT (Information and Communication Technology) for senior citizens, while also revealing various difficulties regarding usability and accessibility. Tackling these obstacles is crucial to ensure that elderly individuals can leverage digital technologies and sustain social relationships during periods of emergency. By recognising and resolving the obstacles encountered by elderly individuals, we may establish a digital society that is more comprehensive and easily accessible to people of all age brackets.

6.3. RECOMMENDATIONS

The study recommends that further research on how institutions can provide digital tools to enhance simplified e-commerce for senior citizens as part of bridging the digital gap and response to future pandemics. The study also recommends that further research be conducted on how public health communication can be more strategic by providing audience defined messages to each population rather that generalising public health communication. The study also recommends that a similar study be conducted on a different population group. The government must build trust with citizens. Trust must be the basis of every relationship; this will make it easier for citizens to accept health communication. Much health communication during the COVID-19 pandemic has been designed to persuade people more than to inform them. The goal to inform often conflicts with the goal to persuade because, people can be informed, but the trust between the sender and the receiver can compromise the effectiveness the message to persuade.

6.4. LIMITATIONS OF THE STUDY

The study did not research on how institutions can respond to the digital divide amongst senior citizens for future pandemics. The study was limited because the study was caried out amongst one population group and that the participants' responses a single population group. The study did not do extensive research on different public health communication messages or campaigns which were in place.

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APPENDICES

APPENDIX 1: CONSENT LETTER

My name is Vukosi Chauke. I am currently enrolled for A Master of Arts degree in Communication Studies at the University of Limpopo. I am conducting research in a study that intends to investigate if digital divide plays a role in increasing the rate of COVID-19 infections among citizens. The researcher identified you as a participant for the study and you are part of the population at risk.

Your participation will effectively assist in investigating if digital divide plays a role in increasing the rate if COVID-19 infections as well as challenges faced by the population, which could potentially assist in curbing the rate of COVID-19 infections among senior citizens.

Please take note that participation in this study is voluntary, therefore you will not be forced to partake in the study. The researcher will ensure that your identity will be concealed, and your responses will be labelled as anonymous, the study also takes into consideration the protection of rights of all participants.

All responses will be strictly used for academic purposes. Should you require and further information regarding this request, please contact me or my supervisor on the following contact details:

Researcher: Ms V Chauke

      076 506 9030

Supervisor: Dr I.P Saunderson

      015 268 2750/083 454 5846

Regards,

Chauke V

APPENDIX 2: CONSENT FORM

I have read and understood the terms and conditions as outlined on the consent letter. Health communication, e-commerce and digital divide, and COVID-19: The role played by digital exclusion in accelerating the rise of COVID-19 infections amongst senior citizens in Johannesburg Soweto, Protea Glen.

Your permission YES/NO

to conduct this research study will be highly appreciated

APPENDIX 3: INTERVIEW GUIDE

This interview guide is designed to collect data or information of all the challenges faced by senior citizens and the by the aspects believed of having potential to expose of exposing them to the virus.

Section A: Demographic Details

1. Gender:
2. Age:
3. Race:
4. Home language:

Section B:

1. Do you have access to the internet and what are the challenges you encounter when using it?
2. Discuss on how you feel about the existence COVID-19, and how it has impacted you as an individual?
3. COVID-19 has compromised many relationships and presented many individuals with loneliness. - Discuss what you do to maintain social relationships during COVID-19?
4. Do you feel like your device has been useful in helping you obtain the necessary COVID-19 info?
5. Large crowds have the potential to increase the transmission of infection- Please discuss how you facilitate purchases and the days in which you are likely to go shopping?
6. Does your health suffer because of lack of access, and if so, how does it suffer?
7. Do you feel like the government is doing enough to provide health awareness with regards to COVID-19, and what do you think can be done to address it?

APPENDIX 4: OBSERVATION SHEET

Date and Time	Participant content	participant	Actions observed