



Perceived Reliability of Online Health Information

A qualitative study exploring how middle-aged South Africans
navigate online health information.

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Abstract

In the early stages of the COVID-19 pandemic the World Health Organization warned of an ‘infodemic’ of misinformation surrounding health during the crisis (The Department of Global Communications, 2020), these discussions have highlighted how easily one can encounter false information online. This study aims to explore how middle-aged South Africans navigate online health information. Data was gathered using a triangulated approach making use of both online surveys and phone interviews. Ten participants between the ages of 36-50 were gathered through snowball sampling. Interviews were transcribed verbatim and both surveys and interview data were analysed using thematic analysis. Data was organised using the qualitative data analysis software NVivo. Some of the key findings provided insight into how participants navigate online health information, how participants engage with online health information, what factors are considered when determining the perceived reliability of a source, and whether they perceive this information to influence their behaviour.

This study was conducted with the UCT Knowledge Co-Op and the Cancer Association of South Africa (CANSA) who supervised the research process and provided input on ethical considerations.

Keywords: non-communicable diseases, online health information, perceived reliability, misinformation, middle-aged adults

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Table of Contents

Abstract	2
Chapter 1: Introduction.....	4
Chapter 2: Literature review	5
2.1 Reliability of online health information.....	5
2.2 Motivations for Seeking Health Information Online	6
2.3 Online Misinformation.....	9
2.4 How do Health-Seekers find information?	12
Chapter 3: Methodology	14
3.1 Sampling and Demographics	15
3.2 Data Collection	16
3.4 Ethics.....	18
3.5 Limitations	19
Chapter 4: Analysis	20
4.1 Perceptions, Interactions and the Individuals who share online health information	23
4.2 Where shared information comes from, what it covers and how it's evaluated	26
4.3 Perceptions towards online health information, evaluation of online health information, health-seeking and motivations.....	28
4.4 Reliable factors, unreliable factors, trusted sources.....	30
4.5 Occupation Influence, Frequency of Interaction and Additional Considerations	33
4.6 Perceived Impact and Accessibility	35
Chapter 5: Discussion.....	40
5.1 RQ1 - How do middle-aged South Africans navigate online health information?....	40
5.2 RQ2 - How do South Africans engage with health information online?.....	41
5.3 RQ3 - What factors determine what they consider to be a reliable online source? ...	42
5.4 RQ4 - Do they perceive the information that they encounter to influence their behaviour?.....	45
Chapter 6: Conclusion	47
References.....	49
Appendix.....	56
Appendix A – Consent Form	56
Appendix B – Online Survey	59
Appendix C – Interview Questions.....	66

Chapter 1: Introduction

Non-communicable diseases (NCD's) are non-infectious health conditions, also known as chronic conditions (World Health Organization, 2018). Risk factors such as lifestyle, background and environment can increase the likelihood of certain NCD's. NCD's such as cancer, cardiovascular disease and diabetes are amongst the leading cause of death in South Africa, with many of these deaths occurring before the age of 60 (Nojilana et al., 2016). Prevention or delay of the onset of NCDs is considered to be more effective and costs less than treatment (Nojilana et al., 2016), this may lead those who are at risk to conduct their own research to find more information about prevention and treatment. As the internet becomes a more common source for people to turn to for health information, the issue of credibility and trust in websites become important (Higgins, 2011).

The way that users consume media is changing, the internet, mobility and user-generated communication are radically changing the media economy, and it is necessary for users to build up a better understanding on how media works in the digital world, as well as challenges that may occur whilst consuming digital media (Commission of the European Communities, 2007). A report by Avaaz showed that amidst the current COVID-19 pandemic health misinformation spreading websites peaked at an estimated 460 million views on Facebook just as the pandemic was escalating, prior to this global health misinformation spreading networks, made up of both Facebook Pages and websites, reached an estimated 3.8 billion views in the last year (2020). In the early stages of the pandemic, the World Health Organization warned of an 'infodemic' of misinformation surrounding health during the crisis (The Department of Global Communications, 2020). Some doctors admit that the information that patients find online can assist them in becoming more knowledgeable about their conditions and treatment options that are available (Valeo, 2011), but patients and health information-seekers who search for information online are not always knowledgeable about or aware of which sources are credible and can become particularly anxious during a time where new information about COVID-19 is constantly being released.

This study focuses on how middle-aged South Africans navigate health information online, mainly the factors that influence what sources they consider to be trustworthy when searching for information regarding non-communicable diseases (NCD's), how they engage with online health information, and if they perceive this information to influence their behaviour.

Chapter 2: Literature review

2.1 Reliability of online health information

With the growth of digital media, there is great potential for health education (Bernhardt et al., 2013; Song et al., 2012). Some doctors admit that the information their patients find online can assist them in becoming more knowledgeable about their health and treatment options that are available for conditions they have (Valeo, 2011). In various studies looking at similar topics the term ‘online’, ‘internet’ and ‘web-based’ have seemingly been used interchangeably (Higgins, 2011; Rice, 2006). In the context of this study, the term ‘online’ will be used as an umbrella to categorise information accessed through the internet including organisation websites, blogs, online support groups where people actively exchange health information (Higgins, 2011), as well as social media platforms. However, how do patients go about searching for health information and what sources do they deem as trustworthy?

As internet tools become more sophisticated, anyone can easily and instantaneously find a vast amount of information on both common and obscure topics, without a particular search technique (Alper, 2006). The internet plays a large role in assisting with health management and search engines such as Google have become essential tools for finding relevant information online (Maslen & Lupton, 2018). Medical professionals and researchers alike have also noted this newfound reliance on Google, mobile apps and social media platforms as sources to find health information for laypersons (Maslen & Lupton, 2018; Rice, 2006). The ease of access allows individuals to be exposed to a wide array of health information, encouraging them to become involved in their healthcare, contributing to an ideal of the ‘digitally engaged patient’; a patient who seeks health and medical information using the internet as a form of self-empowerment and literacy efforts (Maslen & Lupton, 2018; Rice, 2006). However, this also opens them up to encountering inaccurate or counter-productive information, risk-promoting messages and online reinforcements of pathologies and addiction that may be found through a Google search, and maybe trusted more by the patient than the advice given by doctors (Alper, 2006; Maslen & Lupton, 2018; Rice, 2006; Scullard et al., 2010).

Doctors have deciphered the factors that assist with determining whether the information is reliable on a particular website such as the organization who runs the website, the author’s

profession, the date of publication and whether the site uses valid references (Abell & Ey, 2008; Valeo, 2011). However, patients and health-seekers aren't always knowledgeable about what sources are credible online. The majority of participants in Maslen & Lupton's study (2018) expressed that they are cautious of the validity of health and medical information they found online, and have found it difficult knowing how to assess this information. Many of the participants had some sort of strategy for evaluating quality, including consulting with medical practitioners about where to find quality information, some of them trusted government health department websites, sites run by high-profile organisations, well-known medical websites, social media groups and online forums (Maslen & Lupton, 2018).

2.2 Motivations for Seeking Health Information Online

Health information gained via the internet likely influences the health-related decisions that people make (Suziedelyte, 2012). Medical sociology has two opposing theories explaining how this information may influence health-seekers. Medical sociologist Marie Haug (1973) presented the concept of 'deprofessionalization', theorising that having access to health information online may reduce dependency on health professionals. Self-diagnosis and treatment may reduce monetary costs and time for health-seekers (C.J. Lee, 2008; Suziedelyte, 2012). Contrasting this, Elliot Freidison (1984) emphasised the enduring status of professional dominance; this theory argues that despite people's growing access to knowledge, the gap between professionals and laypeople still exist, therefore despite access to health information online, the knowledge gap between health professionals and the general public remains (C.J. Lee, 2008; Suziedelyte, 2012). Medical information involves uncertainty and error; therefore, people may rely on health professionals more for interpretations of health information found online. Furthermore, information that people come across online may make them more concerned about their health and wellbeing resulting in increased dependency on health professionals (Suziedelyte, 2012).

Several studies have looked into why people look for health information online, supporting either of these theories. In a study titled *Influences, Usage and Outcomes of Internet Health Information*, 7 major datasets from Pew Internet and American Life Project were summarized to find what influences individuals to look for health information online and what influences the outcomes from being able to access this information (Rice, 2006). Results showed a variety

of reasons for participants to seek health information online; 81% of participants sought health information online when they'd been diagnosed with a medical condition, but other reasons for health-seeking included beginning a new medication or treatment, dealing with an ongoing condition, unanswered questions after a doctors consultation, deciding to change their lifestyle with regards to diet and exercise, or they are a caregiver to someone (Rice, 2006). In a study investigating women's experiences looking for health information online during pregnancy (Song et al., 2012), it was found that participants looked to health information online for reassurance and conformation of normalcy, as well as to take control and find their own information regarding their pregnancy – especially in the case of dissatisfaction of the service received their doctor.

Similar motivations were found in an Australian-based qualitative study (Maslen & Lupton, 2018) where participants reasoning for seeking health information online included self-screening, sharing and creating information – and the two polarized categories of selective engagement and challenging medical authority (Maslen & Lupton, 2018). Some participants found that while actively managing their health using different information sources online, they were aware of the limitations and how they may be at risk of finding information that would cause unsubstantiated anxiety, hence why they are selective with their engagement (Maslen & 2018). However, a small number of participants used online information to suspend in-person medical expertise, mostly relying on doctors for prescribed tests and official diagnoses (Maslen & Lupton, 2018).

In a study looking at the impact of patient-provider communication on online health information behaviours in chronic illness found that patients diagnosed with chronic conditions turn to the internet very often for health information (Costello, 2016). The participants in this study were patients of chronic kidney disease and namely turned to the internet for the following reasons; they felt dismissed by a healthcare provider, they had questions that they felt were unsuitable for a healthcare provider and were therefore embarrassed to ask about it, time pressure during consultations and information overload (Costello, 2016). Participants also made use of the internet to cross-check information; looking at multiple sources to verify information that they've received but emphasised that the information that they received from healthcare providers was the primary information that they used in decision-making and caring for their condition (Costello, 2016).

