Cultural Health Literacy: A Case Study of Somali Refugee's Information-Seeking Behavior and Health Communication Praxis

by

Andrea McKinnon

Liberty University

A Dissertation Proposal Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy
School of Communication and the Arts

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Abstract

This case study examines Somalian refugees who have sought health information from a trusted source and how it affected their health decision. Health literacy, the ability to find, understand, and use health information and make health decisions, is an understood barrier to achieving optimal health. Social determinants affect an individual's ability to access and appropriately use the information for decision-making. The communication inequality theory states that health disparities occur when communication inequalities transpire across the communication continuum, and inequitable access to learning manifests within specific individuals or groups. Research data was collected using a sociodemographic and SNS use questionnaire and interviews. The findings were analyzed using a spiral analysis process. Data analysis determined four themes and eight subthemes answering the CRQ and SRQs. Information access, information processing, source trust, and decision-making themes guided the research findings and implications. This study showed that those with more education and who were proficient in English had more access to mediating communication factors, allowing them to intentionally look for and understand health information to gain knowledge to make an informed health decision.

Keywords: health communication, health literacy, communication inequality, case study

Dedication

This dissertation is dedicated to my husband, children, parents, and my Heavenly Father. My husband and best friend, Todd, has been supportive and patient as I have continually pursued my education and has encouraged me every step of the way. My children Austin, Kylee, and Katie, have been my teammates and biggest fans through thick and thin. They are what is good in this world and inspire me to be my best. My parents are perfect examples of love and support. They have been there through my life's very highs and lows and loved me through it all. I have felt my Heavenly Father with me every step of the way. "Be still and know that I am God" (*King James Bible*, 1769/1979, Psalms 46:10) is my favorite scripture because being still is not easy for me, but when I am still, I can set aside all my thoughts and listen to what He has planned, which is how I got here and will know what is next for me.

Acknowledgments

My sincere gratitude to my chair, Dr. Widgeon, for your time, mentorship, guidance, support, and continual prayers during this journey. I also thank my committee for your suggestions and expertise. I acknowledge and appreciate the support of the community-based organizations that were open to my research and assisted me in recruiting participants for this study. I am grateful for the role of my friend Ayan Nor, who introduced me to and connected me with the Somali community and organizations and assisted me in gaining trust with the community. I could not have completed this study without you. I am thankful to my family for your love and belief in me.

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List of Abbreviations

Centers for Disease Control and Prevention (CDC)

Central Research Question (CRQ)

Certified Health Education Specialist (CHES)

Community-based organization (CBO)

Community Health Worker (CHW)

Electronic technologies in health, healthcare, and public health (eHealth)

Healthy People (HP)

Institutional Review Board (IRB)

Limited English Proficiency (LEP)

Social determinant of health (SDOH)

Socioeconomic status (SES)

Social networking site (SNS)

Structural influence model of communication (SIM)

Sub-Research Question (SRQ)

Chapter One: Introduction

Overview

Health literacy is a worldwide communication issue that can determine an individual's health outcomes. "Health literacy is important for everyone because, at some point in our lives, we all need to be able to find, understand, and use health information and services" (Centers for Disease Control and Prevention [CDC], 2022 September, para. 1). Every person must make decisions that will affect their health throughout their lifetime, no matter where they live, what language they speak, or their cultural background. These decisions are guided by the health information people can access by hearing, seeing, or reading the information through various sources. Then, based on their understanding, individuals must use the information to choose actions that will contribute to their health outcomes. "Taking care of our health is part of everyday life, not just when we visit a doctor, clinic, or hospital. Health literacy can help us prevent health problems, protect our health, and better manage health problems when they arise" (CDC, 2022 September, para. 2). Communication inequality exists when someone cannot access or have the same opportunity to understand the same health information as their peers.

This chapter introduces the topic of health literacy and provides a background with a historical overview. The social aspect of health literacy is related to culture and how Somali refugees' perspective of health affects their health literacy and health outcomes. The theoretical context introduces the theory and model used for the study. The researcher's positionality explains the researcher's relation to health literacy, health education, and the Somali community. The study's problem, purpose, and significance are shared, and research questions are stated. Finally, the definition of terms are given in relation to the study, along with abbreviations used in the paper.

Background

Health communication occurs by sharing health advice between friends, from a healthcare provider to their patients, through public health campaigns, or even opinions shared through mass media channels. Viswanath and Ramanadhan (2008) explained that health communication is not equally accessible, understandable, and usable for all individuals based on social determinants such as education, socioeconomic status (SES), language, age, gender, or geographic place. The benefits of receiving and understanding health information allow individuals to make decisions for their health based on the information. Those who cannot access health information in a language they understand that aligns with their cultural beliefs through a trusted source or seek information to manifest learning are more likely to have adverse health outcomes (Calvillo-Ortiz et al., 2022).

This study focuses on health literacy and the availability of health information from a trusted source for diverse cultural populations, which allows them to seek information they can understand to make health behavior decisions. Navigating new and unknown health information can be confusing and overwhelming for individuals coming to the U.S. from other countries with different health systems and cultural beliefs. Much information is translated into familiar immigrant and refugee languages to accommodate. Still, this service does not account for cultural health differences or those who are illiterate in any language.

Historical

The topic of health literacy was added to Healthy People (HP) 2010 objectives and has been further defined and explored in HP 2020 and 2030 goals. The Secretary's Advisory Committee advised expanding the scope of health literacy in HP 2030 objectives as health literacy research from previous HP objectives revealed the impact of health literacy on society

(Healthy People 2030, n.d.-b). The committee realized health literacy had focused on the individual and should include organizational responsibility from where much health information originated. Therefore, the differentiation between personal and organizational health literacy needed to be defined (Healthy People 2030, n.d.-b). Personal health literacy acknowledges that individuals have various changing skills which affect their "ability to find, understand, and use health information and services to inform health-related decisions and actions for themselves and others" (Healthy People 2030, n.d.-b, para. 3). Organizational health literacy acknowledges that organizations have a responsibility to "equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others" (Healthy People 2030, n.d.-b, para. 3).

According to Healthy People 2030 (n.d.-a), health literacy is a primary focus of HP 2030. One of the initiative's principal communication goals is to "eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all" (Healthy People 2030, n.d.-b., para. 1). A 2003 study by the National Assessment of Adult Literacy shows that only 12% of U.S. adults have proficient health literacy skills (U.S. Department of Health and Human Services, 2019). Almost nine out of ten adults do not have proficient health literacy skills to make informed health-related decisions for themselves and others. Health literacy requires many skills, including reading, understanding, and evaluating information; deciphering instructions, charts, and diagrams; and making decisions toward an action (National Institutes of Health, (2021). Low health literacy contributes to improper use of medications, improper or no use of health services, poor self-management of health conditions, lack of self-efficacy, and social inequity (Zarcadoolas et al., 2006).

Various factors may influence an individual's health literacy skills and communication with others, affecting their health outcomes. Some health literacy factors include income, education attainment, race/ethnicity, age, and health insurance coverage (Healthy People 2030, n.d.-a). Some of the most significant differences in health literacy are among racial and ethnic groups from diverse cultural backgrounds and those who do not speak English as a first language (Healthy People 2030, n.d.-a). Individuals with limited English proficiency (LEP) and low health literacy have consistently received lower-quality treatment and have poorer health statuses than those without these barriers (Green & Nze, 2017).

Individuals must be able to find, understand, and use basic health information to make appropriate health decisions for optimal health outcomes. When health information is not communicated clearly to an individual, it can be detrimental to their life (Borg et al., 2019). Failure to find equitable and trusted ways to share health information with individuals with low literacy skills or LEP could result in unfavorable health outcomes. These inequities in communication often include disproportionately receiving or understanding culturally or linguistically appropriate critical health information for individuals or groups. Many communication inequalities are rooted in not understanding and developing health communication that meets the audience's health values and needs (Clark et al., 2014). Creating trustworthy, believable information and sharing through the appropriate communication channels for the target audience will remove some communication inequalities (Clark et al., 2014).

Social networking sites (SNS) are cost-effective, two-way communication channels to deliver tailored health information and build relationships with a target audience. Compared to 15 years ago, when SNS were in their infancy, there are now more instant and constant opportunities to share tailored health communication than when mass media options were television, radio, magazines, and newspaper.

It is imperative to share health communication with a target audience where they can access the information. According to the Pew Research Center (2021b), the following are statistics of SNS. 72% of U.S. adults ages 18 and older use social media, and 70% use Facebook daily. The ages of those who use social media are 45% ages 65+, 73% ages 50-64, 81% ages 30-49, and 84% ages 18-29. The race/ethnicity and gender of those who report using social media are 69% White, 77% Black, 80% Hispanic, 78% women, and 66% men. According to income levels, 69% of social media users make less than $30K, and 78% earn $75K+. The education level for those using social media is 64% for those with a high school degree or less, 76% for those with some college, and 77% for college graduates. Lastly, the geographic living areas of those who use social media are 66% in rural areas, 71% in suburban areas, and 76% in urban areas. The most popular platform is YouTube with 81%; second is Facebook with 69%; third is Instagram with 40%; fourth is Pinterest with 31%, and fifth is LinkedIn with 28%.

The current user demographics for YouTube, according to Pew Research Center (2021b), indicate 95% of social media users aged 18-29, 91% of ages 30-49, 83% of ages 50-64, and 49% of users aged 65 and older use the platform. Additionally, 82% of male and 80% of female social media users are on YouTube. Also, 85% of Hispanic adults, 84% of Black adults, and 79% of White adults use YouTube. Pew Research Center indicates that 70% of adults with a high school diploma or less, 86% with some college, and 89% with a college degree use YouTube. For those with a low income of less than 30K, 75% report using YouTube, followed by 83% for those making $30K to $49K, then 79% for those making 50K to 74K, and 90% for those making 75K+ report using the YouTube platform.

According to Pew Research Center (2021b), the current user demographics for Facebook indicate that 70% of social media users aged 18-29, 77% aged 30-49, 73% aged 50-64, and 50% of users aged 65 and older use the platform. Additionally, 61% of male and 77% of female social media users are on Facebook. Also, 74% of Black adults, 72% of Hispanic adults, and 67% of White adults use Facebook. Pew Research Center indicates that 64% of adults with a high school diploma or less, 71% with some college, and 73% with a college degree use Facebook. For those with a low income of less than 30K, 70% report using Facebook, followed by 76% for those making $30K to $49K, then 61% for those making 50K to 74K, and 70% for those making 75K+ report using the Facebook platform.

Addressing communication inequalities using tailored SNS campaigns is one way to extend health communication. Designing an effective health campaign for each specialized population requires awareness of their relationship, attitude toward the health topic, and media habits. For health communication to be effective, information or campaigns must focus on the desired behaviors and address systemic barriers affecting the action. Researchers explain that to "affect individual or social change, communication and marketing strategies must be research-driven and audience-centered, that is, strategically designed based on the audience's values, needs, concerns, and motivations" (Friedman et al., 2016. p. 83).

Most studies on the relationship between health literacy and health disparities have focused on race/ethnicity as the predictor of health outcomes. Understanding the health communication inequalities present in society that are mediators of health outcomes is critical. Increasing health literacy is vitally important to improving health outcomes. However, understanding the various factors that interplay with health literacy should be considered (Schiavo, 2011). Few studies have sought to understand the relationship between health literacy and SNS and how obtaining health information on platforms affects decision-making (Kim & Xie, 2017).

Scholars have called for those in health communication, health education, and health literacy disciplines to collaborate on efforts to equitably provide culturally appropriate information and equitable access to resources for all populations (Allen et al., 2017). There is a shared foundation in these fields of study. Reaching across discipline boundaries can transform health communication practices and research (Allen et al., 2017). Health communication brings together individuals, communities, the under-resourced, and stakeholders to seek common understanding and meaning. Health literacy is a multidisciplinary set of systems and individual skills and abilities that influence health behaviors and outcomes. While health education promotes healthy behaviors and encourages system changes in communities to prevent disease. The three disciplines working together can improve the health of communities by providing accessible and usable information to maximize opportunities for cross-sector collaboration (Allen et al., 2017).

Social

Sociocultural Tradition

Sociocultural theorists believe communication shapes, produces, maintains, and transforms an individual's reality (Apuke, 2018). Through communication, a person obtains an understanding of words and signs that shape their growth (Apuke, 2018). Communication helps to produce and reproduce a social order (Apuke, 2018). Social structure develops through macro and micro approaches (Craig, 2009). At a macro level, a stable society functions through communication, while cultural patterns and social structures are necessary for communication (Craig, 2009). Everyday social interactions create, alter, and maintain meaning and structure at a micro level (Craig, 2009). The sociocultural tradition “explores the interactional worlds in which people live, positing that reality is not an objective set of arrangements outside of us but constructed through a process of interaction in groups, communities, and cultures” (Littlejohn et al., 2017).

Culture

Culture is the process of a society’s observable structure of behaviors and interactions (Klyukanov & Sinekopova, 2019). Culture is the meaning created in a society through its shared beliefs, customs, behaviors, traditions, communication styles, and socialization patterns (Klyukanov & Sinekopova, 2019). Culture is multidimensional and constantly evolving, providing a group’s social structure (Kagawa-Singer et al., 2015). Through shared cultural perspectives, universal structures are formed and carried out within a family, school, health care systems, etc.