In recent years, people have begun taking health management more seriously, as it not only assists in maintaining health but can also assist patients in treating chronic illnesses caused by high blood pressure, obesity and diabetes (Huang et al., 2019). Health management can be explained as the process of gathering, storing, managing and using health information in order to maintain a healthy lifestyle and reach desired health outcomes (Huang et al., 2019). Health management plays a critical role in managing and preventing chronic diseases (Huang et al., 2019) and prevention or delay of the onset of non-communicable diseases is considered to be more effective and costs less than treatment (Nojilana et al., 2016). A study based in China showed that non-communicable diseases such as diabetes, hypertension, chronic obstructive pulmonary disease, cerebrovascular disease and cardiovascular disease as significant risk factors for COVID-19 patients (Wang et al., 2020). According to the World Health Organisation, Non-Communicable Diseases (NCD's) are the leading cause of mortality globally, with many falling between the age range of 30-69 (2018). NCD's such as cancer, cardiovascular disease and diabetes are amongst the leading cause of death in South Africa, with many of those occurring before the age of 60 (Nojilana et al., 2016).

Over time, the NCD mortality rate in South Africa has decreased, but there has been a mix in trends for certain diseases, which highlights the changes in lifestyle and risk factors in the South African population (Nojilana et al., 2016). For example, more South Africans are falling in the obese and overweight categories, which may explain the increase of mortality rates caused by diabetes mellitus, blood disorders and renal disease, whilst South African tobacco regulations may be the reason for the decrease in mortality rates caused by lung cancer, asthma, ischaemic heart disease and chronic obstructive pulmonary disease (Nojilana et al., 2016). Gradually, the number of middle-aged people acquiring chronic diseases is increasing, possibly due to social pressure and environmental pollution (Deng et al., 2014). A South African-based study conducted in Diepsloot showed that young adults (18-35 years) have poorer perceptions of NCD's compared to middle-aged (36-50 years) and older adults (>51 years), this study also noted that middle-aged and older adults were more likely to be concerned about healthy behaviours, indicating that poor risk perceptions can impact preventative measures against NCD's (Kaba et al., 2017).

As middle-aged is the closest age group to elderly, it is expected that those who fall into this category are likely to encounter health issues that can come with age, thus investigating this age group and how they adapt to health-interventions is important (Deng et al., 2014). Given

that prevention is better than cure, information about the prevention and early detection of chronic illnesses is urgent for middle-aged adults (Huang et al., 2019). Middle-aged adults are more likely to accept new technologies and make use of mobile devices more frequently in comparison to elderly adults (Huang et al., 2019), therefore the internet may be a frequent source that they turn to with regards to looking for health information.

2.3 Online Misinformation

Social media can be described as a group of internet-based applications that allow for the creation and exchange of user-generated content and are built on the ideological and technological foundations of Web 2.0 (Dijck & Poell, 2013). Social media platforms like Facebook, LinkedIn, YouTube and Twitter, amongst others, became a core of web-based applications that formed an expansive ecosystem of connective media (Dijck & Poell, 2013). As online social networks grow, many users consider them as one of their main sources of information (Zhang et al., 2016). While there are some trustworthy information spread amongst users online social networks, there are also many false or inaccurate claims that may go by unnoticed (Zhang et al., 2016). Due to these internet-based platforms allowing users to interact and share information freely and quickly, it can be easy to come across shared misinformation online. Misinformation is often shared as users tend to believe information that supports their beliefs and opinions without question (Kumar & Geethakumari, 2014) Digital misinformation is becoming extensive online, to the point that it has been deemed as one of the main threats to our society by the World Economic Forum (WEF) (Del Vicario et al., 2016). The freedom to post anything, lack of filtering mechanisms and lack of accountability on social media platforms have instigated the spread of misinformation (Kumar & Geethakumari, 2014).

When discussing the concepts of information, disinformation and misinformation, it is important to note that they differ with regard to 5 important features; truth, accuracy, currency, completeness and deceptiveness (Kumar & Geethakumari, 2014). *Misinformation* can be defined as the spread of inaccurate or false information, especially information with the deliberate intention to deceive. However, misinformation can be shared honestly with the user accepting the misinformation or misleading content as truth without the intention to deceive the recipients (Kumar & Geethakumari, 2014). *Disinformation* can be defined as false information that is shared and created with the intention to mislead and deceive and is often in the form of propaganda with intended targets (Kumar & Geethakumari, 2014). Unlike

misinformation, disinformation is often carefully planned and is part of a larger deceit process and can come in the form of written or verbal communication, often including doctored photographs or fake videos (Kumar & Geethakumari, 2014)

The internet allows for the rapid spread of unsubstantiated information, rumours and conspiracy theories that often elicit large, but naive social responses (Del Vicario et al., 2016). A contemporary example of this is outlined by Collins-Dexter in a report on medical misinformation during the COVID-19 pandemic explains how misinformation has resulted in disproportionate COVID-19 deaths amongst Black Americans due to systemic racism and harmful inaccuracies about prevention and treatment in online spaces (2020). These narratives surrounding misinformation included the belief that Black People couldn't die from COVID-19, politically motivated conspiracy theories, herbal and natural remedies being able to cure COVID-19 and that exposure to 5G causes COVID-19 (Collins-Dexter, 2020). This is alarming considering the amount of media coverage regarding the pandemic and the rate at which the general public may be engaging with this information through conducting their research relating to COVID-19. There is great importance in being able to identify false health information as it plays a necessary role in containing the spread of COVID-19. A study looking at the information needs and seeking in Singapore during the N1H1 virus outbreak in 2009 (Majid & Rahmat, 2013) showed that in order to contain the outbreak, appropriate information must be delivered to the general public through reliable communication channels. Out of concern, many of the general public found the information that they were receiving to be insufficient and wanted to find or receive more in-depth information. Findings showed that the sources most used for information-seeking were mass media, friends and family with online information (including social networking, and health websites) being the least frequently used. Some participants also noted that they were facing an information overload due to the availability of information about N1H1 from multiple sources (Majid & Rahmat, 2013).

There has been a lot of praise about the power of the Web; but less has been spoken about its seemingly unlimited capacity for the spread of misinformation and disinformation (Helfand, 2016). There is a large rate of consumption and this deeply influences the perceptions, beliefs and attitudes of consumers (Koltay, 2011). The vast availability of user-provided content online facilitates a collective of people around common narratives, interests or worldviews. Validating and sharing information was a skill that was both valued and rewarded throughout most of human prehistory (Helfand, 2016). The last twenty years have displayed a radical change in

the way that information is both produced and organized, enabled by technological advancement (Benkler, 2006). These changes have also presented new opportunities for how information, culture and knowledge is exchanged, with Google becoming one of the easiest methods to access information on a large array of topics (Post, 2017). However, this ease of access presents the new challenge of having vast amounts of information available, but many of very low reliability (Helfand, 2016). The mass amount of sociotechnical systems and micro-blogging platforms on the Internet creates a link from producers to consumers of content and changes the way that users become informed and form opinions (Del Vicario et al., 2016).

In order to stop the spread of digital misinformation on social media, algorithmic-based solutions have been proposed. For example, Facebook has implemented a community-driven approach to dismantling the spread of misinformation by allowing users to flag false information to correct the newsfeed algorithm, therefore preventing it from being spread further (Del Vicario et al., 2016). However, this may not have the desired impact. When a user doesn't know or has no common interest with individuals that they are sharing information with, there is very little incentive to ensure that the information is reliable (Helfand, 2016), so one may assume that in a user's close-knit social media circle they may take care to ensure that the information shared in their circle were to be accurate, but this isn't necessarily the case.

Whether a news item is accepted by a user, reliable or not, may strongly be influenced by how much this information aligns with the user's beliefs or social norms (Del Vicario et al., 2016). Sometimes in the case of the user not knowing who the recipients of their information will be, there may be personal gain in providing misinformation to one's unknown targets if there is an incentive to misinform (Helfand, 2016). A study looking at the spread of misinformation online showed that users tend to mostly share content related to a specific narrative and ignore the rest, the social homogeneity that is created through this process forms homogenous, polarised clusters in online spaces (Del Vicario et al., 2016). In order to break out of these clusters and formulate well-informed opinions on news, users need to hold the tools to evaluate and validate information (Helfand, 2016). Relying on search engines and personal experience to evaluate information may lead to interactions and spreading of misinformation (Helfand, 2016).

2.4 How do Health-Seekers find information?

To effectively engage in health management, health-seekers must be able to effectively find, understand and utilize appropriate health information. Health-seekers also need to be able to differentiate reliable from unreliable information online, given that the use of the internet requires a certain set of technological knowledge and skills, finding health information online can create a burden on consumers who do not possess those skills or have low levels of health literacy (Lee et al., 2014). In a review conducted by Lee et al. (2014), they noted that there is a need for initiatives to assist health seekers. This review intended to identify and compare humanistic interventions implemented by researchers to improve the health-literacy of health-seekers. Despite the increasing dependency on the internet for gaining health information, they found that there aren't many reports of interventions assisting health-seekers to find reliable health information online (Lee et al., 2014).

The average 'health-seeker' conducts online research without a set strategy in mind, usually beginning with a search engine through which they visit 2-3 websites (Rice, 2006). Their findings also show that after reading repeated information on multiple sites or reading information that may align with their pre-existing knowledge and expectations of a topic allows them to feel more reassured that the information is accurate (Rice, 2006), but their instincts may not be correct. A UK-based study conducted in 2010 attempted to simulate the experiences of parents searching for paediatric health information online pertaining to their children (Scullard et al. 2010). Their search was conducting a Google search for advice on 5 common paediatric health questions, limiting their search to only display web pages from the United Kingdom. Results showed that the quality of information varied between sites depending on the topic. Only 39% of the 500 sites analysed gave accurate information, 11% were incorrect and 49% failed to answer the question (Scullard et al., 2010). It was found that sponsored websites generally gave poorer information and were often unrelated to the search topic (Scullard et al., 2010).

Users' media literacy plays a large role in approaching the media critically and looking at both the quality and accuracy of the content (Koltay, 2011). *Media literacy* is a highly interdisciplinary study that looks at tools and methods from an array of academic fields such as sociology, psychology, political studies and gender studies (Koltay, 2011). Although Media literacy has several definitions, it can broadly be explained as the ability to understand, assess and critically evaluate different aspects of media and media content to create communications

in a variety of contexts (Commission of the European Communities, 2007). Literacy as a concept includes digital, electronic and visual forms of expression and communication (Koltay, 2011), so regarding the evaluation of media on the internet, it is also necessary that users obtain digital literacy and information literacy skills in conjunction with media literacy. Media literacy covers aspects such as being comfortable with all forms of media from print to online communities; using internet search engines, daily life learning applications such as libraries and podcasts, and interactive television amongst others (Koltay, 2011). *Information literacy* can be explained as the need for users to have a careful selection and retrieval of information available at school, in the workplace and other aspects of personal decision-making – especially concerning health and citizenship (Koltay, 2011). Education surrounding information literacy emphasizes critical thinking and procedural knowledge used to identify information in certain domains, fields and context, with an emphasis placed on recognizing a message’s authenticity, credibility and quality (Koltay, 2011). Lastly, *digital literacy* can be defined as the attitude, awareness and ability of users to use digital tools appropriately and identify, manage, integrate, access and analyse digital resources to construct new knowledge and communicate with others (Koltay, 2011). In summary, digital literacy looks at the ability to understand and use information from different sources and consist of 4 components; content evaluation, internet searching, hypertext navigation and knowledge assembly (Koltay, 2011).

Through examining the existing literature surrounding health-seeking behaviour online, misinformation, it should be noted that none of these studies has been conducted in a South African context, nor do any of them focus on what factors their participants deem as reliable when seeking health information online. As we become more dependent on the internet as a source of information, we see users turn to online platforms for an array of information, including health concerns, thus it is important for us to gain more knowledge on where and how these users find their information to avoid encountering and spreading health information online.

Chapter 3: Methodology

This study aims to explore the factors that middle-aged South Africans (ages 35-50) consider when evaluating online health information and makes use of a qualitative research approach. The working definition of 'old age' has been debated in the context of Sub-Saharan Africa. The 'middle-aged' category as outlined in accordance to WHO's working definition of an 'older person' in the context of Sub-Saharan Africa as those who fell between the ages of 36-50 (Kaba et al., 2017; Kowal & Dowd, 2001). This study makes use of a qualitative research approach, which is typically used for studying information about people and societies (Van Aken & Berends, 2018). Qualitative research is used in situations where it is difficult to identify and manipulate variables in research, which calls for an approach that is open-ended and involves an inductive exploration (Durrheim et al., 2006).

This study aims to investigate the meanings of individual perceptions surrounding reliability and trustworthiness of online health information, making a qualitative approach ideal as it involves the researcher making knowledge claims based on constructivist perspectives through collecting open-ended, emerging data from which themes can be developed (Creswell, 2013). Making use of a grounded theory strategy, this data will aim to derive an abstract theory of the process associated with participants evaluation of online health information (Creswell, 2013). Using a grounded theory research approach is ideal when investigating a research topic where not much theorising has been done before (Flick, 2018). Grounded theory involves a data-driven approach where a theory is deduced based on codes that emerge from the data (Flick, 2018).

Qualitative research questions usually consist of a broad central question and several associated sub-question explore topics by allowing participants to explain their ideas (Creswell, 2003). The key question that this study aims to explore is;

RQ1: How do middle-aged South Africans navigate online health information?

RQ2: How do South Africans engage with health information online?

RQ3: What factors determine what they consider to be a reliable online source?

RQ4: Do they perceive the information that they encounter to influence their behaviour?

These questions seek to gain a better understanding of how online health information is evaluated and can provide insights on how to avoid misinformation, as well as where to place accurate health information on the internet. A qualitative approach would be considered the most appropriate to explore these questions as they look at participant perceptions surrounding credibility and trustworthiness.

This study is exploratory and aims to provide a preliminary investigation into a relatively unknown area of research (Durrheim, 2006). There is a notable gap in the literature surrounding how people search for health information online and issues of trust and credibility regarding internet-based information (Higgins, 2011), so an exploratory approach to the research is the most appropriate for this study. Exploratory research employs a flexible, inductive approach to research and aims to look for new insights into phenomena, generating speculative insights and new questions (Durrheim, 2006). Exploratory studies are designed to be open and flexible to allow for investigation (Durrheim, 2006).

3.1 Sampling and Demographics

Participants for this study were recruited utilizing snowball sampling with the initial participants being recruited through peers at the University of Cape Town and acquaintances that fall within the desired participant framework. In qualitative research, non-probability sampling is normally used (Naderifar et al., 2017). Snowball sampling is a convenience sampling method applied when it is difficult to access subjects with the desired characteristics, this method involves study subjects recommending acquaintances to participate, with sampling continuing until data saturation (Naderifar et al., 2017). This method was chosen as it takes little time and allows the researcher to communicate better with samples, therefore allowing for a more in-depth discussion (Naderifar et al., 2017). Generally, it is recommended for inductive qualitative research that data collection should continue until no new information comes up, which makes it difficult to determine a pre-determined sample size (Van Rijnsoever, 2017). This is known as theoretical saturation (Flick, 2018; Kelly, 2006). With qualitative research, data collection and data analysis are not necessarily two different phases but can happen simultaneously, theoretical saturation marks the point where no new information emerges (Kelly, 2006), but due to limitations such as the size of this research paper and time constraints, 10 participants were recruited.

Participants consisted of 5 males and 5 females, all who ranged between the ages of 36-50 and were South African citizens. Age classifications vary over time and can be dependent on location, often reflecting the social class differences, political and economic situations in different countries (Thane, 2003). The middle-age category was selected as it overlaps with the age range of those at risk for NCD's (World Health Organization, 2018) and those who are at higher risk perceptions surrounding NCD's (Kaba et al., 2017).

All participants were South African residents, English speaking, with no background in health sciences. Participants were specified to be first-language English speakers to avoid potential language barriers during the interview process, as well as to limit their experiences to interacting with online health information presented in English. The intention behind this was to limit discussion surrounding accessibility and understanding online health information to the participant's ability to evaluate health information and how they perceive the information they come across online, rather than participants facing challenges surrounding access because of language barriers. Similarly, participants should not have a background in health sciences as this background is likely to be advantageous when determining what online health information is credible or accurate. This research intends to gain insight into what factors influence how participants *perceive* what is trustworthy or reliable given the fact that they do not have previous knowledge of the subjects.

3.2 Data Collection

Due to COVID-19 restrictions, it is not advisable for face-to-face interviews to take place for data collection. Alternatively, data will be gathered using triangulated methodology by including both online surveys and in-depth phone interviews. Combining qualitative methods allow for different perspectives that may otherwise be overlooked (Carter et al., 2014). Method triangulation makes use of multiple methods of data collection to gain a better understanding of the same phenomenon by approaching it from different angles (Carter et al., 2014; Kelly, 2006).

Qualitative surveys aim to provide depth and individual meaning to particular questions of interest and are ideal when exploring the feelings, opinions and values of a particular group of

people and can be particularly useful when having a small number of participants (Fink, 2003). These qualitative surveys were created on Google Forms and were made available to complete online using a link that could be accessed on any mobile device. The surveys consisted of structured questions that explored respondents' perceptions of online health information. These responses served as the base of the in-depth interviews. Socio-demographic information such as age, level of education, occupation and gender were also gathered. The limitations to qualitative surveys include the fact that they do not produce generalisable results, their purpose is to provide depth and meaning provided by an individual based on particular questions of interest (Fink, 2003). These surveys were intended to be created in a convenient format for participants to complete and aimed to replicate an initial structured interview, this presented limitations such as difficulty to obtain detail and having set, rigid questions for participants to complete (Queirós et al., 2017). The data collected using the Google Forms survey is only accessible through the survey creator's personal email account, securing the data that has been collected.

In-depth phone interviews made use of semi-structured interviewing approach, making use of a list of pre-determined questions to guide the conversation, whilst engaging with previous participant input given via the survey, as well as asking follow-up questions where appropriate. Interview questions focused on open-response questions to let participants articulate their answers on their own terms, providing richer, more sensitive insights (Deacon et al., 1999). The interview questions were split into two categories; shared information relating to NCD's and knowledge-seeking behaviour regarding NCD's. The interview process was successful overall but presented some challenges. In-depth interviews can be limiting as they are time-consuming, provide a longer data-analysis procedure, and as with most qualitative research, the results are not generalisable (Queirós et al., 2017). In addition to this, phone-interviews prevent the researcher from picking up on non-verbal elements during the interview, which informs and set the tone of the interview (Fontana & Frey, 1994). In-depth interviews were conducted via phone call and audio recorded for transcription and stored using an audio recording application on a mobile phone, storing audio clips on the device's storage.

This combination of using both more structured survey and unstructured interview approaches will allow for data that is more precise and codable by nature aided by more structured questions, as well as understanding participants' perspectives to explain their choices and behaviour with open-ended questions (Fontana & Frey, 1994). Qualitative surveys can

sometimes rely on the collection of data from different sources, also known as triangulation (Fink, 2003). Triangulation can allow for more credible results if multiple sources of information produce similar results, but it can become expensive to carry out multiple forms of data collection (Carter et al., 2014). Using Google Forms provided a free platform for participants to fill out the qualitative surveys, but phone interviews proved to be more costly due to the expense of airtime. Participants were allowed to opt to use different platforms such as WhatsApp voice call or Skype for phone interviews, several participants made use of this option if they had access to Wi-fi, otherwise, participants would have to make use of their mobile data which could prove to be costly. Phone calls proved to be more reliable in terms of connectivity and quality of the phone call. Conducting interviews telephonically was limiting as one cannot see people's reactions visually and it can be difficult to establish a relaxed interaction (Deacon et al., 1999).