Every cultural group has its perspective on health and healing systems (Kagawa-Singer et al., 2015). Women from Bosnia, Iraq, and Somalia reported experiencing vastly different preventive visits in their home countries than in the U.S. (Saadi et al., 2015). The culture of the healthcare system in the U.S. is to take preventive care measures, make a medical appointment and consult a medical provider at a healthcare clinic to receive care and possibly medication. Women refugees from Bosnia, Iraq, and Somalia were used to crisis care. Making appointments and seeing someone about their health concerns to diagnose symptoms and take precautions was new (Saadi et al., 2015). Many from Eastern cultures, such as Somalia, consult a traditional healer, involve their family in their health decisions, and use herbs and other traditional medicines to treat ailments (Centers for Disease Control and Prevention [CDC], 2021). As refugees and immigrants come to the U.S. and must learn to navigate a different healthcare system, their cultural differences affect their health literacy.

Differing national cultures communicate and place their values on elements based on cultural norms and traditional behaviors. According to Croucher and Kelly (2020), a five-dimension cultural comparison framework developed by Hall and Hofstede explains how cultures vary on five continuums. The five dimensions are 1) individualism-collectivism - seeing themselves as "we" or "I", 2) masculinity-femininity - the extent of what motivates people to either be the best or be happy, 3) power distance - how less powerful members accept and expect more powerful members to distribute power unequally, 4) uncertainty avoidance - the degree to which individuals feel uncomfortable with ambiguity and uncertainty of the future, and 5) orientation - if individuals focus on the future or past. According to Hofstede Insights (2022), many cultures within Eastern African countries are highly collectivist societies with a long-term commitment to the group mentality of family and extended relationships. Eastern African countries have high masculinity and low femininity score because they are driven to do their best by being assertive and decisive to excel and win. The power distance is high in their typical hierarchical societies where everyone has a place, and inherent inequalities exist. Societies have an intermediate level of uncertainty avoidance that the future can never be known, sometimes looking for ways to control it and sometimes just letting it occur. Lastly, for orientation, individuals in East African cultures are concerned with maintaining traditions and establishing truth.

Somalia

Somalia is a country on the Eastern horn of Africa along the Gulf of Aden and the Indian Ocean. The country has faced divisiveness since the 1800s as France, Great Britain, Italy, and

Ethiopia each fought to colonize and gain access to precious coastal harbors (Centers for Disease Control and Prevention [CDC], 2008). The continual war over borders in the 19th century left many national Somalis in Ethiopia and Kenya (CDC, 2008). In 1960 the Italian and British areas united, establishing the independent country of Somalia (CDC, 2008). The government of the newly formed country became corrupt by the late 1960s, and the president was assassinated (CDC, 2008). General Mohammad Siad Barre then led the overthrow of the corrupt civilian government and reigned over Somalia for the next 22 years, eventually becoming an oppressive ruler (CDC, 2008). Somalia has been in a humanitarian crisis since 1990 due to political instability leading to a territorial civil war (CDC, 2021). The civil war led to the overthrow and exile of Barre, disabling the country's infrastructure and economy (CDC, 2008). Without a stable government, civilians suffer continual violence, torture, assaults, rape, and starvation (CDC, 2021).

Approximately 9,000 Somali refugees arrive in the U.S. yearly seeking refuge (CDC, 2021). War has affected the education system in Somalia, limiting enrollment for many school-aged children to one of the lowest in the world, estimated at 25% (CDC, 2021). The limited education opportunities have resulted in low literacy rates for adults, with male literacy at approximately 49.7% and female literacy at around 25.8% (CDC, 2021). Adequate education opportunities for Somalis are also lacking in countries where they seek asylum due to limited learning resources and teacher training (CDC, 2021).

Most individuals from Somalia have a shared culture, including the primary language of Somali and the religion of Islam. The Somali culture is family-focused, with men observed as heads of the household and women managing the home and raising the children (CDC, 2021). The elderly in the Somali culture are well respected and counseled on community issues.

Maintaining privacy is essential to respecting religion and community (Eklöf et al., 2020). This respect can be achieved in healthcare by seeing a same-gender healthcare provider, using a same-gender interpreter, and not discussing sexual topics with the opposite gender present (Eklöf et al., 2020). Somalis may be more familiar and comfortable with traditional healers than with Western medicine, which includes fire burning, herbal remedies, and prayer to treat illnesses they believe are caused by spirits (CDC, 2021). Many Somali Muslims abstain from alcohol and have dietary restrictions to avoid pork products and meat that is not halal (CDC, 2021).

A cultural understanding of the fast-growing Somali population in the U.S. is essential for clinicians, educators, and government agencies. There are cultural differences that affect the health literacy of the Somali people. Immunization availability and trust differ in Somalia and the U.S. Many babies in Somalia do not receive immunizations due to a lack of access to the vaccine or lack of communication with parents and caregivers about the risks of disease or mistrust of the vaccines (UNICEF, n.d.). Limited immunization uptake results in disease outbreaks in Somalia of measles, mumps, hepatitis B, and tuberculosis (UNICEF, n.d.). The mistrust and misunderstanding of immunizations present a barrier to vaccination once they arrive in the U.S. (CDC, 2021). CDC (2021) explained that many Somalians lack a basic understanding of reproductive health and family planning methods, and information utilization on the subjects is low due to the conservative culture. They further explained that female genital mutilation/cutting is common in Somali culture and neighboring countries among girls and women ages 15-49. Women also face sexual violence as a weapon of war and are then stigmatized in their culture, leaving many rapes unreported and women withdrawing from social life and dealing with untreated mental health consequences (CDC, 2021).

Somali refugees’ cultural health differences, illiteracy rates, and mistrust as they seek asylum in the U.S. affect many aspects of their lives. Health literacy is involved in several ways. The ability to access information in their preferred language may be limited. If information is available electronically, they must have access to the Internet, know how to use it, and find information in a language they can understand. They also need access to a healthcare provider who understands their culture and decision-making process. If they are illiterate, information needs to be available in their preferred language through video or in person, so they can understand the information and properly use it for making a decision. Seeking information about or deciding on sexual or mental health could be unfamiliar and uncomfortable. These reasons and many more make studying and understanding the communication needs of the Somali culture important for improved health outcomes.

Theoretical Context

Studies in the communication field have sought to understand the mediating factors related to health literacy. This study seeks to identify Somali refugees’ and immigrants' experiences seeking health information. Viswanath’s communication inequality theory supports the idea that health disparities occur when there are differences in the development, manipulation, and distribution of information among social groups and differences in access, use, attention, and comprehension of information channels and media content (Viswanath & Ramanadhan, 2008). The structural influence model (SIM) of communication connects social determinants to health outcomes through communication mediators. The model suggests that health outcomes and disparities can be explained by understanding how social determinants and mediating communication mechanisms lead to “differential communication outcomes, such as access to and use of information channels, attention to health content, recall of information, knowledge, and comprehension, and the capacity to act on relevant information among individuals" (Viswanath & Ramanadhan, 2008, pp 695-696). Social determinants such as SES, geographic place, race, and education influence the information environment and availability of resources leading to differential communication behaviors affecting actions toward health outcomes (Viswanath & Ramanadhan, 2008). "Health disparities, therefore, may be explained partly by inequalities along the communication continuum resulting in a cumulative effect on ultimate health outcomes" (Viswanath & Ramanadhan, 2008, p. 696).

Patterns of inequalities exist in both developed and developing nations. In many African countries, illiteracy and poverty are variables that limit exposure to communication content (Viswanath & Ramanadhan, 2008). In the U.S., attention to media significantly predicts health topic knowledge linked to social capital (Viswanath & Ramanadhan, 2008). Limited health literacy can impede an individual's ability to find and use relevant health information and make decisions related to their health. In addition, SES, race, and ethnicity determinants may blend, creating inequalities, principally in multiracial and multilingual societies (Viswanath & Ramanadhan, 2008).

Refugees and immigrants arriving in the U.S. face additional challenges in communication inequality as they strive to overcome health literacy challenges of linguistic, cultural, and social information access they can find and use to make health decisions. Refugees and immigrants from developing countries have a health literacy shaped by their cultural beliefs, with traditional medicine and spiritual coping being important aspects (Chao & Kang, 2020). The communication inequality theory considers culture as a determinant of health and theorizes that access to health media through trusted social networks will increase information-seeking and improve health outcomes through increased knowledge.

Researcher Positionality

Working in public health for the past ten years with a bachelor's degree in health promotion, I have experience and education in creating health campaigns for diverse populations on various health topics. Becoming a Certified Health Education Specialist (CHES) encouraged me to understand the health education areas of responsibility for assessing needs and capacity, program planning and implementation, evaluation and research, advocacy, communication, leadership and management, and ethics and professionalism. These areas of responsibility are continually utilized in my public health work, allowing me to see where health education is missing the target audience or not resonating as expected. As the Chronic Disease Program Manager at my local health department for many years, I had the opportunity to assess community needs, plan health campaigns and interventions, and implement and evaluate the effectiveness of efforts. Health communication materials were often translated to reach a broader audience with generalized health information. Individualized communication of health information to meet cultural needs is not common in public health. Therefore, it has become increasingly important in my work to partner with diverse communities to understand and meet their needs.

By developing and managing a health literacy program at my local health department, I am uniquely positioned to serve my community in health communication. I currently work alongside many Community Health Workers (CHWs) on the health literacy efforts within our community, many of whom are immigrants or refugees from around the world. Each day, I learn from their diverse perspectives and experiences related to health literacy. I understand the need to research ways to improve health literacy and communication, specifically in my county where 12.4%, approximately 138,000 individuals, of the population are foreign-born and collectively speak 125 languages in their homes (Christensen et al., 2020). Partnering with community-based organizations on health literacy efforts representing my community's many ethnically diverse cultures gives me trusted access through gatekeepers to target audiences for improved health communication. Seeing firsthand how various groups processed, analyzed, and determined their actions related to the COVID-19 disease and vaccine showed me and others in public health that culture plays a vital role in sharing health information.

I have also completed the Institute for Healthcare Advancement Health Literacy Specialist certification program, which focused on credentials in community engagement, ethics, language culture and diversity, public health, communication, education, and organizational systems and policies. These courses taught me additional skills to help me meet and understand the health literacy needs of the diverse population I serve through my job and my desire for continual research. The attainment of my master's degree in communication and pursuit of a Ph.D. in communication also gives me the educational background to further investigate the communication aspects of health literacy. Strategic communication development, information placement, and understanding of a target audience are skills taught in this field that public health does not cover. Having education and involvement in the fields of health communication, public health, and health literacy, I have experience in the disciplines that scholars have requested to approach efforts to equitably provide culturally appropriate information and equitable access to resources for all populations (Allen et al., 2017).

Not being a Somali refugee or having experienced the barriers of accessing, seeking, and understanding health information in a different language and culture with which I am familiar allows me not to have pre-conceived experiences coming into the research. I can take the study participants' experiences at face value and ensure I understand their experiences without biases of my own experiences. My initial outside perspective comes from the literature and co-workers stating an overall frustration for refugees and immigrants learning to navigate the U.S. healthcare system. A constructivist paradigm will allow me to interpret reality by understanding the similarities and differences in lived experiences of Somali refugees. This descriptive case study establishes Somali refugees' and immigrants' experiences in seeking and understanding health information to identify factors in behavior adoption.

Problem Statement

The problem is that refugees, immigrants, and asylum seekers must often make ill-informed health decisions based on limited access to health information that meets their cultural health communication needs resulting in adverse health outcomes. People define health and respond to health communication through a cultural lens, affecting how they seek care, describe and treat symptoms, and adhere to medical advice (Andrulis & Brach, 2007). Improving health information for individuals who are low literate has been approached with the same strategy for culturally diverse and those with low-English proficiency (Andrulis & Brach, 2007). However, those from diverse cultures "may not comprehend easy-to-read Western constructs of health" (Andrulis & Brach, 2007). SDOH, such as race and ethnicity, indirectly impacts an individual's ability to find and use health information (Bigsby & Hovick, 2018). Information-seeking skills are vital aspects of health literacy (Chen et al., 2018). Communication and bridging social capital are essential in community integration, developing trust, and building connections for information exchange (Kontos et al., 2010). Information endorsement from a trusted group and respected source increases credibility (Orji & Mandryk, 2014).

The current literature indicates that barriers to creating culturally tailored interventions include unclear guidelines and inadequate cultural competency training (Joo & Liu, 2021). Joo and Liu (2021) found that culturally tailored interventions increased family and community support and disease knowledge. Therefore, the gap in the literature has been identified as limited research on the effects of information-seeking on health behaviors and how health communication factors such as social capital impact health outcomes.

Purpose Statement

The purpose of this qualitative case study was to examine the health outcomes of Somalian refugees and immigrants who have sought health information from a trusted source. The aim was to identify how seeking health information affected the decision-making process of refugees and immigrants based on mediating health communication factors. The communication inequality theory guided the study. The theoretical approach helped explain how health information access from a trusted source affected Somali refugees' information understanding and decision-making.