3.4 Ethics

When conducting human-subject research, extreme care should be taken so that no harm is caused to the participants (Fontana & Frey, 1994). Traditional ethical considerations revolve around informed consent, the participants right to privacy and protection from harm (Fontana & Frey, 1994). In order to obtain informed consent participants were contacted via email with a document detailing the intention of the study and what was expected of them as participants. Participants were also sent a consent form to be filled out before scheduling the phone interviews. Aligning with UCT's Faculty of Humanities Guide to Research Ethics (2017), participants in this study were all over 18 years of age, therefore they were able to provide consent to participate. They were informed that if they choose to participate their interviews will be recorded for transcription, and the beginning of the phone interview, participants were verbally briefed on the study as well as the consent form to get verbal consent. Participants were reminded that they are able to withdraw from the study at any point and refuse to answer any questions they may be uncomfortable with. To ensure confidentiality in the data analysis and final research paper, participants will be referred to by their age and occupation. Survey data will be contained on a private Google Drive folder that is password protected and will only be accessible to the researcher.

Given that the topic of health can be extremely personal and trigger discussions that may bring discomfort, trauma or embarrassment to participants, the interview and survey questions were crafted to avoid the topics of diagnosis or previous medical and health-related histories of participants. This being said, some participants willingly chose to share their experiences with personal health issues and how that impacted the way they navigate online health information. This study was conducted with the UCT-Knowledge Co-Op and the Cancer Association of South Africa (CANSA) who supervised the research process and provided input on ethical considerations.

3.5 Limitations

Limitations of this method of sampling and sample size include the fact that findings will not be generalisable to an entire population. However, this study is exploratory and does not aim at providing definite, generalisable findings. As previously mentioned, face-to-face interviews could not be conducted due to COVID-19 restrictions, but as we've entered Level 1 of South Africa's national lockdown, more people are returning to work and resuming regular activities. This has made organising dates and times for interviews a little bit more complicated as many participants that had been recruited during earlier stages were no longer working from home, therefore making their time to be interviewed more limited.

Participant criteria; exclusionary criteria were specific to those who were not between the ages of 36-50, South African and those who had a background in health sciences. One participant did not have an academic background in health sciences but worked in a hospital which influenced their perceptions of online health information greatly.

Despite the guided instructions given to participants, several participants did not complete the online survey prior to their phone interview. The pre-set interview questions proved to be enough to guide the discussions, but this meant that some interviews were slightly adapted, and others weren't. Some participants provided their consent to partake in the study and participated in the interview process but filled the qualitative survey out at a much later stage.

Chapter 4: Analysis

Data were analysed using thematic analysis. Thematic analysis is ideal for this study as it is particularly useful for analysing perceptions, experiences and understandings (Herzog et al., 2019). As outlined by Herzog, Handke and Hitters (2019), thematic analysis is a process that involves several stages to deduce patterns of meaning from sets of qualitative data. The first phase of analysis involved becoming familiar with the data. This began initially through reading participant responses to the online qualitative surveys prior to their interview to get a basic understanding of their interactions and perceptions of online health information and guide the questions beyond the set interview questions. *Google Forms* allows for the data gathered through the online surveys to be converted into a *Microsoft Excel* spreadsheet to allow for easy comparisons between participant responses. Participant interviews were then transcribed verbatim in a Microsoft Word Document and loaded into *NVivo12*. Throughout the analysis memoing was also used to make note of interesting observations.

Phase two of the analysis involved the generation of initial codes, codes are labels that have been applied to segments of data (Herzog et al., 2019). In line with grounded theory, coding was data-driven and coded manually using the software *NVivo*. 21 initial codes were gathered broadly relating to the responses of the survey and the interview questions. Some of these codes were in direct relation to the questions, whilst others were related to topics of discussion that naturally occurred during the interviews. The interview and survey questions were presented as two separate categories; *shared online health information* and *health-seeking online health information*. The first section focused on perceptions of shared online health information that participants have encountered via online platforms, whereas the second category focused on participants' perceptions of online health information whilst seeking health information by themselves. Distinguishing between these two categories assisted in coding the participant responses.

Name	Description	Files	References
Accessibility	Accessing information, understanding information	10	16
Additional Considerations	Additional factors that participants consider when evaluating online health information	4	9

Name	Description	Files	References
Evaluation of Online Health Information	Participants evaluation of online health information when conducting their own searches	9	22
Evaluation of shared information	Participant evaluation of shared online health information	10	21
Frequency Interacting with Online Health Info	Participant mentions how often they interact with online health information	4	8
Health-Seeking Methods	The methods that participants employ when searching for health information	8	13
Individual who is sharing information	Perceptions of the person who is sharing the information with participants	7	10
Interactions with shared information	How participants interact with shared health information	9	16
Intuition	Notes on participant intuition or previous experience that influence their evaluation of online health information	7	18
Motivations	What motivates participants to seek online health information	9	17
Occupation Influence	How participants' occupation influences their interaction and evaluation of online health information	3	4
Perceptions toward shared online health information	Participant perceptions toward shared health information online (both negative and positive)	10	35
Negative Perceptions	Negative perceptions towards shared online health information, generally indicating that its' not trusted by the participant	7	14
Positive Perceptions	Positive perceptions towards shared online health information, generally indicating that it is trusted or appreciated by participants.	3	4

Name	Description	Files	References
Uncertainty	Uncertainty towards shared online health information.	2	2
Perceptions towards general online health information	Participant perceptions of general online health information (negative and positive)	4	6
Perceived Impact	The perceived impact of online health information on participants	9	21
Reliable Factors	Factors that are considered to increase participant trust	10	35
Topics of Shared Information	Broad topics that shared online health information about NCD's cover	8	10
Trusted Platforms	Platforms that are trusted by participants (websites)	5	11
Trusted Sources	Sources that are trusted by participants (organisations, authors etc.)	8	16
Unreliable Factors	Factors that are considered to make a source not trustworthy.	9	23
Where Shared Info Comes From	How participants receive shared information. This covers both the platforms, websites and people who may share health information about NCD's online	8	19

Table 1 - Initial Coding Framework exported from NVivo

Phase three of the analysis involved searching for themes. Identifying themes is an interpretive process and are based on both patterns that emerge in the data (Herzog et al., 2019). A theme can be defined as “an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations, as such a theme captures and unifies the nature or basis of the experience into a meaningful whole” (DeSantis & Ugarriza, 2000, p. 362). These codes were analysed and grouped to establish patterns and broad themes.

4.1 Perceptions, Interactions and the Individuals who share online health information

‘Perceptions towards shared online health information’ was one of the most referenced codes throughout the 10 participant interviews and surveys. The responses were sub-categorised into negative perceptions, positive perceptions and uncertain perceptions of shared online health information. Majority of participants had negative perceptions towards shared online health information, particularly specified to ‘forwarded’ messages on the social media platforms *WhatsApp* and *Facebook Messenger*. The perceptions held by participants surrounding shared information were intertwined with the code titled ‘Interactions with shared information’ as well as ‘Individuals who share online health information’ during discussions with participants.

A common response when asked about how participants interact with shared online health information was that they ‘Don’t even bother with it’. These participants seemed to perceive shared online health information negatively and showed reluctant to engage with shared information online and held the belief that all information forwarded via social media was inherently false, therefore they didn’t trust it.

“So what I do most of the time on WhatsApp I just assume that most of it isn’t [true], therefore I don’t have to judge if this one is right or this one is wrong, I’ll just have a very strong concern of all that information, so I probably won’t take it. Certain things, like minimal things, but mass majority is not trustworthy for me.” (39, Male, Upholster)

“I ignore it altogether; I don't even need to typically. Usually, I don't even bother reading it to the end anyway.” (50, Female, Magistrate)

Many of these forwarded messages were assumed to be opinion pieces and not factual health information, it was also indicated that these forwarded messages were not accompanied by a credited source.

“...if it got sent to me you can see where the information is credited, like there’s a paper trail of where it came from. Maybe with a government thing on it, then maybe I will read it, but if it comes from a random broadcast message from aunty whoever then I don’t trust it.” (37, Male, Self-Employed)

Several participants indicated that the way they interact and perceive shared health information can be dependent on; (i) the source of the information, (ii) the individual sharing the information with them. Several participants noted that if they received shared information with a clear link to a reputable source, they would potentially engage with the information. Participants also noted that the individual sharing the information with them may also influence how they perceive and choose to engage with the information.

“Well to be honest with you if somebody sending me information and I know that this person is someone who just forwards on the information I just won’t bother reading it, I just ignore it completely. So, I won’t go back to the source it’s coming from. I’m not even going to read this message comes through. If a Facebook message comes through and I see the person that shared it is somebody that just randomly shares everything I’m actually not going to bother going through even if the information is true or not, I personally want to waste my time going through it.” (43, Female, Director)

As illustrated by the quote above, this participant engages with information depending on the individual who shares it. The participant implies that they don’t trust information shared by individuals who tend to share information randomly and that it would be a waste of their time to engage with the information. The word ‘random’ is used in the previous participant quote as well when describing individuals who share untrusted information, this may indicate that these individuals do not hold a close relationship with the participants. Other participants also commented on the perceived reputation that these individuals who share health information on social media hold, and their reasoning for sharing said information.

“I find things that are just forwarded right, by people do not so much for veracity of what is contained during as opposed to, you know what, this is popular, it sounds interesting. It’s just forwarded, because if I want information, I think I’m going to go to a more authoritative and authentic source than social media.” (50, Female, Magistrate).

“Yes, most people will send it because it sounds interesting and just forward it to all their contacts.” (46, Male, Self-Employed)

As demonstrated in the quotes above, another reason that participants tend not to trust shared online health information is due to what may be topical and interesting to them, rather than

educate those they are sharing the information with. Three participants perceived shared online health information positively due to the nature of the information being shared and depending on the intention behind it being shared.