Significance of the Study

The extensive research on the impact of low health literacy and resulting health outcomes has highlighted the inequities present in various groups. Although research has increased responsiveness to cultural awareness and inclusivity in verbal healthcare communication efforts, written communication needs further investigation (Talmage et al., 2018). What remains to be explored is how to connect individuals to accessible health communication that is culturally relevant, trusted, and understandable for informed decision-making, resulting in improved health outcomes.

This study will address how access to understandable and trusted cultural health communication affects informed health decision-making within the U.S. Somali immigrant and refugee community. A study focused on cultural health communication is important for several reasons. First, understanding cultural health literacy and information-seeking behaviors can change the development of systematic health communication processes and policies in sectors such as healthcare and government. Second, understanding the health communication needs of individualized groups can guide organizational practices to meet accessibility needs better. Third, communication inequality research focused on a specified group will add to the literature utilizing the communication inequality theory.

Research Questions

The issue of health literacy is one to be explored from different perspectives. Somali refugees and immigrants to the U.S., learning to seek out health information they understand and then making decisions for themselves and their families, are a group with a similar lived experience. Somali refugees' and immigrants' health outcomes based on modifiable aspects of health literacy levels are of interest. Understanding the perspectives of Somali refugees and immigrants who have experienced a cultural shift in navigating health information allows others to learn from their experiences. Therefore, the central research question and sub-research questions for this study are:

CRQ: How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?

SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information?

SRQ2: How do Somali refugees and immigrants find understanding in health information?

SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy?

Definition of Terms

The following terms are defined as they are related to this study to ensure continuity for readers of the study.

1. *Accessing information:* an individual's ability to seek information through a convenient and reliable source to gain knowledge.
2. *Community-based organization*: an effective public or private nonprofit organization that represents a significant segment of a community and provides education or related services to individuals in the community. (Cornell Law School, n.d.)
3. *Culture:* an integrated system of beliefs and practices that individuals live in and co-create to enable them, through social institutions and norms in ways of being, to achieve a sense of safety and well-being, integrity, and belonging. (Kagawa-Singer et al., 2015)
4. *Health disparities:* a specific type of health difference closely linked with social, economic, and/or environmental disadvantages. An adverse effect on groups of people who have systematically experienced greater obstacles to health based on their SES; racial or ethnic group; gender; age; mental health; religion; sexual orientation or gender identity; cognitive, sensory, or physical disability; geographic location; or other factors historically linked to discrimination or exclusion. (Healthy People 2030, n.d.-c)
5. *Health information:* information related to topics that affect one's well-being, including but not limited to nutrition, exercise, pregnancy, anxiety, disease, addiction, diabetes, illness, symptoms, prescriptions, surgery, vaccination, etc.
6. *Health literacy:* the ability of an individual to find, understand, and use health information and services to guide health-related decisions and actions for themselves and others (Healthy People 2030, n.d.-a)

7. *Health communication*: using communication strategies to inform and influence individual and community decisions that enhance health. Considers various channels to deliver a targeted or tailored message to specific audience segments. (The Community Guide, 2022)
8. *Health outcome*: obtaining knowledge of a health topic, choosing a health behavior, having the capacity for action of desired health behavior, preventing disease, and disease incidence. (Structural influence model of communication)
9. *Imam:* A Muslim religious leader; the person who leads prayer in a mosque (Vocabulary, 2023)
10. *Immigrant:* any person lawfully admitted to the United States (or any country) as a permanent resident (Centers for Disease Control and Prevention [CDC], 2022 August).
11. *Refugee:* Any person outside the country of their nationality, or does not have a nationality, or is outside the country where they last lived and who is unable or unwilling to return and/or avail themselves of the protection of that country because of persecution, or fear of persecution based on race, religion, nationality, membership of a social group, or political opinion (CDC, 2022 August).
12. *Social capital*: structure of social organization such as systems, networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit. (Putnam, 2016)
13. *Social determinants of health (SDOH):* conditions in the environment where people are born, age, live, learn, play, work, and worship that affects a wide range of health, functioning, and quality of life risks and outcomes. (Healthy People 2030, n.d.-c)

14. *Social network site (SNS):* web-based services that allow individuals to construct a public or semi-public profile within a bounded system, typically called a platform, articulate a list of other users with whom to connect, and view and navigate their list of connections and those made by others within the system. A platform for communicating information in a two-way nature. (Boyd & Ellison, 2010)
15. *Understanding information:* the ability to access information in an understandable language, then take the accessed information and appropriately decipher the information.
16. *Using information:* the ability to take accessed information and evaluate it to make a decision.

Summary

Health literacy is an issue that affects all individuals in various ways. It can be detrimental to health outcomes for those who have limited proficiency. Chapter one discussed health literacy and how social determinants and communication factors can mediate health outcomes. Additionally, the importance of better understanding the cultural impact of health literacy was described along with a theoretical approach to the research. The research positionality explained how the researcher's work, education, and experiences qualify her to study the topic and shared her position in the study. Lastly, the research problem statement, purpose statement, significance, and research questions were described for the study, along with definitions for terms and abbreviations used in the study.

Chapter two shares the review of literature related to the theoretical framework and model for the study, including relevant factors of the theory, social determinants, and social capital. The literature thoroughly explores health literacy factors, including accessing, using, and understanding information.

Chapter Two: Literature Review

Overview

This chapter reviews the literature on the theoretical framework, social determinants of health (SDOH), social capital, health literacy, and the factors that impact health literacy. First, the communication inequality theory is presented as a theoretical perspective for the study, and the Structural influence model (SIM) of communication as a theoretical framework to understand how Somali refugees and immigrants are affected by receiving health communication from trusted sources. Then, a literature review shares information on how SDOH and social capital affect health literacy. Finally, personal health literacy is broken down into the various aspects described in the literature, with information describing the problems related to access, use, understanding, and communication inequality.

Theoretical Framework

Communication, education, medical, and public health researchers have explored the effects of communication inequalities. Communication inequality relates to a difference among social groups in the generation, manipulation, or distribution of information, access and use of information, attention to content, information understanding, and ability to act on information (Bekalu, 2014; Bekalu & Eggermont, 2014; Clark et al., 2014; Nagler et al., 2017; Philbin et al., 2019; Shen et al., 2017; Viswanath, 2011; Viswanath & Ramanadhan 2008). Communication inequalities are differences among social groups in the structural, interpersonal, and individual information access, use, and understanding of media and communication technologies which can facilitate the relationship between quality of life conditions and health outcomes (Lee et al., 2022). Researchers believe there is a link between communication inequality and health disparities (Bekalu, 2014; Sato et al., 2019). Public health, medical systems, academic institutions, and government organizations should address the modifiable conditions of communication inequalities through interventions, policies, and system changes.

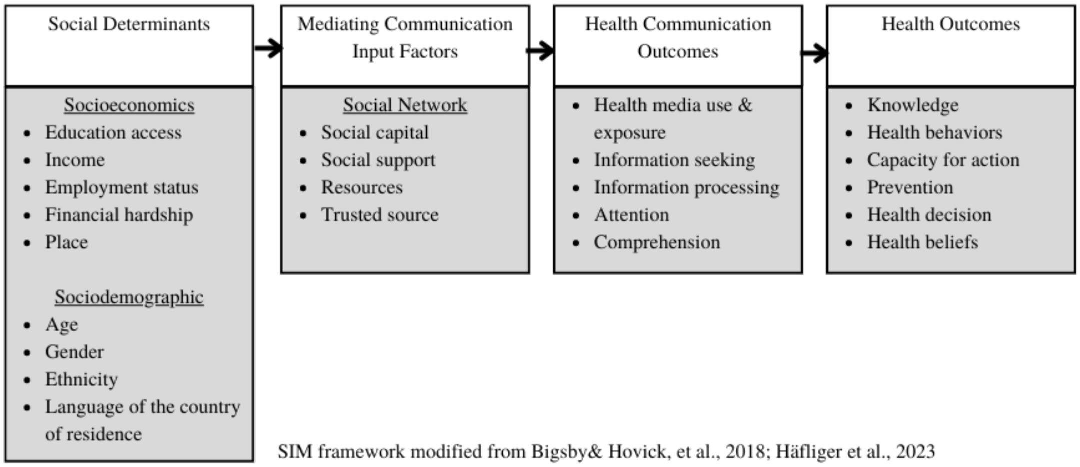
In 2006, Kasisomayajula Viswanath developed the communication inequality theory to better understand communication inequalities and how they relate to health outcomes or chosen health behaviors. He built upon the 1970 knowledge gap hypothesis from Tichenor, Donohue, and Olien, which stated that the likelihood and the benefits from acquiring information are more significant for those of higher SES compared to those of lower SES, which then widens gaps in disparities and health outcomes (Viswanath & Ramanadhan 2008). The communication inequality theory added the effect of media access, specifically the Internet. Therefore, Viswanath theorized that disparities occur when there are communication inequities across the communication continuum and inequitable access to learning that manifests within specific individuals or groups (Viswanath & Ramanadhan, 2008).

The communication inequality theory also posits that health disparities occur when the capacity and capability to benefit from new communication science and technology developments are inequitably accessible (Sato et al., 2019). The communication inequality theory states that those with higher levels of education and income, who are employed, and who live in urban areas are more likely to access the Internet and health information than their counterparts; therefore widening the knowledge gap and increasing health disparities (Bekalu & Eggermont, 2014; Lee et al., 2022). The communication inequality theory also shows that health communication outcomes are associated with self-efficacy in seeking health information, exposure to and trust in health information from various media, and are related to SES (Bekula, 2014; Ishikawa et al., 2016).

The SIM presented in Figure 1 is the framework many researchers use for the communication inequality theory (Bekula et al., 2017; Bekula & Eggermont, 2014; Bigsby & Hovick, 2018; Chen et al., 2022; Häfliger et al., 2023; Konkor et al., 2019; Kontos et al., 2010; Lee et al., 2022; Philbin et al., 2019; Tan, 2015;). Some researchers refer to it as the structural influence model of *health* communication due to its explicit focus on health communication and health outcomes. The SIM explores how social determinants are linked to health outcomes through mediating conditions and health communication actions (Chen et al., 2022; Häfliger et al., 2023; Konkor et al., 2019; Kontos et al., 2010).

Figure 1

Structural Influence Model of Communication



SIM framework modified from Bigsby& Hovick, et al., 2018; Häfliger et al., 2023

The SIM examines social capital resources, and health media use, information-seeking and processing, and the effect on the relationship between social determinants and health outcomes (Konkor et al., 2019; Kontos et al., 2010). The SIM is one of the few theories or frameworks that explore the relationship between communication behaviors and health. Communication is placed as a mediator in the SIM framework to examine the relationships between SDOH and health outcomes, such as making health decisions, behaviors, and capacity for action (Bigsby & Hovick, 2018).

Researchers have used the SIM to understand societal structural factors central to shaping health information environments associated with health choices (Konkor et al., 2019; Healthy People 2030, n.d.-c). The plethora of communication inequality research shows an increased causal link between social determinants and health outcomes and the differences in access, usage, and understanding of health information.

Additionally, researchers have used the SIM to understand how communication inequalities affect health outcomes (Häfliger et al., 2023). Researchers will focus on one or several social determinant factors in their study. For example, to understand communication inequalities related to internet access, Philbin et al. (2019) examined the relationship between the quality of life of at-risk HIV-infected women and the frequency of internet use. The qualifiers to identify at-risk women who may experience communication inequalities in the Philbin et al. study were older age, belonging to an ethnic/racial minority, lower education, lower income, and reported loneliness, depression, or substance abuse. Research findings showed that over six months, the at-risk women who engaged in daily internet use to gather health information reported a better quality of life and positive health outcomes. The study's researchers found that the women involved in social capital activities promoted mental health and well-being. Utilizing the Internet to access health-related information such as healthy recipes or physical activity increased their health literacy and demonstrated positive health outcomes. Researchers stated this study as one of the first to explore associations between communication inequalities of internet use and quality of life among low-income, ethnic minority women.

A study by Bigsby et al. (2018) used the SIM to better understand health communication and behaviors. The study demonstrated that social capital mediated the social determinants of age and education on communication outcomes. The study also showed that information-seeking mediated the effects of social capital and social determinants on the behaviors of increased exercise and fruit and vegetable intake, and decreased smoking and excessive alcohol intake. The SIM is an effective model to use with the communication inequality theory to understand the mediating effects of social capital and media access, use, and understanding of social determinants and health outcomes.

Social Determinants of Health

SDOH are the conditions in the environment where people are born, age, live, learn, play, work, and worship that affects a wide range of health, functioning, and quality of life risks and outcomes (Healthy People 2030, n.d.-c). The five SDOH domains are 1) economic stability, 2) education access and quality, 3) health care access and quality, 4) neighborhoods and built environment, and 5) social and community context. Social determinant factors such as SES, place of residence, and socio-demographics contribute to health literacy and health outcomes. Older age, ethnic and racial non-white, inadequate education, inadequate income, and LEP are factors that are most likely to impact health literacy (Kim & Xie, 2017; Polster, 2018). Social determinants that have long been linked to health outcomes are race, ethnicity, language, and social class (Bekalu, 2014).

Social determinant factors interplay in the domains to affect health outcomes. Access to healthcare information can be difficult for those with disabilities, leading to less desirable health outcomes. The access issue can be due to difficulty navigating health information on a medical website that is not ADA compliant, not having access to a sign language medical interpreter at a medical appointment, etc. Equitable healthcare access and quality education may be barriers for children with a low SES due to unequal resource distribution among public schools. Student health and academic achievement have a significant relationship (Rattermann et al., 2021). Research shows that healthier students have higher academic achievement than their counterparts. Students without regular access to medical check-ups or regular healthy meals will not perform as well as their peers who do have access. Students with access to quality education, including well-qualified teachers and needed learning supplies, will perform better than their peers without quality access (Rattermann et al., 2021).

The built environment may vary for low-SES neighborhoods compared to high-SES neighborhoods. For example, there may be barriers to physical activity, such as poor lighting, unsafe sidewalks, or limited recreational facilities in low-SES neighborhoods (Pena-Y-Lillo & Lee, 2019). In addition, some neighborhoods may have libraries close by with free Wi-Fi and internet service for those who cannot afford the ongoing cost. In contrast, other neighborhoods may not have the same access. Additionally, some neighborhoods have several convenience stores advertising unhealthy food and tobacco to customers. In contrast, other neighborhoods have various grocery stores, including ethnic grocery stores advertising various healthy food options. The built environment can often determine individuals' options when making health choices.

A high SES and high social capital are known social determinant factors for a competent health literacy level, resulting in positive health outcomes compared to low SES and social capital, which are more likely to result in adverse health outcomes (Bekalu, 2014). Research has shown that race is an influential aspect of the social environment that affects health communication-related patient-provider relationships, understanding, and motivation (Ackerson

& Viswanath, 2009). Researchers found in their exploratory sequential mixed method study with Urban African American and Afro-Caribbean immigrant pregnant women that low health literacy, income, and English proficiency were barriers to accessing health information and quality care, negatively affecting health outcomes and prenatal health behaviors (Blackwell et al., 2020). The COVID-19 pandemic highlighted the importance of more research on health communication inequalities among race and class (Viswanath et al., 2020).

Social Capital

Building networks and relationships with others develop social ties associated with receiving information. Communication through interpersonal connections and trusted media channels integrates people into their communities by promoting trust, building rapport, and maintaining ties (Kontos et al., 2010). Interpersonal communication is an influential part of the social process that facilitates social capital. Health outcomes are improved when social capital promotes collective action for improved infrastructure to meet community needs (Ackerson & Viswanath, 2009). Social capital also draws attention to unhealthy cultural norms to help support needed change (Ackerson & Viswanath, 2009).

In addition to social networks, the availability of culturally appropriate health care and community-based organization also plays a role in health literacy. Studies have shown that social capital promotes social media usage for health communication (Ishikawa et al., 2016; Sato et al., 2019). Literature indicated that using SNS helps integrate people into their community by building rapport, maintaining relationships, and promoting trust (Bekalu and Eggermont, 2014; Kontos et al., 2010). A study about SNS diabetes community groups found that the members focused on supporting one another through sharing information, giving advice, and providing support (Mogi et al., 2017). However, structural environments with limited communication technology and social roles with limited access to a broad range of health information can lead to health disparities that need communication re-evaluation (Bekalu & Eggermont, 2014). Study results showed that increased social capital is related to information-seeking, and an individual is more likely to seek health information as their social connections increase, developing a supportive social environment (Bigsby & Hovick, 2018).

To build social networks, integrated health communication approaches should include family, friends, neighbors, community members, religious leaders, employers, SNS, and healthcare providers to affect behavioral changes that account for various health literacy competencies and cultural factors (Schiavo, 2011). Studies show that social support impacts health behaviors. However, health communication programs continually focus on information and media (Schiavo, 2011). Study participants explained that sharing health information with people in their own neighborhoods through grassroots mobilizations was an influential community outreach approach (Kerrigan et al., 2022). Also, engaging trusted community leaders, healthcare workers, and peers to share health information with their culturally similar peers was found to be important in discussing health information and relatability about the topic (Kerrigan et al., 2022).

Disparities in social participation can affect health behaviors. A study conducted by Ishikawa et al. (2016) found that social participation in groups such as veterans, religious, or senior centers had a significant association with health behaviors such as tobacco usage, fruit, vegetable, and alcohol intake, and physical activity and health media usage partially mediated the promotion of positive health behaviors for those with a low SES. For a group transitioning to a new culture where family is not available to act as an active health information source, individuals are more likely to use online tools to seek out information specifically in their native language (Levin-Zamir et al., 2017). Social capital affects decision-making and health outcomes based on an individual's historical and current level of social participation and available resources.

Health Literacy

Health literacy affects an individual's health outcomes, and various factors in their life affect their health literacy at different times. Healthy People 2030 (n.d.-b) defines health literacy as the ability of an individual to find, understand, and use health information and services to inform health-related decisions and actions for themselves and others. Individual health literacy "is the cumulative outcome of a combination of cognitive capacities, life experiences, knowledge, and opportunities (Levin-Zamir et al., 2017, p 132). Health literacy is dynamic and affected by shared family and community histories and complex societal influences that contribute to skills and abilities reflected in health behaviors (Levin-Zamir et al., 2017).

For an individual who typically reads well, health literacy issues can arise when medical terms are unfamiliar, they have to evaluate health and safety risks, they feel scared or confused from a diagnosis, they require complicated self-care, or they are dealing with technical information (CDC, 2022 September). Those with limited literacy due to lower education levels or not speaking English as a primary language can have added health literacy obstacles, such as following directions on a prescription bottle, making a medical appointment for symptoms when needed, or understanding what advice to trust and follow.

Evidence suggests that immigrants and refugees to the U.S. from culturally and linguistically diverse backgrounds have lower levels of health literacy (Abdi et al., 2020). The most recognized barriers to health literacy for minorities in the U.S. are 1) complex written health information, 2) lack of available health information in a preferred language, 3) lack of culturally appropriate health information, 4) inaccurate or incomplete information in mass media, 5) low-level reading abilities, and 6) lack of content that targets behavior change through social marketing strategies (Zarcadoolas et al., 2006).

People often use the Internet as a source of health information. Unfortunately, health information websites are rarely designed for low-literate or culturally diverse individuals to navigate, process, and understand (Viswanath & Kreuter, 2007). Studies show that most websites present health information above the recommended 6th-grade reading level, and few are available in languages other than English (Kim & Xie, 2017). Digital communication relies on digital inclusion to share information. When sharing health information on a digital platform, it is essential to understand what barriers and facilitators enable successful information communication. Individuals experiencing digital exclusion are often those also experiencing poor health and would benefit from the digital environment to keep pace with the advanced society (Borg et al., 2019). Digital inclusion emphasizes access, productive use, and understanding of technology. Research shows that the three common barriers to digital environment inclusion were access, skill, and attitude -their interest or trust (Borg et al., 2019). The three common digital environment facilitators were social support, education, and an inclusive design (Borg et al., 2019).

Accessing Information

For this study, accessing information is an individual’s ability to seek information through a convenient and reliable source to gain knowledge. Designing and implementing a health media campaign must be done so that every member of the target audience has the same opportunity to be reached and influenced by the health information. Health communication planners should analyze the target audience to understand the sources they use and trust for health information (Pena-Y-Lillo & Lee, 2019). Reports from 2021 show that adult internet access in the U.S. was 93%, with 75% of adults over age 65 using the Internet and 96-99% usage for age groups 18-64; additionally, 15% of American adults rely solely on their smartphones for internet access (Pew Research Center, 2021a), a number that is decreasing annually. Sociodemographic disparities, for communication inequality purposes, 86% of individuals with a high school diploma or less access the Internet compared to 98% of college graduates, and 86% of individuals with low income, defined as $30,000/year, compared to 99% with an annual income of $75,000 (Pew Research Center, 2021a). Of those who live in rural geographic areas, 90% report internet usage, with suburban and urban internet usage as 94% and 95%, respectively. The gap in internet access among those of different races/ethnicities has narrowed throughout the years. Currently, 91% of those who identify as Black report using the Internet, 93% use the Internet report as being White, and 95% report as being Hispanic (Pew Research Center, 2021a).

Studies show that when individuals have limited internet access, their computer literacy skills remain low, and their ability to seek health information is limited (Philbin et al., 2019). However, once individuals have access to the Internet, there is no significant difference in race/ethnicity or SES usage of SNS, although younger people tend to access SNS more than older adults (Kontos et al., 2010). SNS serves a broad and varied audience and is a cost-effective communication channel. Communication on SNS can be interactive with a space for dialogue about the information and hyperlinks to additional information. Mobile devices have become the preferred connection method (Borg et al., 2019). Therefore, information should be compatible with mobile devices so access can be productive on the chosen medium (Borg et al., 2019).

Communication influences all health, such as disease diagnosis, prevention, treatment, survivorship, and end-of-life care, and studies show that patients with access to technological resources receive greater benefits (Philbin et al., 2019). Research shows that access to technology for health communication information influenced health behaviors positively for ethnic minority women (Philbin et al., 2019). The development of electronic technologies in health, healthcare, and public health (eHealth) has introduced various ways to track personal health information. However, research has shown that, unintentionally, eHealth has widened the health knowledge gap, benefiting individuals of higher SES groups, and leaving behind underserved groups, even when everyone is presented with the same technologies (Lee et al., 2022). EHealth communication services for those with low health literacy can be effective if offered in an interactive multimedia format and available in the needed languages for non-English speakers and readers (Kim & Xie, 2017). Abdi et al. (2020) suggested developing a multilingual health information repository that is easily accessible to reduce the barrier to finding linguistically and culturally appropriate health information.

A study conducted in Japan by Shen et al. (2017) found that individuals with health applications (apps) on their mobile devices tended to be younger, with higher education and higher income, consistent with U.S. studies. The researchers found that those with the health apps tracked physical activity, health measures, and health records, requiring adequate health literacy levels to understand the tracked measures. Also, the cost of obtaining health apps or wearables associated with the apps can be a barrier for people with a low income. Researchers need to understand the access barriers to technologies for under-resourced populations, including computers, smartphones, wearables, internet and connection maintenance cost, literacy level, and income.

Improving access to health media can effectively reduce health risk factors. A study was conducted to understand the reliance on alternative forms of media to deliver health information to different SES groups. The study found that the older Japanese women exposed to health information through television media more than once a month had reduced mortality (Sato et al., 2019). Research shows that distributing tailored health communication campaigns on SNS platforms such as Facebook, YouTube, and Instagram promotes protective health behaviors toward individual group needs (Lang et al., 2021).

Seeking Information

Information-seeking involves actively searching for information and is an intentional behavior with a motivation to find answers and make sense of a situation or problem. Health information-seeking is used to gather the type and amount of information to make a health-related decision (Lambert & Loiselle, 2007). There is a relationship between information-seeking behaviors and health outcomes. Researchers working with refugee and immigrant Somali, Hmong, and Latina women found that the women were not sure how or where to seek information about mammograms (Nagler et al., 2017). Researchers note that there have been few studies to understand the effects of information-seeking on health behaviors and how communication disparity factors such as race and ethnicity impact behaviors (Bigsby & Hovick, 2018).

In the past few years, technology has shifted how some interact with media, switching from being a passive audience to active media users and discovering content that interests them (Podara et al., 2021). Search engine optimization, platform algorithms, and personal social networks often shift through what content appears for an information seeker. Media information is likely to impact health knowledge; however, information is more impactful when there is an initial concern about the health topic and the individual chooses to seek additional information.

SDOH influences an individual’s ability to seek information. Studies show that individuals seeking more health information are often female, White, and those with higher education and income than their counterparts (Sato et al., 2019). An HIV/AIDS study provides evidence of a link between seeking information as a mediator between education, where one lives, and health knowledge (Bekalu and Eggermont, 2014). A study showed that women unable to afford and maintain costs for mass media access, who do not speak or read the common health communication language, have adequate education, or live in an urban area are less likely to seek health information (Konkor et al., 2019).

An electronic health record is a resource for individuals to access their personal health information through a web-based patient portal. However, research shows that the technology option is not closing the knowledge gap for underserved groups to seek out their personal information due to a lack of collective use and difficulty navigating the technology (Lee et al., 2022). Misinterpretation or misunderstanding of health information or recommendations can occur when an individual does not understand how to interpret the information in their patient portal.

Scholars indicate a gap in research regarding seeking health information on social media apps (Chen et al., 2018). A study using the SIM framework to examine how people used the social media app WeChat to seek information about COVID-19 investigated predictors of health information-seeking, direct and indirect effects of SDOH, health-seeking, and vaccine beliefs. Researchers found that vaccination beliefs enhanced information-seeking efforts on WeChat, resulting in stronger vaccination intentions, with gender and income being significant predictors positively associated with seeking information (Chen et al., 2022). Females and those with higher incomes were more likely to seek information about the COVID-19 vaccination.