“You know, I think the more information the person has the better.” (36, Female, Self-Employed)

“I do [trust shared information] because it’s a health thing and people tend to be more cautious about what they forward when it comes to diseases, and obviously if they forward something that isn’t true, the people reading it will come down on you very hard because you’re sending something that doesn’t make sense or isn’t true. Also if you’re sending something that isn’t true, a person who has the disease – it may have a negative effect on them. false information can have a bad impact on people if it’s not true, so people are more wary on sending information when it comes to health things – they’re more wary to send the proper information” (46, Male, Self-Employed)

These participants hold the assumption that the individuals who share health information online do so intending to educate and spread awareness about NCD’s and are aware that sharing inaccurate or false information may be harmful.

“If it’s something that they have personally researched and went into it and they’re sending me a personal message to just inform me, that would be better.” (39, Male, Upholsterer).

As we can see in the last quote, the participant is more likely to trust the information if the message being shared was specifically curated for him. Participants also noted feeling uncertainty about online health information, which makes them reluctant to trust the information being shared.

“I don’t believe it because there’s too many various points of views from different medical and non-medical institutions, so I prefer hearing it directly from the hospital.” (42, Male, Operations Manager).

4.2 Where shared information comes from, what it covers and how it's evaluated

Participants reported to receive shared health information on platforms such as *WhatsApp*, *Facebook*, *Instagram* and can also receive information via email or SMS. Most of the participants reported to have received information from family, friends, social media circles and 'random' people. As previously mentioned; this term seems to imply individuals that may not have a close relationship with the participants. The shared information concerning non-communicable diseases that these participants seem to cover remedies, symptoms, prevention tips and general information about certain diseases.

“They usually refer to remedies, weight loss, prevention, for example, drink hot lemon water for cancer prevention” (36, Female, Business Development Manager)

“Most of the time it's herbal remedies or prevention. And more information about conditions but that's very limited. It's mostly prevention.” (37, Male, Technical Advisor)

Two participants also noted that they receive shared health information via sponsored posts, predominantly on Facebook both from companies trying to sell products for prevention and treatment, as well as organisations trying to spread awareness about non-communicable diseases.

“Mostly advertising companies trying to sell a product, so something to do with – on Facebook there will be events to raise funds for these kinds of diseases.” (46, Male, Self-Employed)

“It's mainly sponsored things, not necessarily people sharing health-related information. And the more you click on certain things the more it pops-up.” (41, Female, Senior Planner)

During their interviews of these participants noted that they had interacted with the content of this nature on *Facebook*, therefore the algorithm recommends more of this content to them. This cycle is how information about non-communicable diseases are shared with these participants and may lead them to begin to evaluate which organisation's information they deem to be trustworthy. The code that covers 'Evaluation of shared information' is necessary to unpack in relation to the topics of shared information and 'where shared information comes

from'. Despite their hesitancy, on the occasion that participants received shared online health information that sparked their interest, they would go on to evaluate this information,

Upon initially receiving the shared information, several participants noted that they looked for a credible source, one participant noted that if there are familiar websites and organisations, that increases their trust in the information.

“Yes, I'm more trusting of websites of organisations that are familiar to me” (46, Male, Self-Employed)

Several participants said that they'd conduct their own research to deduce whether the information is reliable.

“If I can verify the source, and the source is credible, I will usually do further research online and then decide whether to believe it or not.” (36, Female, Business Development Manager)

In-line with the previous discussion about how the individuals who share online health information are perceived, one participant noted that even if she trusts the individual who has sent her the information, they still proceed to conduct their own research to decide if the information is trustworthy.

“I research almost everything myself to make sure the articles are accurate” (37, Male, Technical Advisor)

“If it comes from somebody that I find is you know it's going to send reliable information I will still Google search it.” (43, Female, Director)

“...information deduction. If I get information from one end, I compare it to the other end and see if the two compares, but I usually get it from different sources, but if it doesn't compare to the main source that I'm getting it from, I don't trust it.” (42, Male, Operations Manager)

Several participants noted that they make use of their own intuition to decide whether they trust the information being shared with them to be reliable or allowed their intuition to influence how they respond to the shared information upon conducting their research.

“I think it’s a personal thing, I go with what I’m feeling, and if I feel that certain things don’t come from a reliable source I won’t continue reading it. If it’s an organization I trust it but if it’s a person forwarding on information to the rest of the world because he finds it or she finds it to be trustworthy, I don’t really take that as being a reliable source.” (46, Male, Self-Employed)

“So, there’s obviously this little nagging voice in my head that says you can’t just take it at face value...I suppose there’s certain logic and reason that also kicks in and some things sound like they make sense and some things don’t sound like they make sense, but I’m also very much a disbelieving dolly so.” (41, Female, Senior Planner)

“I’m not very techno-savvy and I, I don’t place too much of a weight on what I read on the Net, but if I’m curious. OK. And it’s just a matter curiosity often, as opposed to taking to heart and taking whatever I read as being the gospel truth.” (50, Female, Magistrate)

Participants may prefer to consult with a doctor before believing the information that is shared with them, whilst others are hesitant to trust information that they’ve encountered via the internet.

4.3 Perceptions towards online health information, evaluation of online health information, health-seeking and motivations

The way that online health information in general was perceived similarly to health information that was shared with participants. The motivation for these being categorized differently is that participants had particular motivations and method when independently searching for health information, in comparison to when they were evaluating or receiving health information via another individual or organisation. Participant motivations for seeking health-related information online were to do with looking up symptoms they may be experiencing, looking up information about conditions they may have been diagnosed with, looking at information for recovery, learning more information to empower themselves and improve their lifestyle or get a quick view of the urgency to know if they should visit a doctor.

“Right. If there is anything that I pick up, oh, you know what? My hair is falling out of my skin, very dry. Then I do go on Google and you Google ‘why does this happen?’ And it does give you a guideline. You know, sometimes it's frightening. But it does give you a little bit of a guideline of what is actually going on in your body. But I mean, ultimately, the best is always just to go to a specialist and hear it directly from that person.” (36, Female, Self-Employed)

In the quote above, the participant notes that it may be best to consult a specialist to confirm the information you have gathered online. However, one participant had the opposite approach and relied on health-seeking to verify the information they may have received from a health professional and look up terminology.

“But even that, he gave me information and I didn’t just take it at face value – that’s what I’ve noticed about my experience with doctors, most of them are just based on their assumption of what a diagnosis might possibly be; doesn’t mean he’s right or wrong, another doctor might give you a totally different diagnosis. So I search my symptoms on reputable websites and then from there I make my judgement.” (37, Male, Technical Advisor)

Participants were asked about the health-seeking methods they employ to find relevant information online. Majority of participants said that they used *Google* as their initial point of research to find the answer to their health-related query. Thereafter participants slightly varied in the techniques they employed to evaluate online health information. Some participants made use of the first source that came up, some made use of multiple sources whilst others had trusted websites that they would select.

“I go to Google, I type in the symptoms that I personally want to find out about, I’ll type in the symptom or a certain word or phrase and whatever comes up I’ll read about it and try to see what they say about it, but I don’t go too deep into it as well. So I would only use the first link, maybe the second one just to see if it’s more or less the same, but that’s about it.” (39, Male, Upholsterer)

“What I do is I’ll go to a few sources. But I don’t just believe the one, I will go to a few and then compare the results that are given. And if the answers are more or less the same then go

from there. I always find out more information, I never just trust one source.” (36, Female, Self-Employed)

“Yes. I do not look at just one, maybe two or three. And if, you know, if its similar information coming through, then. So that is what it is, you know?” (46, Male, Self-Employed)

Alternatively to the evaluation of shared online health information, there was less pessimism surrounding shared online health information, but participants still exercised caution and often visits several websites to address their concerns.

“Yes, there is so much information out there, you can research anything and get the answers. I cross-check several websites to verify the information.” (36, Female, Business Development Manager)

“Yes, that’s what I like to do as well. Like for symptoms of my disease – I’ll look at one website, then go to another website to see if it’s similar, then go to another website to see if it’s similar. If 3 or 4 websites are similar.” (37, Male, Technical Advisor)

4.4 Reliable factors, unreliable factors, trusted sources

Reliable factors, unreliable factors, trusted sources and trusted platforms were large topics of discussion when it comes to the evaluation of both shared and general online health information.

4.4.1 Reliable factors

Participants had several factors they noted that allowed them to perceive an online source of information is reliable, mainly relating to websites including; if a site was user-friendly, had a good reputation, the incorporation available on the site was comparable to what the participants doctor said, the website was associated with a well-known brand or organisation, and if a source had or was associated with a familiar name. the organisations should be recognised health organisations, government websites or pharmaceutical companies.

“If it’s a well-known brand or organization that’s what seems to attract me. I’m attracted to familiar names, but if it’s something I don’t know...I’m not really interested. So, I’m going to give you an example, say I’m searching for something herbal and Voegel products come up I would go in there because I know the name and I know the brand.” (41, Female, Director)

“Maybe other brands that they’re affiliated within the medical industry. Like Pfizer, they’re a reputable drug company. Like people won’t risk their company name with false information.” (37, Male, Self-Employed)

As previously discussed, participants are more trusting of reputable organisations than individuals, but when considering pieces were authored by individuals, it was necessary for them to have a reputation for being in the field of health sciences.

“Certain people...like people that I know has a reputation for being in the field. So if I read or I come across a website with a YouTube video and I know the doctor I think he’s probably reliable doctor that has been viewed a few times and I believe what he says.” (46, Male, Self-Employed)

Participants had several notes with regards to the aesthetic appeal of a site, the most common being that it must look ‘professional’. When asked to elaborate on what is considered to be professional, participants noted that a website needs to include contact information and the address of the organisation running the website, the date that information has been published to see if it’s current, the author of an article must be present, the source needs to have scientific proof or examples of the health information being discussed, and overall the website needs to look appealing.

With regards to the content on a website, spelling and grammar are factors that are considered when determining whether a site is considered to be reliable or trustworthy.

“I mean if they cannot you know, put down the written word in the correct spelling, grammar. All of it. I mean, I would not even bother.” (50, Female, Magistrate)

The content is considered to be more reliable if it is straightforward and does not involve personal opinions and experiences and it needs to be informed by experts.