Trusting Information

There is a link between communication inequality, access to health information, and trusting the information related to health information resources (Bekalu & Eggermont, 2014). Studies have found that individuals trust information from experts and from a source they perceive to be similar to themselves (Kreuter & McClure, 2004). The similarity can be in attitude, age, race, sex, ethnicity, family structure, employment status, religion, language, etc. Current research indicated that individuals highly trusted their primary care provider and healthcare providers with whom they had personal relationships and responded well to health communication campaigns incorporating personal stories and testimonials (Chen et al., 2018; Clark et al., 2014; Purvis et al., 2021). Studies showed that other highly trusted sources of health information were family members, medical websites, search engines, specialty doctors, friends, and health center brochures (Chen et al., 2018; Clark et al., 2014). However, those with lower health literacy were more likely to use and trust television (Chen et al., 2018; Clark et al., 2014), SNS, blogs, or celebrity web pages for health information than medical websites and medical professionals (Chen et al., 2018).

Another study found that older adults perceived higher levels of trust in the communication channel, they were more concerned with how the information was disseminated. Whereas younger adults perceived higher levels of trust in the communication source, they were more concerned with who disseminated the information (Paige et al., 2017). This study also indicated that older adults had high perceived trust in Facebook, and Black/African Americans had high perceived trust in health information from YouTube (Paige et al., 2017).

Research shows that having many contradictory public information sources related to health fuels mistrust and has long-term consequences for using the sources and understanding the behavior to adopt (Ramírez & Arellano Carmona, 2018). Cultural and linguistic differences in health communication could lead to mistrust caused by differences in values, perceptions, expression styles, behaviors, and expectations (Alpers, 2018). Some groups have historically distrusted health information due to healthcare system discriminatory practices, exploitive medical studies, and cultural misunderstandings (Hill & Holland, 2021). A study to understand COVID-19 vaccine uptake from various ethnic cultural perspectives found that a general mistrust and misunderstanding of the medical system was a factor in not accepting the vaccine for several groups (Kerrigan et al., 2022). Research to explore Arab American women's trust in American medical care found barriers to be ineffective communication, cultural misunderstanding, and Arab inequalities (Jaffee et al., 2021).

Refugees and immigrants who are sorting through advice and information from various sources, trying to find their way through a new environment and competing priorities, are likely to trust their community and community leaders (Abdi et al., 2020). Participants from a study suggested having clinicians share health information such as workshops or printed materials at informational tables in a community setting (Clark et al., 2014). Participants from another study suggested having individuals representing the cultural community share the health information with their community members to overcome trust barriers (Kerrigan et al., 2022).

Understanding Information

For this study, understanding information is the ability to access information in an understandable language, then take the accessed information and appropriately decipher the information. Consumers need access to health information that they can understand, is culturally and linguistically appropriate, and is within their level of health literacy. Exposure to excessive and contradictory health information from various sources can cause cognitive overload leading to feelings of confusion and overwhelm (Ramirez & Arellano Carmona, 2018). People facing communication inequalities have trouble reconciling conflicting health information, leading to confusion and reduced opportunities to discuss the conflicts (Nagler et al., 2017).

Visual information can be an excellent way to bridge the communication inequality gap as visual information is processed more quickly (Mackert et al., 2016). Visual information is easier to remember and understand and can be shared in numerous ways. SNS are an effective communication channel to use photos and videos to share health information in an easy-to-understand format. Infographics visually and concisely communicate easily understandable information to the desired audience. Infographics are an equitable tool for health communication when designed as intended with simple and clear information, utilizing images to communicate. Studies show that infographics can change attitudes toward health topics and quickly raise awareness because it simplifies complex information (Siricharoen & Siricharoen, 2018). Infographics can be used in various mediums with various audiences and should be compatible with the audience’s values and desired benefits (Siricharoen & Siricharoen, 2018).

An inability to communicate with one’s healthcare provider and understand health information is associated with low SES and is linked to communication inequalities (Bekalu & Eggermont, 2014). Refugees arriving in the U.S. from other countries often have low literacy and a low education level, limited health literacy, with limited understanding of health information, and the ability to translate information (Wångdahl et al., 2019). Research shows that individuals with a low education level are more likely to have difficulty understanding health information communicated by their medical providers through their electronic health record (Shen et al., 2017). Abdi et al. (2020) found that medical jargon was commonly used in health information without explaining the terms, and resources often did not offer graphics to give visual explanations or cues of the information. Misunderstood information or information that cannot be understood can lead to inapt health decisions and unnecessary illness (Wångdahl et al., 2019).

Self-Efficacy

Self-efficacy, related to health, is an individual's confidence in themselves to perform a behavior related to a positive health outcome. Visual health communication on television conveys images with possibilities of health, which helps an individual develop positive self-perceptions (Sato et al., 2019). Health communication designed to increase one's confidence in their ability to perform a healthy behavior will motivate a positive change or behavior adoption (Orji & Mandryk, 2014). Studies show that improving health literacy skills and knowledge can improve feelings of self-efficacy for improved health outcomes (Kim et al., 2020). As self-efficacy in seeking and understanding information improves, decision-making is more autonomous. Conversely, study findings indicate that those with low health literacy may have low self-efficacy in managing their chronic disease (Cudjoe et al., 2020).

Using a health app requires a sense of self-efficacy to navigate and utilize the health information. Seeking health information on the Internet involves self-efficacy to navigate through sites, enter search terms to find the desired information, and understand if the information is trustworthy. Researchers have found that interventions may be needed to enhance an individual's ability to evaluate health information sources and information for credibility and reliability (Chen et al., 2018).

Cultural Connection

Culture is a dynamic group reality constructed by how the individuals and collective group experience, make sense of and find meaning in the world (Kagawa-Singer et al., 2015). Culture often shapes the social beliefs, attitudes, and group behaviors that help members interpret the world (Kagawa-Singer et al., 2015). Every cultural group will define and interpret health differently. An individual's culture will influence how they view, respond to, and understand health information and health literacy. Culture will even affect how illness is described and addressed, how treatment options and decisions are made, and how medical attention is sought (Andrulis & Brach, 2007). Assessing various group cultures to understand the variability of beliefs, values, practices, and realities should be standard for healthcare, public health, and government agencies working with the groups (Kagawa-Singer et al., 2015). Health communication that appeals to the target audience's cultural norms, values, and language will be more effective (Kreuter & McClure, 2004).

Researchers suggest tailoring health communication to meet the customized cultural needs of each specified group instead of general health information and, if possible, include group members in developing communicated information (Abdi et al., 2020). Including community members in the development of information is vital because the cultural meaning of words varies, and they can help convey the proper meaning in health communication and ensure that behavior expectations are feasible for the group (Scrimshaw, 2019). A mixed-method study on understanding nutrition information for an African American/Black community in Arizona found that interventions would be most influential if they included culturally familiar foods and input from trusted community members (Winham et al., 2020).

Cultural competence is an ongoing process of honoring and respecting individuals' and groups' diverse beliefs, languages, and practices. Cultural competence also realizes that an individual's health concept may differ, affecting how they receive, understand, and make decisions about information (Andrulis & Brach, 2007). Evidence-based practices have rarely been assessed on cross-cultural ethnic groups, causing the implementation of programs based on single-culture research and consequential systematic inequities (Kagawa-Singer et al., 2015). Individuals from several groups reported being uncomfortable visiting their primary care provider due to a lack of cultural competence, including LGBTQ+, Hispanic/Latino, African American, American Indian, and Asian/Asian-American (Talmage et al., 2018). Ethnically diverse study participants reported their lower levels of health literacy and their healthcare providers' lack of understanding of their community's cultural, social, and familial traditions as barriers to navigating health information and systems (Talmage et al., 2018).

To achieve optimal health outcomes and ensure effective interactions with diverse patient populations, clinicians must learn about their patient's culture, language, and health literacy needs (Andrulis & Brach, 2007). Studies indicated that the benefits of culturally tailoring information include respectful patient-centered care, promoting healthy lifestyles the patient understands, increasing family and community support, using technology for efficient care, and increasing disease knowledge (Joo & Liu, 2021). Communication, language barriers, health literacy, and cultural considerations are some of the most essential components of quality patient experience for those with LEP (Yeheskel & Rawal, 2019).

All individuals should have equitable access to health information to ensure they have appropriate resources for making informed decisions. A study in Australia by Abdi et al. (2020) evaluated the available immunization information for newly arriving immigrants and refugees from various countries to understand the health literacy level and the cultural and linguistic appropriateness of resources. The researchers found that the immunization resources were generally difficult to read, with a high readability score, difficult to understand, and not consistently available in the needed languages or presented in a culturally appropriate manner for the refugee and immigrant communities to understand. There is a need for understandable and accessible, culturally and linguistically appropriate health information to dispel myths, social stigma, and misinformation among immigrant and refugee populations in the U.S. (Feinberg et al., 2021). A study on cultural health communication for Indigenous African individuals related to COVID-19 using culturally appropriate language, music, and storytelling in communicating information had positive results for the populations and was found credible and relatable (Fadipe & Salawu, 2021).

Transcribing written health communication is essential to having health information available to different groups. It is also vital to have culturally appropriate information related to the audience. Researchers suggested further investigating cultural expectations regarding health communication when sharing health information to account for health disparities (Calvillo-Ortiz et al., 2022). Addressing health inequities through targeted health education campaigns in the African American community to meet specified cultural needs is a suggested direction (Block et al., 2020). Another researcher expressed the need to improve tailored health communication focused on the socio-cultural phenomena of Hispanic and Asian Americans (Hong et al., 2018). Researchers have also suggested future studies for inclusive cultural understanding of health communication to explore how to support community members as their cultural needs change over time through their adaption to U.S. customs (Levin-Zamir et al., 2017).

Using Information

For this study, using information is the ability to take accessed information and evaluate it to make a decision or a choice. An important aspect of health literacy is making a decision with the accessed information for optimal health outcomes. Access to information does not guarantee the best health outcomes. How someone judges, interprets, believes, or has feelings toward the information will impact their decision on how to use it (Lambert & Loiselle, 2007). Using health information effectively can increase knowledge and help individuals make informed decisions, have greater self-efficacy, and increase their physical quality of life as they increase their self-care abilities and improve health behaviors (Lambert & Loiselle, 2007). Individuals who have sought out health information are more likely to be active in making health decisions with their healthcare provider because they are better prepared for the decision (Lambert & Loiselle, 2007).

Information Exposure

Environmental support and resources impact an individual’s capacity to access and act upon health information (Viswanath & Ramanadhan, 2008). Studies show that health communication is most useful when developed with clear, simple information focused on one behavior or issue (Mackert et al., 2016). The literature supports the idea that people from all cultural and social groups are increasingly seeking information on the Internet and using the information to make informed decisions (Jha et al., 2016). Therefore, it is vital to create and share health communication relevant to the target audience so that accessed information is usable for decision-making. Researchers found that various state health departments created SNS health communication posts about healthy living, communicable diseases, immunizations, emergency preparedness and response, infant and child health, smoking and tobacco use, and miscellaneous topics for their communities. However, the health topics from the various health departments did not match the health education needs of the community (Jha et al., 2016). The most pertinent area of health for the target audience should be the focus of the communication for it to be useful.

Researchers found that video health communication posts on SNS were the most engaging and shared four times more often than photos (Kite et al., 2016). The research also indicated that text-only posts received the least engagement (Kite et al., 2016). Positive emotive appeal health communication is the most common and well-received, along with any new health information that people would find interesting to share (Kite et al., 2016). A mixed-method study utilized trusted CHWs to share health information using communication technology to influence health decision-making and improve health outcomes (Schoenberger et al., 2013). In a mixed-method study, researchers learned that clear health communication assists individuals in decision-making, and health communication that appears exaggerated results in cynicism (King et al., 2018).

Behavior Adoption

Exposure to health information improves knowledge and awareness of a health topic to prevent disease, assess risk, and change or adapt a behavior (Sato et al., 2019). Showing accurate health information through images and stories on credible media sources improved the adoption of health behaviors for those with low health literacy (Sato et al., 2019). While repeated exposure to contradictory health information across media, interpersonal, and medical sources ultimately reduced engagement in recommended health behaviors (Lee et al., 2022).

In families with low parental health literacy, unhealthy lifestyles and poor health can result due to the social context and decision-making environment in which they live (Levin-

Zamir et al., 2017). A study that assessed children's sedentary behaviors over time revealed that disparities in health behaviors were consistent with the communication inequality theory. The study showed that parents of lower SES were not as likely to look for, understand, or act on health information from television, radio, newspapers, magazines, and the Internet, which explains the adverse effects of lengthy sedentary behaviors (Gong et al., 2019). A study in Nigeria with post-delivery women about contraceptive behavior choices found that their behavior decision often depended upon factors such as religious and cultural beliefs and age (Konkor et al., 2019).

In a mixed-methods study to explore COVID-19 vaccine uptake behavior among African American, Latinx, and African immigrant communities, researchers found that understanding the communities' historical and ongoing SES realities was imperative in developing community-based health communication to affect decision-making (Kerrigan et al., 2022). Another mixed-method study found that individuals with low health literacy, racial/ethnic minority groups, and low SES were more likely to change behavior from communication materials with graphics and clear, concise language they could easily understand (Kreslake et al., 2016). Another mixed-methods study showed how influencers on SNS for health communication could affect behaviors greater than advertisements or campaigns due to feelings of trust and personal connection (Pilgrim & Bohnet-Joschko, 2019).

Summary

This chapter reviewed the literature related to the issue of health literacy. First, the communication inequality theory was introduced as when disparities occur within specific individuals or groups from inequitable access, understanding, and ability to act on information across the communication continuum. The SIM was introduced as a research framework to explore how social determinants are linked to health outcomes through mediating social network conditions and health communication actions. SDOH domains and factors are the environmental conditions in which people are born, age, live, learn, play, work, and worship that affects and contribute to health literacy and health outcomes. An explanation of social capital describes how health outcomes are improved by integrating individuals into their community for increased information access, use, and understanding for decision-making. Lastly, the existing research on the aspects of personal health literacy was summarized.

Chapter Three: Methods

Overview

This descriptive case study aims to understand better the lived experiences of Somali refugees seeking health information to make health behavior decisions. This chapter first introduces the research design used for the study and describes why it is the appropriate research approach. Next, the research questions are stated, and the research setting is described. Then, information about study participants is presented along with the procedure to carry out the study, followed by a description of the role of the researcher, data collection, and data analysis procedures. Finally, ethical considerations and validation strategies are given.

Qualitative Paradigm

A qualitative method is inductive first, taking information and creating patterns, categories, and themes from the bottom up, developing more abstract information units. Then deductively, the researcher looks at the developed themes to see if there is enough support for each one or if they need to gather more supportive information. Creswell and Creswell (2018) describe the following process for qualitative researchers. First, the researcher develops their own instruments for gathering multiple forms of open-ended information, such as examining documents and audiovisuals, observing behavior, or interviewing participants for data for analysis. Secondly, qualitative researchers collect data in a natural setting to study participants where they are likely to experience the study issue. Next, researchers review, make sense of and organize the data into themes found within all data sources.

Creswell and Creswell (2018) suggest using a qualitative design when researchers study groups or individuals. A qualitative approach was appropriate for this study based on the need to better understand the health communication practices of individuals within a specific cultural group.

This study followed a qualitative case study design to explore Somali refugees' and immigrants' information-seeking behavior regarding health information and how mediating communication factors affect health outcomes of increased knowledge, capacity for action, and others in the SIM framework.

Design

A case study design is an in-depth qualitative study of a case in a real-life setting currently in progress (Creswell & Poth, 2018). A case can be an individual, group, community, relationship, process, project, etc. A case study occurs within a bounded system giving it specified parameters of a timeframe, place, or people. Furthermore, Creswell and Poth (2018) explained that collecting, integrating, and analyzing multiple data sources are steps of a good qualitative case study. Sources commonly used in a case study are interviews, observations, documents, and artifacts.

A case study is appropriate when asking how and why questions about a contemporary phenomenon. Yin (2018) stated that a theoretical plan guides a case study and relies on many sources of evidence. In the descriptive case study, the researcher describes what is known about the phenomenon to specify case boundaries (Yin, 2018).

A descriptive case design collects and shares irrefutable details that paint a clear picture of the case to develop relevant concepts (Tobin, 2010). A case study design helps the researcher understand the related contextual conditions relevant to the case by generating many variables. Tobin (2010) explained that the focus on the descriptive theory expands, conflates, and develops information and concepts and shapes a priori theories. A descriptive case does not compare, make causal statements, or describe unfamiliar research areas but helps the reader see the case (Tobin, 2010).

The descriptive case design brings forth themes and detailed descriptions of the study topic (Tobin, 2010). This study took a descriptive case study approach to reveal patterns and connections among Somali refugees and immigrants as they seek information pertaining to health communication. This study design allowed the researcher to consider many perspectives related to the topic.

Research Questions

The central research question and the sub-questions guided this descriptive case study.

CRQ: How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?

SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information?

SRQ2: How do Somali refugees and immigrants find understanding in health information?

SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy?

Setting

The setting for this study was urban Salt Lake County in Utah, with a population of 1,192,152 persons (Healthy Salt Lake, 2022). Many refugees and immigrants come to Salt Lake County each year seeking a new life. Salt Lake County has the state’s largest population of foreign-born individuals, offering economic and academic opportunities, cultural institutions, and existing ethnic areas (Christensen et al., 2020). Christensen et al. (2020) stated that 12.4% of the population is foreign-born, and 4.3% of that population is from Africa. They added that those from Somalia, Burma, the Democratic Republic of Congo, and Iraq are currently the largest populations arriving in Utah. Approximately 3,000 refugees from Somalia live in Salt Lake County (The Spectrum, 2019).

Salt Lake County has numerous ethnic-based community-based organizations (CBOs) and social support groups that assist refugees and immigrants with resource and informational needs. Somali Community Self-Management Agency and Utah Refugee Center are two nonprofit CBOs that regularly work with and share information with the Somali refugee and immigrant community. These organizations have built relationships with refugees and immigrants from Somalia, assisting them with acclimating to the U.S. and overcoming transition barriers.

Somali Community Self-Management Agency is a nonprofit organization that offers services to refugees and immigrants in Utah to help them transition and become self-sustainable (Somali Community Self-Management Agency, n.d.). Somali Community Self-Management Agency (n.d.) staff offers several services and resources to assist with community integration. Refugees and immigrants are offered training programs, translation and interpretation services, cultural and behavioral orientations, parent education, an internet lab, drug and tobacco prevention program assistance, housing assistance, employment assistance, and a food pantry. In-person classes are held as needed to educate community members on topics of interest.

The Utah Refugee Center is a partnership between the Utah Department of Workforce Services, Salt Lake Community College, and Utah State University (Workforce Services Refugee Services, 2023). They focus on assisting refugees with employment, integration, and collaboration with other refugee community partnerships (Workforce Services Refugee Services, 2023). The Utah Refugee Center envisions refugee integration as a dynamic process where a cohesive and secure community works together to provide employment, education, health, social bridges, bond and links, language and cultural knowledge, safety and stability, and rights and citizenship (Workforce Services Refugee Services, 2023). The Utah Refugee Center offers employment training, connections and skills development, English language learning, technology basic literacy and advanced training, youth education, and community-led events where refugee community groups can gather and learn together (Workforce Services Refugee Services, 2023).

Each agency has a presence on Social Networking Sites (SNSs) with followers from the Somali community. They use the platforms to communicate health information, upcoming events, or inspirational quotes. Somali Community Self-Management Agency has a presence on Facebook with almost 700 followers. The Utah Refugee Center has a presence on Facebook with 3.7K, Instagram with 150 followers, and YouTube with 1.35K subscribers through the Utah Department of Workforce Services under the Department of Workforce Services.

In addition, the Somali Bajuni Organization is a WhatsApp group for Somali community members who reside in Utah. The organization shares information with members of the group through the application. The group is mainly concerned with sharing information and educating the community about mental health. They share information, announcements, and events through the platform. They also have a community meeting space where they gather for educational workshops on the second Saturday of the month. The group currently has about 70 members.

The researcher had a pre-established, positive relationship with a Somali community member. This community member knew gatekeepers in all three of these organizations. The case study participants were recruited for interviews in partnership with these three organizations: Somali Community Self-Management Agency, The Utah Refugee Center, and Somali Bajuni Organization, and subsequent snowball sampling.

Participants

The researcher recruited participants through purposive and snowball sampling. Creswell and Creswell (2018) explained that case study researchers should purposefully select participants with different perspectives on the issue. The researcher anticipated capturing varied perspectives by sampling from the three different organizations. The desired sample size was between 30 and 40 participants. The sample size goal was achieved when consistent themes became repetitive among participants.

Purposive sampling means that participants meet the same criteria for inclusion in the case study. Participants also shared recruitment information with others who met the inclusion criteria for snowball sampling. The study participant inclusion criteria were 1) a refugee, immigrant, or asylum seeker originally from Somalia, 2) 18 years of age or older, 3) they could communicate in English, Somali, or Arabic, and 4) they had sought health information in the U.S. The inclusion languages were chosen based on the common languages of Somali refugees (CDC, 2021). Translation services were available in each of the languages and will be discussed in more detail in the procedures section.

To ensure each participant met the study criteria, they were verbally asked each inclusion question during recruitment. In addition, examples of health information were shared to clarify the meaning of health information, such as how to eat healthily, how to manage an illness, information on vaccinations, or symptoms of a disease.

The goal was to select male and female participants of various ages who had been in the U.S. for variable amounts of time to gather diverse perspectives. Receiving permission to conduct the study with gatekeeper partner CBOs and groups where Somali refugees and immigrants seek community and camaraderie was also imperative to this study.

Procedures

The researcher worked with a trusted Somali community member who had trusted relationships with enlisted gatekeepers at partner agencies who would agree to 1) share the recruitment posts on their SNS and verbally at their organization once the study began, 2) assist with recruiting participants at the appropriate time, and 3) provide a space at their organization for interviews, if applicable. The researcher and a trusted Somali community member explained to the gatekeeper from each organization why they felt these organizations were a good fit for the case study, the activities to be conducted, how results would be reported, and how the organizations would benefit from the research (Creswell & Creswell, 2018). Next, the researcher sought the Liberty University International Review Board (IRB) approval (Appendix A) before data collection and analysis. The researcher and Somali community member then met with the gatekeeper from each organization to discuss the data collection process. The researcher agreed to offer various incentives for study participants, including water bottles, self-care journals, $10 Smith's grocery store gift cards with a canvas tote bag, or sectioned food containers with utensils.

As the trusted persons and gatekeepers of the refugees and immigrants, the participating partner organizations started participant recruitment verbally and through SNS posts (Appendix C), text (Appendix C), phone call (Appendix D), or in-person (Appendix D) for an interview using the approved recruitment materials. They asked the participant the qualifying questions, gauged interest in participating, secured an interview time for those who agreed, and asked what language they preferred for the interview. When an interpreter was requested, they were present throughout the entire interview process to ensure the participant could communicate with the researcher appropriately.

The researcher explained the study's purpose, confidentiality, and voluntary participation and obtained a consent form from each participant (Appendix D). Each participant was asked to fill out, or was assisted in filling out, a short sociodemographic form (Appendix C) with their age, gender, how long they had lived in the U.S., the highest level of education they completed, and the SNSs they used at least once in the last month. The researcher filled in the time and date of the interview, the referral organization, and assigned the participant a participant number.

After receiving permission from the participant, interviews were recorded with an audio recorder. The researcher stated the participant's assigned number and the date and time of the interview at the beginning of the audio recording so the questionnaire answers could be linked to the interview later. The interviews were semi-formal, with open-ended questions allowing the researcher to explore the opinions and ideas of the participants. Each interview lasted approximately 15 minutes. A transcript of each participant's interview was made and shared with the participant to check for accuracy right after the interview. The researcher then identified themes and patterns in the data.

Role of Researcher

According to Creswell and Creswell (2018), qualitative research is interpretive. They further stated that the research typically involves a sustained experience with the participants, creating possible strategic, ethical, and personal issues. Therefore, they suggested that a researcher's reflexivity should share information about past experiences with the research problem or participants that connects the researcher and the study for the reader to understand.

An explanation of past experiences should state “how the experiences may potentially shape the researcher’s interpretations during the study” (Creswell & Creswell, 2018, p. 260).

This descriptive case study collected the experiences of Somali refugee and immigrant study participants to find common themes and understand the participant’s perspectives. As a white, Christian, English-speaking woman born and raised in various U.S. states, I do not have lived experiences as a Black, Islamic, Somali or Arabic-speaking refugee or immigrant from Somalia that I brought to the research. Therefore, I could be open-minded to the participant’s experiences, not having my own experiences to set aside. I have worked with diverse populations during my career and understood that various groups face different health challenges based on SDOH.

As I became more familiar with one of the base issues regarding communication inequities, which was understanding the information, I strived to develop a health literacy program within my county. Through the application for a federal grant and buy-in from leadership and partners, I received enough funding to develop a health literacy program within my county health department, with a mission to improve access to, understanding of, and decision-making of health information. We had learned how illness and disease affected some communities more than others, and health literacy was a core SDOH of that inequity.

The development of this health literacy program has allowed me and a team of CHWs and health educators to work with CBOs and health clinics to focus on the facilitators and barriers to health literacy. Health literacy must be understood better in our communities. I am surrounded daily by an ethnically, religiously, politically, and culturally diverse generational team. We share diversity and inclusivity of thought and ideas as we approach our work to meet the community’s health communication needs.

I have listened to the stories of staff and community members shared with trusted CBOs about the struggles of being a refugee or immigrant. They express difficulties learning the transportation and healthcare systems while trying to acclimate to a new culture and often caring for a family. Through my work, I have partnered with several CBOs to conduct focus groups on understanding the effects of the COVID-19 disease on various community members. We asked participants what health topics had long-lasting effects on their health, what they would like to learn more about, and where the information should be placed for best access. The focus groups overwhelmingly expressed interest in a better understanding and access to culturally appropriate information about mental health. They preferred information from trusted CBOs through social media or in person.