“So that’s actually another important thing; it must go to the point. And you don’t want to have a life story of this person’s experience, I don’t mind that type of article, but that isn’t the reason I’m searching for it online, I want to know specifics about the problem.” (39, Male, Upholsterer)

“So it has to be informed by experts in the field who know what they are talking about, who have the qualifications, the practical experience and the academic expertise to know what they're talking about.” (50, Female, Magistrate)

There was an overall agreement amongst participant that repeated information across multiple sources was associated with an increased likelihood that the information was reliable.

“I use all the of those sources; in this way, I can verify if the information is true or not. For example, if all credible sources confirm the same information, I will take this to be true.” (36, Female, Business Development Manager)

4.4.2 Trusted Sources and Platforms

Google seemed to be the most commonly used and trusted search engine and has been categorised as a trusted platform as opposed to a source. With regards to trusted sources, participants named WebMD, The Department of Health, WHO, Mayo Clinic, Kidney Fund and government websites in general as reliable sources for obtaining online health information. One participant noted that they try to specifically look for information in the South African context.

“...I do try and also check for Web sites that are more specific to South Africa go to sometimes, you know, they may be are websites created by South African government, health department, which also, you know, puts out information perhaps on certain non-communicable diseases or illnesses. We can also glean information. So I think to keep it and keep it relative. And, you know, keep it confined to our situation. It's also important so I try to actually look at that as well.” (50, Female, Magistrate)

4.4.3 Unreliable Factors

Factors that are considered unreliable with regards to the visual appearance of a website include poor structure, poor spelling, an unorganised website set up, no images, no associated doctors or professional organisations and overall unprofessional appearance. When asked to elaborate on ‘unprofessional’ participants noted that websites that asked for users to provide their information, websites without a proper domain, lots of advertisements or pop-up ads, a website appearing to be ‘too flashy’ and prompting the user with directions.

“‘Click here for blank’, lots of ads, asking too much information, which makes me a bit wary.” (41, Female, Senior Planner)

The term ‘home-made’ was also commonly used when discussing factors that contributed to perceiving a website as unreliable and potentially indicate websites that were created seemingly without the creator putting a lot of effort into the appearance of the website, or not having the appropriate tools to create it.

With regards to the content on a website, factors that were considered to indicate that the information was unreliable included articles based poorly on opinion rather than fact, information with no scientific backing, websites trying to sell the user something, illogical information, information missing from a website, laypeople contributing to the content on a website and outlandish statements.

“If the information leads you to a sale I don’t trust it. If the website is cheaply made as well, I don’t trust it. It needs to be an organisation level to trust the website.” (37, Male, Self-Employed)

4.5 Occupation Influence, Frequency of Interaction and Additional Considerations

Through the discussions with participants, it was noted that some factors weren’t as clear with indicating whether they were considered to be indications of reliable or unreliable information. Despite none of these participants having an academic background in health sciences, there

were some influences from their occupations that were considered through their evaluations of online health information.

4.5.1 Additional Consideration

Several participants noted that they don't frequently interact with shared health information or health-seeking behaviours very often. Participants noted that a lot of the time common-sense will come into play when determining whether a source is reliable or unreliable. This can be based on participants previous experiences with online information or health information. Participants also noted that they would always prefer consulting a medical professional as opposed to only relying on online health information.

“So, I wouldn't take it... ‘gospel’ for a lack of a better term, I always feel more comfortable going to my GP, but if something has struck a chord with me and it ticks certain boxes when reading it, then I consult with my GP. I wouldn't necessarily take it at face value.” (41, Female, Senior Planner)

One participant noted that he will go online to see what everyone else says with regards to a particular health issue and draws on the COVID-19 pandemic as an example.

“If I get information, I would generally go online to check what everybody else is saying if it is that way. Like let me tell you about an issue that happened; when the pandemic started, we started wearing masks way before everybody else, even before the nurses. And the hospital advised us not to do so because of aesthetic look, it might worry patients. So, what had happened was, the department of health sent a notice to the hospital saying that it is now mandatory. That is why I don't take second-hand information; it must come directly from the hospital.” (42, Male, Operations Manager).

The above quote is also an example of how participants occupations can influence how they engage and evaluate online health information. One participant noted that through working in the beauty industry, they encounter clients who are also patients of NCD's, and certain beauty procedures are influenced by their medical treatment. Similarly, the participant noted that they have become familiar with certain symptoms of certain NCD's. This participant noted that this influences how they interact with shared health information and motives their reason for sharing health information and health-seeking.

“Well, because I work in the beauty industry. I do deal with a lot of breast...I do deal with a lot of clients who have had breast cancer. So, if they want to have permanent makeup done, for example, I need to know how far they are in the chemo, what to expect after chemo today.

The results of the treatment obviously will be affected by that. I do have clients that have thyroid problems. Again, psoriasis and endometriosis. You'll be surprised, too, to what extent and what amount of clients have issues that will affect me doing a treatment on them. And a lot of them have questions that they might be too shy to ask the doctor or other people that I do feel like if I do have information to actually to pass on to them or I do know of an article, then I do actually pass it on to them. Because a little bit of information can go far away. For example, if I had a client come in, and shame, young girl, 17 years old, all of a sudden starts growing facial hair. Like a beard. And I mean, it's terrible for it. She's 17 years old. She's in matric. You know, it's not the time that you want to be dealing with something like that. And

I mentioned to her that it could be I mean, endometriosis, which can cause extra male hormones in the body. And by sending her that little write-up she went and saw a doctor, and it was. I think the more information people are given these days, the better.” (36, Female, Self Employed)

Another participant noted that in addition to their previous knowledge, upkeep with current affairs and the training in their profession to influence their evaluation of online health information

“I think because I'm a logical person. I read a lot; I keep up to date with things. And my line of work also requires me to be able to assess what is true and what is not. I think my training in my profession assists me.” (50, Female, Magistrate)

4.6 Perceived Impact and Accessibility

4.6.1 Accessibility

When participants were asked about the accessibility of online health information, participant covered their ability to understand the information. Several participants noted that they found online health information to be easy to understand, with two participants noting that they may

have background information to help guide them when looking for information on a health condition they have been diagnosed with.

The extensive amount of information that is available on the internet allows health information to be easily accessed. Participants noted that depending on the specificity of their research, their health-related questions could easily be answered, but medical jargon is used which may make information more difficult to understand and deciding on a trusted source can be difficult.

“...there is so much information out there, you can research anything and get the answers.”
(36, Female, Business Development Manager)

“Yeah...the accessibility, you can google something, and you’ll find a lot of information about it, so to choose one that’s the difficult part. And to understand it, most of the time if you rely on a source and if it is from a doctor, they do tend to speak in certain terms; medical jargon. And that’s okay but it’s not very easy to understand. Unless you’ve been researching it for a very long time and you want to know more about it, then you’ll figure out the jargon and certain words that they use, but if you’re not familiar with it and you’re going online to look for something for the first time, to find that information is a *bietjie* hard to understand.

You have to really figure it out and go into it, do you know what I mean?” (39, Male, Upholsterer)

One participant noted encountering restriction accessing certain information, specifically where the user is required to sign up to a website to access more information.

“I know this is just for NCD’s, but sometimes when you’re doing research on other things – like weight loss is a big one – then you must sign up for all this and that, and that puts me off.” (41, Female, Senior Planner)

Despite weight-loss not always being a health concern, it can be related to measures to prevent contracting certain NCD’s. One participant also noted that despite being able to find health-related information with ease, the information may not be accurate.

“Yes and no – yes you’ll find an answer quickly and no because I do thorough research, so I don’t just take the first thing I see. So yes and no.” (37, Male, Technical Advisor)

“Look, you know what, for basic information. It starts out clearly and these reputable websites or in my opinion, the reputable websites always tell you; you need to consult your doctor. Do not take what we are seeing as meaning A B or C, you know. Yeah, I think I do get the information I need. And I think it's also important, you know, like if you’re presenting for example, with symptoms going and you want to read up about it, I mean you gathered this information and then when you go to your doctor and you know exactly where you stand, you know what's being spoken about and having that knowledge actually help.” (50, Female, Magistrate)

4.6.2 Perceived Impact

The perceived impact of shared information varies, some participants noted that the shared health information that they receive is somewhat likely to have a perceived impact on their behaviour – but not entirely. Participants noted that they may implement parts of what they read or influence their lifestyle decision, but not greatly influence their overall behaviour. One participant noted that receiving shared information about NCD’s may prompt them to do more research themselves on a particular topic.

“Yes definitely, I do read most of the articles and if it makes sense to me I’ll take portions and try to implement it in my life. I won’t sit down and read the whole thing and say I’m going to live my life according to what this person says though.” (46, Male, Self-Employed).

Some participants held the opposite perspective and noted that they don’t perceive this information to have an impact on their behaviour because they don’t trust it, or the concerns aren’t relevant to them.

“No, because I’ve found that most, if not all information is either completely false, or partly false, therefore I do not trust it nor act upon it.” (36, Female, Business Development Manager)

4.7 Perceived impact of information gained through health-seeking

When participants were asked about the perceived impact of information gained through health-seeking, several participants noted that they were more trusting of this information in comparison to shared health information, as the topics that they research may be more relevant to their specific health concerns.

“I suppose if I’m probing, it’s already questions in my mind, so I’m going to tend to go deeper, rather than things prompting me because I might not necessarily be interested at that time or find that it doesn’t relate to me, so I’m not going to bother to go there. Because what tends to grab people are things that were on top of their mind already and something that they were thinking of.” (41, Female, Senior Planner)

Two participants noted that they were reluctant to allow online health information to impact them as it may not be entirely applicable to them. One participant noted that the health information that they encounter online may work for other people but that doesn’t necessarily mean it would work for them and if it did, it may not be impactful for a long period.