As I approached the research question for this study, I could not assume participants' literacy or health literacy because one is not determined by the other. For example, language, anxiousness, cultural differences, age, etc., can affect health literacy at any time (CDC, 2022 September). In addition, I could not induce any biases in the study, such as sources individuals trust for health information, cultural beliefs, religious beliefs, ideas of health, or any other personal beliefs or ideas.

Data Collection

After receiving IRB approval for the study, the data collection process began. Each participant completed a paper consent form and an electronic questionnaire and then participated in an interview in their preferred language. The questionnaire and interview were provided in the participant's preferred language of English or Somali. Arabic was not requested as a preferred language by any participant. When English was not the preferred language, a Somali interpreter was present throughout the entire study process involving each affected participant.

Questionnaire

Participants filled out an eight-question form in their preferred language before starting the interview questions. The questionnaire was available through a Qualtrics link. The researcher had an iPad at the interviews to access the questionnaire for each participant. The researcher accessed the link for each participant and handed them the iPad to fill out the form. The following questions were on the form:

1. Participant number (Assigned in numerical order by the researcher)
2. Time and date of interview
3. Referral organization: Somali Community Self-Management Agency, Utah Refugee Center, Somali Banjuni Organization, Friend
4. Age: 18-25, 26-35, 36-45, 46-55, 56-65, 66-75, 76-85, 85+
5. Gender: Male, Female, Prefer not to answer
6. How long have you lived in the U.S.? Less than one year, 1-3 years, 4-6 years, 7-9 years, 10-14 years, 15+ years
7. Highest level of education you have completed: Less than high school, High school degree, Some college, College degree
8. Select all the social networking sites you used at least once in the last month: Facebook, Instagram, YouTube, WhatsApp, Snapchat, Twitter, Pinterest, TikTok, None

The researcher filled out the first three questions with the participant watching to ensure consistency among forms and to be transparent with the participant. Each participant's number was used as their pseudonym. Numbers were chosen sequentially, e.g., participant 1, participant 2, etc. Questions three, four, five, and six were used to track the variety in age, gender, years in the U.S., and education level of individuals interviewed. Question seven was clarified by asking participants, “How many years of school did you attend” to ensure all participants used the U.S. education measurement system. High school is called secondary school in Somalia. For this study, the researcher wanted participants to account for education in Somalia and the U.S. The researcher asked these sociodemographic and SNS usage questions to look for patterns among those of similar age, gender, years of integration, and education during data analysis.

Interviews

Semi-formal interviews were conducted with participants who qualified for the study. Interviews were conducted in a private space where the participants felt comfortable. The interviews were conducted in the participant’s preferred language of English or Somali, utilizing an interpreter when English was not the preferred language. For interviews conducted in Somali, the researcher would ask questions in English, the interpreter would then repeat the question to the participant in Somali, the participant would provide their answer in Somali, and the interpreter would repeat the interpreted answer back to the researcher in English. This process allowed the researcher to understand if further clarification or exploration was needed for each question and recorded the English and Somali audio for review or clarification later. Each interview was recorded with a digital recording app and stored on a password-protected file on the researcher’s computer. At the beginning of the interview, the researcher stated the participant’s number to use as their pseudonym. The interviews each lasted approximately 15 minutes. The following interview questions guided the research to understand the CRQ: How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?

1. How have you looked for and found health information in the U.S.?
2. What kind of useful health information have you found?
3. What differences do you see in Somali and American cultures related to looking for information about health?
4. What has affected your ability to look for and find health information?
5. Who are the people involved in making health decisions for you?
6. Who are you responsible for making health decisions for?
7. What is the most important thing you look for when finding health information?
8. What difficulties have you experienced in finding health information that you trusted?
9. What steps did you take to understand health information you have received or found so you could use the information to help you make a health decision?
10. How did you make a health decision, such as choosing a health behavior, receiving treatment for an illness, getting more info, etc.?
11. What made health information trustworthy or not trustworthy?
12. How did you decide which information to trust and follow when you received conflicting information?

Questions one and two helped to identify answers to SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information? It allowed the researcher to understand the experiences of participants accessing health information. With question one, the researcher sought an understanding of the processes and resources individuals use to access health information (Bigsby & Hovick, 2018; Levin-Zamir et al., 2017). Question two sought an understanding of what health information participants have been able to find when searching for information once they arrived in the U.S. (Bigsby & Hovick, 2018).

Question three helped to identify answers to SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information? It helped the researcher understand the cultural norms of the participants. The researcher sought an understanding of the cultural health differences the participants had experienced (Andrulis & Brach, 2007; Alpers, 2018).

Question four helped to identify answers to SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information? It allowed the researcher to understand factors that could be facilitators or barriers to accessing information. The researcher sought an understanding of the factors that affected participants' ability to access information, such as internet access, transportation to a medical provider, finding a trusted source, etc. (Ackerson & Viswanath, 2009).

Questions five and six helped to identify answers to SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information? And SRQ2: How do Somali refugees and immigrants find understanding in health information? They helped the researcher understand who is most likely to seek and access health information for decision-making. For question five, the researcher sought to understand which individuals engage in making or helping the participant in the decision-making process regarding their health (Andrulis & Brach, 2007). For question six, the researcher sought to understand the role and responsibility of the participant in the health decision-making process for others (Andrulis & Brach, 2007).

Question seven helped to identify answers to SRQ2: How do Somali refugees and immigrants find understanding in health information? And SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy? It helped the researcher understand how the participant evaluates the health information they access. The researcher sought an understanding of the factors that participants valued in health information—for example, credibility, convenience, culturally appropriate, etc. (Clark et al., 2014).

Question eight helped identify answers to SRQ2: How do Somali refugees and immigrants find understanding in health information? And SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy? It helped the researcher understand the barriers to accessing, understanding, and trusting health information to make a decision. The researcher sought to understand the participant's experiences in finding the health information they could understand enough to decide then if it was trustworthy (Abdi et al., 2020; Alpers, 2018).

Question nine helped identify answers to SRQ2: How do Somali refugees and immigrants find understanding in health information? It allowed the researcher to understand the process participants took to understand health information. The researcher sought to understand how participants gained an understanding of health information once they accessed it. (Bigsby & Hovick, 2018; Chen et al., 2022)

Question ten helped identify answers to SRQ2: How do Somali refugees and immigrants find understanding in health information? And SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy? It helped the researcher comprehend how participants understanding and trust in health information affected health outcomes. The researcher sought an understanding of the participant's process once they found the information. For example, did they share it with others to get advice, gather more information, take it to a health appointment, make a health decision, etc. (Chen et al., 2022)?

Question eleven helped identify answers to SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy? This question allowed the researcher to understand how participants evaluated the trustworthiness of health information they were given or found. The researcher sought to understand sources the participants trusted and how cultural beliefs and traditions affected how they decided what information to trust (Clark et al., 2014).

Question twelve helped identify answers to SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy? It allowed the researcher to understand how the participants resolved conflicting information and decided where to put their trust. The researcher sought an understanding of the process participants took to reconcile contradictory health information (Nagler et al., 2017; Ramírez & Arellano Carmona, 2018).

Data Analysis

The data analysis followed the spiral process of Creswell and Creswell (2018) for qualitative data. This process is 1) managing and organizing the data, 2) creating memos of emergent ideas, 3) describing and classifying codes into themes, 4) developing and assessing interpretations, and 5) and representing and visualizing the data.

All interviews were recorded on a digital audio app recorder and uploaded to NVivo to create written transcriptions right after completion. The researcher had each participant read their transcript to check for accuracy. For those unable to read, their transcript was read to them in their preferred language. The interview interpreter also compared the Somali transcripts to the English versions to check for accuracy in the translation. The researcher then saved all written transcripts in a password-protected file on her computer. The audio file interviews were also saved to the researcher's personal computer in a password-protected file.

Participants entered the data from the questionnaire forms in Qualtrics. The Qualtrics data, accessible only to the researcher, were analyzed for frequencies of answers for questions three through eight. The information was downloaded and saved in a password-protected file on the researcher's computer.

Next, as suggested by Creswell and Creswell (2018), the researcher read all the transcripts to get a general sense of the information and reflect on the overall experiences, adding notes or memos of general thoughts. Memo-taking was continually used through the analysis process to document emerging ideas (Creswell & Poth, 2018).

Using lean coding, the researcher started with a few expected categories from the initial review and memos of interviews, which were labeled and described, and coded the data into broad categories (Creswell & Poth, 2018). As the transcripts were re-read, data within each category were further aggregated into smaller categories, given textural and structural descriptions and descriptions of essence (Creswell & Poth, 2018). The expanded code list was then reduced to a final shortened categorized code list and classified as themes (Creswell & Poth, 2018). The researcher developed a codebook to describe each code's distinct boundaries, including the code name with a shorthand label, code description with inclusion and exclusion criteria, and examples. During coding, the researcher looked for detailed descriptions of the case and notable quotes (Creswell & Poth, 2018).

Next, the researcher interpreted the data, considering the patterns, themes, and categories discovered through the prior processes, considering the questionnaire answers, and looked for alternative interpretations, surprising or unexpected information, and unusual concepts (Creswell & Poth, 2018).

Finally, the researcher presented the data in visual forms that display the information clearly and concisely. A descriptive case design should share unquestionable details that show a clear picture of the case (Tobin, 2010).

Ethical Considerations

Ensuring an ethical study meant the researcher showed respect for persons and concern for welfare and justice (Creswell & Poth, 2018). The study did not begin until the IRB approved the study. Each participant signed an informed consent form explaining the study's purpose, confidentiality, and voluntary participation. The form was available in the participant's preferred language and read to them before they signed it to ensure understandability. The researcher stored the interview transcripts on a password-protected file on her computer. She will retain the file for three years. The researcher shared the individual interview transcripts in their preferred language with each participant. Each participant received a pseudonym for reporting to maintain confidentiality. The researcher kept a list that linked each participant to their pseudonym in a password-protected file on her personal computer, separate from the interview transcripts. Validation strategies during the study were continuous. The qualitative data results were validated using qualitative measures for credibility, reliability, and transferability.

Credibility

Establishing credibility in a qualitative study is having an accurate understanding of the information and confidence in the truth of the findings (Guest et al., 2012). Following the guidance from Creswell and Poth (2018), the researcher could establish study credibility using several validation strategies. First, corroborating evidence from various sources while planning the study, during data collection, and using the insights in data interpretation. Second, member checking to take the information back to participants to check for the accuracy of their account.

Third, using thick, rich descriptions to convey findings to discuss details and elements of results for readers to understand all study components. Fourth, clarifying bias through self-reflection that the researcher brings to the study.

Dependability

Dependability in a study shows consistency in the research process and carefully following qualitative research conventions (Guest et al., 2012). Finding repeatable, consistent experiences ensures study dependability. Study participants were presented with study findings to confirm dependability. Providing a verbatim account transcript to participants decreases the likelihood of a misunderstanding or misrepresentation and increases consistency (Guest et al., 2012). Participants reviewed their individual transcripts and the data related to their responses to validate correctness. The researcher took multiple steps to ensure proper and complete translation. First, the audio files were all uploaded to NVivo to create a written transcript, including the interview process's English and Somali versions. Then the audio and written transcript was shared with the interpreter and the participant to check for accuracy. The researcher also provided an audit trail documenting analysis steps, a codebook, and revisions (Guest et al., 2012). Thick, detailed descriptions were used throughout the study. Finally, finding multiple sources of the participant's perspectives and using due diligence to discard biases all created study dependability (Creswell & Poth, 2018).

Transferability

Transferability is the degree to which the study findings are relevant to other populations and contexts (Guest et al., 2012). Providing detailed descriptions of the data and study population allowed the reader to understand the culture included in the study and the unique aspects of the population. Purposive sampling confirmed that participants met the research inclusion criteria. Using direct quotes from participants' interviews impacted the descriptive case study to provide an in-depth understanding of Somali refugees and immigrants accessing health information and using it to make a health decision.

Summary

This chapter introduces the qualitative research approach used for the study, explaining how the approach was appropriate for this study based on the need to better understand qualitative information from individuals within a specific cultural group. Next, the case study design describes how the study reveals patterns and connections in real-life settings currently in progress. Followed by the research questions and a description of the research setting, Salt Lake County, UT, with culturally specific CBOs as partners. Then, information about the purposive and snowball sampling of adult Somali refugee and immigrant study participants who have searched for health information in the U.S. is presented, followed by a description of the researcher's role and situation in the study. Data collection information includes document analysis and interview questions. Then, data analysis procedures share the five steps for analyzing the data. Finally, ethical considerations shared how the researcher showed respect, concern for welfare, and justice for participants, and validation strategies for credibility, reliability, and transferability.

Chapter Four: Findings

Overview

The purpose of this qualitative case study was to examine the health outcomes of Somalian refugees and immigrants who have sought health information from a trusted source. This study addressed how access to trusted health information affects health behavior decision-making within cultural communities. Bigsby and Hovick (2018) acknowledged a need to understand better the effects of information-seeking on health behaviors and how communication disparity factors impact behaviors.