“If I find something that makes sense it will probably impact me, but it will only impact me for then and after a while I’ll go back to my old ways again. Like I said, if I get any information I don’t take it immediately, I first want to do research on it – so if I do find something and I do research on it I will believe it, even if I find something on the World Health Organization website and I can see it works for other people, it doesn’t mean it’ll work for me.” (37, Male, Technical Advisor)

Another participant noted that the majority of the information that they encounter online comes from a Eurocentric perspective, and may not be applicable for their lifestyle as an Indian person, therefore they would need to adapt the information if they wanted to implement it, and even so they don’t believe that what they read is likely to greatly impact their behaviour.

“Because, I mean, one must bear mind that. A lot of the you know, coming back to whether it’s an international Web site, whether it’s a local Web site, and I just expect in the advice given or just dietary requirements given, for example, fit in with needing an Indian person, because all of these things are quite Eurocentric, which would not necessarily be something

that I could just easily just to, you know. So if you take all of the information and then, not necessarily that I'm going to follow that to the letter, but you've got to adapt things. I cannot say that 100% what I read is going to impact on my behaviour. Might give me food for thought, but definitely not. I can't say that I would take that advice altogether.” (50, Female, Magistrate)

Lastly, several participants noted that they perceived the information that they've gathered utilizing their searches to be more likely to impact their behaviour. Participants noted that they are more likely to trust this information as they've evaluated it themselves.

“I find that my information is more trustworthy because I've done the search myself – if I go with shared information, I will search the information shared with me.” (43, Female, Director).

Chapter 5: Discussion

5.1 RQ1 - How do middle-aged South Africans navigate online health information?

Participants interacted with online health information through their own health-seeking behaviours as well as shared information via social media. Many participants seemed aware of the frequency of misinformation online and expressed their distrust of shared online information, especially information from individuals who participants may not know well, or those who tend to share information constantly without checking if the information is accurate.

With regards to their health-seeking behaviours, participants relied on online health information for various reasons, including looking up symptoms, finding information about recovery, empowering themselves with more information, finding out information about an existing condition, but only in addition to consulting a health professional. Contrary to Marie Huag's theory of 'deprofessionalization', participants did not seem to intend to use the health information they gained online to reduce their dependency on health professionals (Haug, 1973), but rather to inform themselves. In line with the notion of the 'digitally engaged patient' (Maslen & Lupton, 2018) participants made use of online health information to equip themselves with information that they can take to their doctor or follow-up on advice given by their doctor. Similar to findings in Maslen and Lupton's study (2018), one participant noted that they would use online health information to somewhat challenge the medical authority of their doctor by searching for different medical advice on their diagnosis, but not use it as a replacement for health professionals.

"... that's what I've noticed about my experience with doctors, most of them are just based on their assumption of what a diagnosis might possibly be; doesn't mean he's right or wrong, another doctor might give you a totally different diagnosis. So I search my symptoms on reputable websites and then from there I make my judgement." (37, Male, Technical Advisor)

Supporting Rice's study, many participants began their health-seeking method by using Google as a search engine and thereafter looked at the information on several websites, with repeated information across multiple sites reassuring them that the information was trustworthy (Rice, 2006). With some participants, this method was also applied when assessing shared online

health information, if their first impression of the shared information was deemed worth doing additional research. Scullard's study looking at paediatric health information showed how easy it is to come across inaccurate health information online (2010), and participants seem to be aware of this. Multiple participants expressed that they were still sceptical about the information they found online and would prefer following-up with a health professional but would ask them about the information that they encountered online.

“Do I ever find it trustworthy actually? This is why I end up verifying with my doctor because I took things at face value I probably wouldn't go to my GP – if I trusted it 100%.” (41, Female, Senior Planner)

“...I use it [online health information] for information purposes only and will visit a doctor for medical advice.” (36, Female, Business Development Manager)

5.2 RQ2 - How do South Africans engage with health information online?

The majority of participants emphasized that they did not engage with online health information very frequently, but that this practice was occasional. There is the perception that a lot of health information circulated on social media is misinformation with no scientific backing to the health advice being offered. As illustrated in the previous chapter; participants noted that users tend to share information based on what's relevant at the time and seem to be more concerned with veracity rather than accuracy.

“I find things that are just forwarded right, by people do not so much for veracity of what is contained during as opposed to, you know what, this is popular, it sounds interesting.” (50, Female, Magistrate)

This response falls in line with the literature as these individuals seem to share content related to a specific narrative (Del Vicario et al., 2016). Many participants refused to engage with forwarded information on social media platforms, this reluctance to engage was based on the assumption that the information was inaccurate. Participants seemed to be aware that misinformation can be shared honestly, without the user sharing the information having the intention to mislead or deceive recipients (Kumar & Geethakumari, 2014). This selective

engagement is similar to findings in Maslen & Lupton's study where several participants noted that they were selective with their engagement with online health information due to their awareness of the limitations (2018).

Some participants noted that they found sharing of health information to be useful in certain contexts, mainly if it was be sharing with them regarding a specific health concern they may have by someone they know personally, and one participant said that they would share health information with someone who may be concerned about a particular condition. A few participants specifically noted how their occupations in three separate industries play a role in how they evaluate and engage with online health information. One participant noted that they worked for a hospital and despite not having a background in health sciences, they were very influenced by what their colleges and the hospital administration would tell them. Due to this, they were reluctant to engage with any other form of health information unless it was from the South African Department of Health or WHO. The second participant noted that the training that comes with their job as a magistrate allows them to decipher between accurate and false information but notes that medical jargon does get in the way sometimes. The third participant noted their occupation in the beauty industry required to interact with online health information surprisingly often. The participant explained that many of their clients suffer from NCD's including conditions like breast cancer and endometriosis. Specifically, with cancer treatments, the participant needs to know what stage of treatment the client is in before proceeding with certain cosmetic procedures such as having permanent make-up applied. The participant also noted how some of their client's experience side effects as a result of treatment or symptoms of NCD's that they may be embarrassed to disclose with their doctor. This is similar to findings in Costello's research where participants noted that they turned to the internet they thought to be unsuitable for their healthcare providers (2016). Due to this, this participant tends to share online health information with clients and consult the internet regarding certain NCD's that their clients may be experiencing.

5.3 RQ3 - What factors determine what they consider to be a reliable online source?

In terms of evaluation, when encountering shared information participant mentioned that about the information being accompanied a credible source, or a paper trail that establishes where the information originated from. Some participants found that while actively managing their health

using different information sources online, they were aware of the limitations and how they may be at risk of finding information that would cause unsubstantiated anxiety, hence why they are selective with their engagement (Maslen & Lupton, 2018). Participants may also grow anxious from encountering health information which may impact their emotional well-being negatively, such as articles indicating that products used in their line of work may be associated with increased risk of contracting an NCD.

Participants considered the following factors as 'reliable', therefore considering them to be indicators of trustworthy information; information from a website of a well-known organisation, familiar names, user-friendly website interface, government websites, pharmaceutical companies, recognised health organisations. In terms of the content of a website, reliable factors that participants looked for included; a reputable author who was relevant to the field, a current date of publication, scientific proof or examples to back up statements, contact information and the location of the organisation running the website, or the author of the article, proper spelling and grammar, and content that was straightforward. These factors are similar to Maslen and Lupton's study, where participants identified trusted government health websites, well-known medical websites and high-profile organisation as a way to evaluate the quality of a website (2018). Overall, participants noted that these factors were associated with professionalism and that in addition to these factors, a website should look aesthetically appealing in order for it to be considered trustworthy. Participants noted that some of their trusted sources included WebMD, the Department of Health, the World Health Organisation (WHO), Mayo Clinic, the Kidney Fund and Government Websites. Several of the factors mentioned by participants have been included in studies as factors that doctors associate with reliable information; including the organisation, a website is linked to, the author's profession, the date of publication and valid references (Abell & Ey, 2008; Valeo, 2011).

When it comes to factors that participants consider the information as not trustworthy; this includes opinion pieces that aren't backed up by fact, information with no scientific backing, poorly-structured websites, websites with an unorganised set-up, websites aiming to sell a product, information written by laypersons, websites with a lot of advertisements, and websites that were 'home-made'.

“Well obviously if a website is suspicious in the sense of being home-made, unprofessional maybe done from...not a proper domain?” (46, Male, Self-Employed)

“If it looks like something that’s...not appealing, what’s a word I can say? if it doesn’t look sketchy – do you know what I mean? If it doesn’t look like someone put up this page somewhere at home, I tend to trust it more.” (39, Male, Upholsterer)

All of these factors were considered to make a website seem more unprofessional. Contrasting Maslen and Lupton’s study (2018); participants did not seem to consider social media groups or forums when evaluating online health information as these platforms were associated with shared information informed by people who were not health professionals, therefore considering it to be unreliable. Two participants noted that they would look at websites that had some of these unreliable factors whilst searching for health information to gain a well-rounded view on a topic, for example, watch a YouTube video about a health concern, but they would not necessarily trust it entirely.

Amongst participants there seemed to be a contradiction regarding advertisements and whether they are considered to allow participants to perceive the information as more trustworthy or less trustworthy. Two participants noted that they would receive shared online health information via targeted advertisements or sponsored posts, one participant noted that it was relevant to their researches regarding diabetes and weight loss, and usually, these advertisements would offer more information on a condition and potentially try and sell some type of remedy, which makes them perceive it as less trustworthy. The second participant noted that they received targeted advertisements and sponsored posts regarding NCD’s like Cancer offering more information about a disease and being linked to an event to raise money and/or awareness of this disease, this participant considered these advertisements to be more trustworthy as they were linked with a reputable organisation, and aiming to fundraise or raise awareness of a condition, and they couldn’t find a reason for the organisation to lie or spread misinformation. As discussed in the literature, Facebook has implemented a community-driven approach to dismantling the spread of misinformation (Del Vicario et al., 2016), but are sponsored posts considered an exception if users consider them to be reputable? With regards to evaluating a website, participants seemed warier of whether or not the advertisements displayed were trying to make a sale and regarded these as less trustworthy. Advertisements

on websites were also considered to be inconvenient and disruptive and were generally considered to make participants trust a website less.

5.4 RQ4 - Do they perceive the information that they encounter to influence their behaviour?

Participants perceptions of whether online health information varied depending on whether the information was shared with them or they sought the information themselves. Perceptions varied amongst participants and were dependent on their trust of online health information, how they evaluate online health information as well as some additional factors such as occupational influence and their intuition.

Depending on their methods of evaluation, some participants would also rely on their intuition on whether or not they trust the health information they encounter online. Often if they had a positive and trusting feeling towards the information, it was more likely to influence their behaviour. Two participants noted that interacting with online health information sometimes evoked an emotional response if the information was directed at their lifestyle it may concern them, or the information was clearly false it may cause them to become irritated or angry. This may perhaps influence how they treat future health information that they receive and may lead to them ignoring shared health information to avoid this response.

Some participants noted that they may implement parts of health information they received online, especially information that indicated preventative measures or early signs of certain NCD's, but they weren't likely to live their lives according to that one piece of health advice. One participant noted that they may implement certain behavioural changes, but it was very likely to be short-lived. Another participant noted that they probably don't actively implement behavioural changes based on online health information, but it could subconsciously affect them and make them second-guess certain behaviours that were in-line with the information they received. The majority of participants emphasized that before implementing health information they've encountered online; they would consult their doctor. This is similar to findings in Costello's study whereby participants all noted that despite making use of the internet to find health information, their decisions regarding self-care would be made primarily on the advice of a healthcare professional (Costello, 2016).

Participants who had negative perceptions towards online health information or generally did not trust the health information they encountered online noted that they actively did not allow online health information to influence their behaviour. As mentioned in the previous chapter, one participant noted that majority of the health information that they encounter online comes from a Eurocentric perspective and isn't necessarily applicable for their lifestyle as an Indian person living in South Africa. Due to this, the information is less likely to impact their behaviour as they would have to adapt it to apply to their lifestyle, this participant also specifically noted struggling to find information in the South African context when receiving a diagnosis.

“I'm actually a cancer survivor. I'm not sure if I can use that term like it, but I'm in remission. I have not really found that say when you Google Cancer, I haven't really found anything from South Africa that pops up.” (50, Female, Magistrate)

Chapter 6: Conclusion

When reviewing the literature on the topic of online health information, there is a noticeable gap with regards to issues of trust and credibility (Higgins, 2011). This study aims to address this gap and to investigate how middle-aged South Africans navigate online health information. Given that this was a qualitative exploratory study, the results are not generalisable to the entire population of middle-aged adults in South Africa, but some insights were uncovered that gives an indication on how these participants navigate online health information; namely how they engage with online health information, what factors influence what they perceive to be trustworthy online and whether they perceive the information that they encounter to influence their behaviour.

Some of the key findings to come out of the data was the following; participants seem to be aware of the frequency of misinformation online based on their distrust of shared online health information and were reluctant to engage with shared online health information, mainly information that was forwarded to them. When participants do engage with shared online health information, they employ basic evaluations of shared information and search for a credible source before trusting this information. Some participants make use of online health information for their health-seeking behaviours and whilst conducting their own searches, cross-referencing information seems to be a commonly used method of evaluation, with familiar or repeated information allowing participants to feel more trusting that the information is reliable. With regards to factors that influence participants perceived reliability of online health information; participants emphasized the need for a credible source attached to the information or website that they are reading. Participants seemed to be more trusting of names of organisations and brand that were familiar to them and found that repeated information through cross-referencing multiple websites made them perceive the information as more trustworthy. Lastly, some participants noted that their occupations influence how they evaluate and engage with health information, despite their work not always being in the health field. One participant also noted a lot of online health information coming from a Eurocentric perspective and may not be entirely applicable in a South African context.

Given that this study was exploratory, some new topics have emerged to be built upon for further research; a similar study with a larger sample size could be conducted to achieve data

saturation. Similar to the Diepsloot-based study looking at age-risk perceptions of non-communicable diseases (Kaba et al., 2017), a comparative analysis of perceived reliability of online health information may yield more interesting insights on how different age groups interact with online health information, and what they trust. Lastly, participants in this study made no mention of restricted access due to online health information due to service provider costs or access to digital devices, which is not representative of the digital divide that exists in South Africa.

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Appendix

Appendix A – Consent Form



UNIVERSITY OF CAPE TOWN
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Title of research project: Perceived Reliability of Online Health Information

Names of principal researcher(s): Fadiyah Rabin

Department/research group address: Centre for Film and Media Studies, University of Cape Town (UCT), Private Bag, Rondebosch, 7700.

Telephone: 082 376 2044

Email: RBNFAD001@myuct.ac.za

Name of Participant:

Nature of the Research:

Qualitative human-subject research.

Participant's Involvement:

1. What's involved:

Participants will fill out a qualitative survey and partake in a 20-30 minute interview via phone or online correspondence.

You will need to meet the following criteria for this study:

- Must be between the ages of 36-50.
- Must be a South African Resident.
- Must be English Speaking
- Must have no background in Health Sciences.

2. Risks:

There are no risks involved in the participation in this study.

3. Benefits:

Your participation in this study will provide insight into how South Africans navigate online health information in South Africa.

- I agree to be interviewed for the purposes of the student assignment named above.
- I understand that I am under no obligation to take part in this project.
- I understand that I have the right to withdraw from this project at any stage.
- The purpose and nature of the interview has been explained to me, and I have read the assignment and/or information sheet as provided by the student.
- I agree that the interview may be electronically recorded.
- Any questions that I asked about the purpose and nature of the interview and assignment have been answered to my satisfaction.

Choose by highlighting a), b) or c):

a) I agree that my name may be used for the purposes of the assignment only and not for publication.

OR

b) I understand that the student may wish to pursue publication at a later date and my name may be used.

OR

c) I do not wish my name to be used or cited, or my identity otherwise disclosed, in the assignment.

Name of interviewee: _____

Signature of interviewee: _____

Date: _____

I have explained the project and the implications of being interviewed to the interviewee and I believe that the consent is informed and that he/she understands the implications of participation.

Name of interviewer: Fadiyah Rabin

Signature of interviewer: _____

Date _____

Thank you for your participation and support of UCT Film and Media Studies students.

Perceived Reliability of Online Health Information Study

Thank you for volunteering to participate in my focus group looking at the perceived reliability of online health information. I am a postgraduate student at the University of Cape Town currently completing my Bachelor of Arts Honours in Media Theory and Practice. This research forms part of my final project.

Non-communicable diseases (NCD's) are non-infectious health conditions. Risk factors such as lifestyle, background and environment can increase the likelihood of certain NCD's. Cancer, cardiovascular disease and diabetes are amongst the leading cause of death in South Africa, with many of those deaths occurring before 60 years old. Prevention or delay of the onset of NCD's is considered to be more effective and costs less than treatment. Given the current COVID-19 pandemic and the growth of internet-enabled new media, there is massive potential for revolutionary health education. Some doctors admit that the information that patients find online can assist them in becoming more knowledgeable about their conditions and treatment options that are available. However, is the information available online reliable?

This survey aims to explore the factors considered by middle-aged South Africans when navigating online health information and is to be accompanied by a follow-up phone interview.

For any further questions please contact Fadiyah Rabin rbnfad001@myuct.ac.za

* Required

1. Name *

2. Age *

3. Gender *

4. City *

5. Occupation *

6. Highest Qualification / Highest Education Level *

Section A - Shared Information

7. Do you typically receive shared information about non-communicable diseases (e.g. Diabetes, Cancer, Cardiovascular Disease) via social media? *

8. If yes, on which social media platforms do you receive this information? *

9. Do you think that shared information about non-communicable diseases impacts your behaviour?
(i.e. If a prevention method is shared with you, do you implement it?) *

10. Do you consider the shared information to be trustworthy?

11. Have you ever received shared health-related information that turned out to be inaccurate?

*

12. If your answer to the previous question was yes - how did you come to realise that the information was inaccurate?

Section B - Health

Seeking

13. Outside of the COVID-19 pandemic, do you typically look for health information online? *

14. What are your motivations for searching for health-related information online? *

15. Which online sources do you make use of when looking for information on NCD's *

16. Do you consider some websites/online sources to be more trustworthy than others? If so, why? *

17. Do you find health information easy to understand and access online? *

18. Do you easily find answers to health-related questions online? *

Thank you for completing this survey.

You will be contacted with regards to your follow-up phone interview shortly.

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Appendix C – Interview Questions

These questions will be asked via one-on-one phone/virtual interviews.

Section A – Shared Information

If non-communicable diseases aren't relevant for participant answers, ask in the context of general health information.

1. Who typically shares health-related information with you via social media?
 - a. What health concerns do they usually refer to? (e.g. Remedies, prevention, more information about conditions etc)
 - b. How do you react to this information when you receive it? (e.g. Ignore it, read it immediately, share with others etc.)
 - c. Do you find this information to be trustworthy?
 - Why/Why not?
 - d. How do you go about deciding if this information is trustworthy or not?
2. Does the way you receive this information impact whether you find it to be trustworthy?
 - a. How so?
3. Do you think that shared information that you receive impacts your behaviour?
 - a. If yes, why?
 - Do you act on the information you receive?
 - How does it impact your actions?
 - b. If no, why not?
4. Do you consider **shared** information surrounding NCD's to be reliable?
 - a. Why/Why not?
5. Do you consider yourself to be intuitive to identifying false information?

Section B - Health-Seeking

If non-communicable diseases aren't relevant for participant answers, ask in the context of general health information.

1. What methods do you use when searching for information about non-communicable diseases online? (*Do you Google? Use a website, visit a specific social media platform or YouTube channel?*)
2. What are your most trusted online sources when looking for information specifically looking at non-communicable diseases?
3. In your opinion, what makes an online source for health information trustworthy?
 - a. What factors do you consider make a source more trustworthy?
2. What do you consider an indicator on a website that says the information is unreliable?
3. Do you find online health information to be accessible and easy to understand?
 - a. Why/Why not?
4. Do you think that information you find online when conducting your own searches impact your behaviours?
 - a. If yes, why?
 - b. If no, why not?