The study participants were Somalian refugees and immigrants living in Salt Lake County, UT. Data collected and analyzed from a questionnaire and in-person open-ended interviews conducted between December 2022 and February 2023 determined the themes presented in this chapter. A description of the spiral analysis process for theme development, along with direct participant quotes and experience descriptions, are included in this chapter. All participant identities are kept confidential using pseudonyms. The analysis and finding from the following central research question and the sub-questions guided this descriptive case study:

CRQ: How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?

SRQ1: How do Somali refugees and immigrants describe their process of obtaining health information?

SRQ2: How do Somali refugees and immigrants find understanding in health information?

SRQ3: How do Somali refugees and immigrants decide what health information is trustworthy?

Participants

This descriptive case study used purposive and snowball sampling to gather participants who met the following inclusion criteria: 1) a refugee, immigrant, or asylum seeker originally from Somalia, 2) 18 years of age or older, 3) they could communicate in English, Somali, or Arabic, and 4) they had sought health information while living in the U.S.

Participants were continually recruited until data saturation was met, with a final number of 30 participants. Each participant completed a questionnaire with sociodemographic and SNS usage information and participated in an interview that took approximately 15 minutes. Interviews were conducted using an interpreter when English was not the participants' preferred language. About half, 14 of the 30 participants, requested a Somali interpreter for the interview process. Arabic was not a requested interpretation language of any participant. The 14 participants that requested a Somali interpreter also preferred the short participant consent form with a verbal explanation of the research process through the interpreter. Using pseudonyms, participant numbers, protected the confidentiality of all study participants. Interview transcripts were member checked for accuracy immediately after each interview. Interview interpreters assisted with checking when the participant's preferred language was Somali.

A challenge was finding a wide variety of participants that represented the various sociodemographic categories so the data could be analyzed appropriately. Searching for those willing to participate in an interview that fit the various criteria took additional time. However, it was critical to the data to get the perspective of different genders, ages, various integration phases, levels of education, and with various English proficiencies. Table 1, sorted in order of section participant number, shows participant sociodemographic factors and indicates those who requested an interpreter for their interview process.

Table 1

Participant Sociodemographic Factors

Participant	Gender	Age range	Years in U.S.	Highest level of education	Interpreter for interview
1	Male	36-45	15+	Some college	No
2	Male	26-35	15+	Some college	No
3	Female	36-45	15+	High school degree	No
4	Male	36-45	15+	College degree	No
5	Male	26-35	15+	College degree	No
6	Female	26-35	15+	Some college	No
7	Male	26-35	15+	College degree	No
8	Female	36-45	15+	College degree	No
9	Male	56-65	15+	College degree	No
10	Female	26-35	15+	College degree	No
11	Female	36-45	15+	College degree	No
12	Female	56-65	15+	High school degree	No
13	Male	26-35	15+	College degree	No
14	Female	26-35	15+	College degree	No
15	Female	36-45	7-9	High school degree	Yes
16	Female	46-55	15+	< High school	Yes
17	Female	36-45	7-9	< High school	Yes
18	Female	26-35	4-6	< High school	Yes
19	Female	36-45	4-6	< High school	Yes
20	Female	36-45	7-9	< High school	Yes
21	Female	26-35	7-9	< High school	Yes
22	Male	18-25	4-6	Some college	No
23	Female	46-55	10-14	< High school	Yes
24	Female	26-55	10-14	< High school	Yes
25	Female	26-35	4-6	< High school	Yes
26	Female	36-45	10-14	< High school	Yes
27	Male	56-65	15+	Some college	No
28	Female	46-55	10-14	< High school	Yes
29	Female	56-65	7-9	< High school	Yes
30	Female	46-55	10-14	< High school	Yes

Analysis

The researcher used the spiral analysis process described by Creswell and Poth (2018) for qualitative data for this study analysis. All transcripts and questionnaire data were saved to NVivo for the analysis process by participant number to keep the information organized. The researcher read each transcript to gather initial impressions of the data and added memos of general ideas and experiences. After reading the transcripts and reviewing the memos, lean coding was used to develop four broad categories that included descriptions. The developed categories were seeking information, understanding information, trust, and culture.

Each transcript was reread, and the text was coded into one or more categories based on the category description. The data within each category was then further aggregated into more detailed codes creating a more extensive list of codes to show the facets of the data within each category. Each category's extended list of codes was then grouped with like codes to create final code categories and then developed into themes. These categories included textural and structural descriptions. A developed codebook included code boundaries, descriptions, and inclusion and exclusion criteria. Continual memo-taking documented emerging ideas, assisted in consistent coding, and linked notable quotes.

The researcher then looked for patterns using coding queries in NVivo related to the participant's sociodemographic data. As patterns in data were discovered, the researcher considered and noted alternative interpretations and unexpected information. Data and patterns were cross-checked and confirmed for reliability and validity when creating an audit trail in an excel spreadsheet.

Findings

The findings from this qualitative case study were analyzed from participant interviews and analysis of the sociodemographic and SNS use questionnaire. The participant's experiences were used to answer the research questions of this qualitative descriptive case study. Four themes and eight subthemes were determined using the spiral analysis process of Creswell and Poth (2018) for qualitative data.

Questionnaire

The information on the sociodemographic questionnaire provided the participants' gender, age, the highest level of education completed, years living in the U.S., and SNSs used in the past month. The request for a translator for the interview also demonstrated that the participant had LEP.

For this study, the social determinants of gender, age, race, place, level of education, English proficiency, and community integration, measured by years in the U.S., were the factors considered. Race and place were the same for all participants in this study. Every participant was Black and lived in the same urban county. The other social determinants had variability amongst the participants.

Figures 2 through 5 show the distribution of the participants by gender, age, years in the U.S., and their highest level of education completed. Figure 2 shows the gender distribution of the 30 participants, indicating there were significantly more females, 21, in the study than males, nine.

Figure 2

Participant Gender Distribution

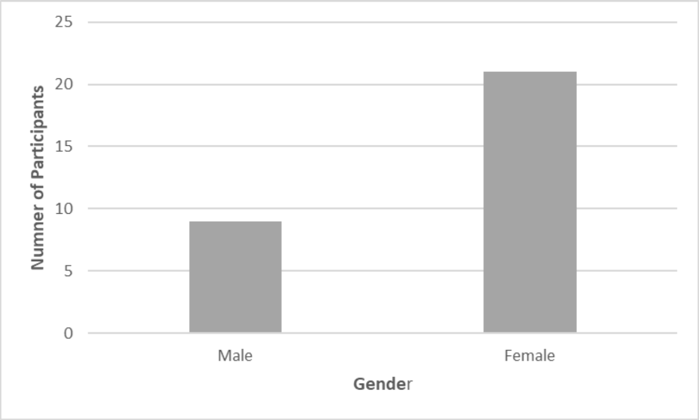
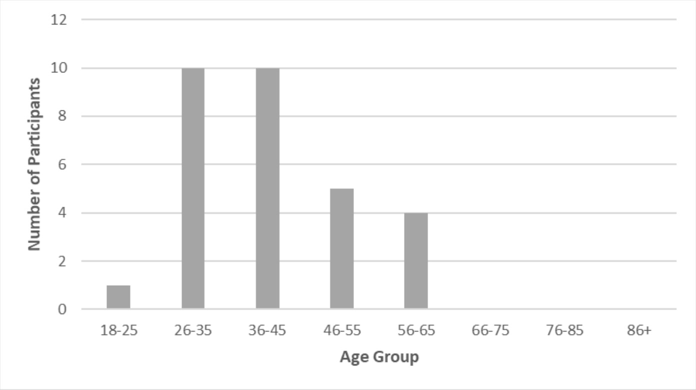


Figure 3 shows that most participants were in the 26-35 and 36-45-year-old age range, with 10 in each group. No participants were in the age groups 66-75, 76-85, and 86 and above.

Figure 3

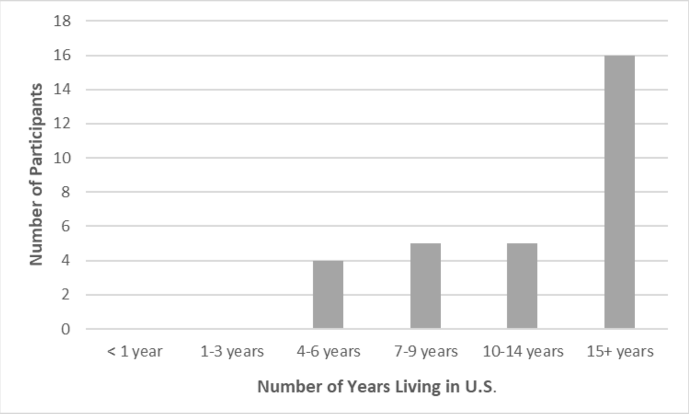
Participant Age Distribution



Sixteen participants had lived in the U.S. for over 15 years. The other 14 participants were split almost evenly into the three groups of living in the U.S. for 4-6 years, 7-9 years, and 10-14 years. There were not any participants who had lived in the U.S. for less than four years. Figure 4 shows the participant's distribution for years living in the U.S.

Figure 4

Participant Distribution of Years Living in the U.S.

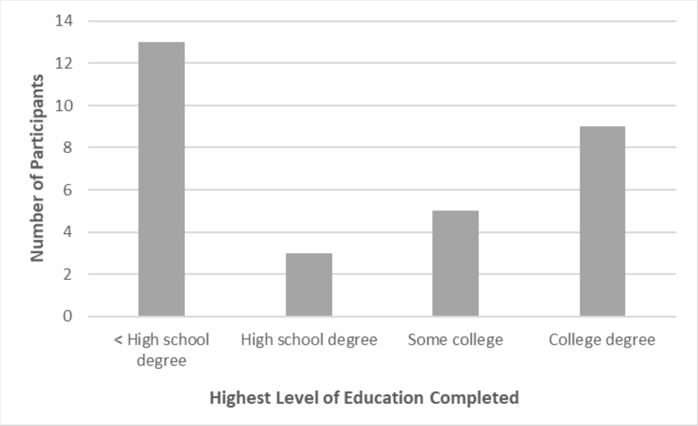


Question seven on the questionnaire stated: “Highest level of education you have completed,” and had four options from which to choose, less than high school, high school degree, some college, or college degree. When participants filled out the questionnaire, the researcher or interpreter clarified the meaning of this question and asked, “How much education have you completed?” In Somalia, high school may be called secondary school. The researcher wanted to record all education completed in Somalia or the U.S. Asking the participant this question to clarify meaning ensured the data was collected consistently and reliably and gave additional insight into the answer that would not have been captured by filling out the questionnaire. Most women with an answer recorded as less than a high school said they had never attended school or had completed four years.

Figure 5 displays the participants’ highest level of education completed. Thirteen participants reported less than a high school degree. Nine reported having a college degree. Five completed some college, and three acquired a high school degree as their highest level of education.

Figure 5

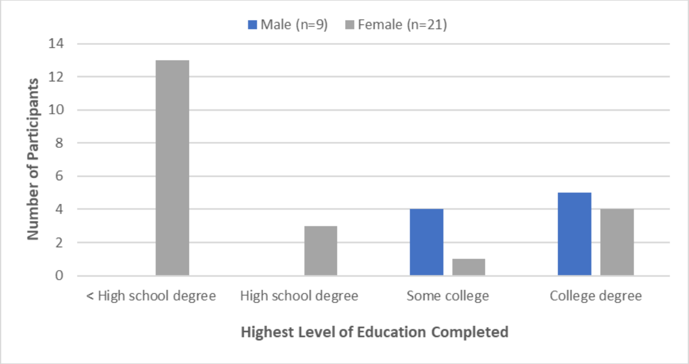
Participant Distribution of Highest Completed Level of Education



All 13 participants who indicated they had less than a high school degree and one who indicated having a high school degree had LEP and were female. Access to education is limited in Somalia and even more for females. This was found in the literature review and expressed by many female participants in their answers about being unable to attend school. Figure 6 compares gender and highest level of education completed.

Figure 6

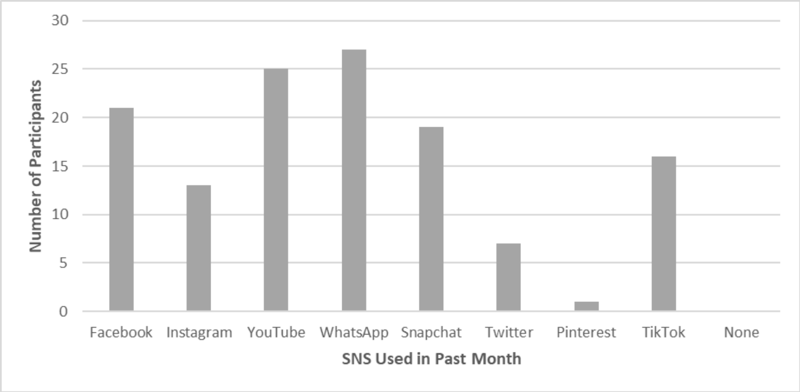
Participant Gender and Highest Level of Education Comparison



The SNS used by the most participants was WhatsApp, with 27 participants reporting using it in the past month, followed by YouTube with 25 users, then Facebook with 21 users. Figure 7 represents the SNS participants indicated they used at least once in the past month.

Figure 7

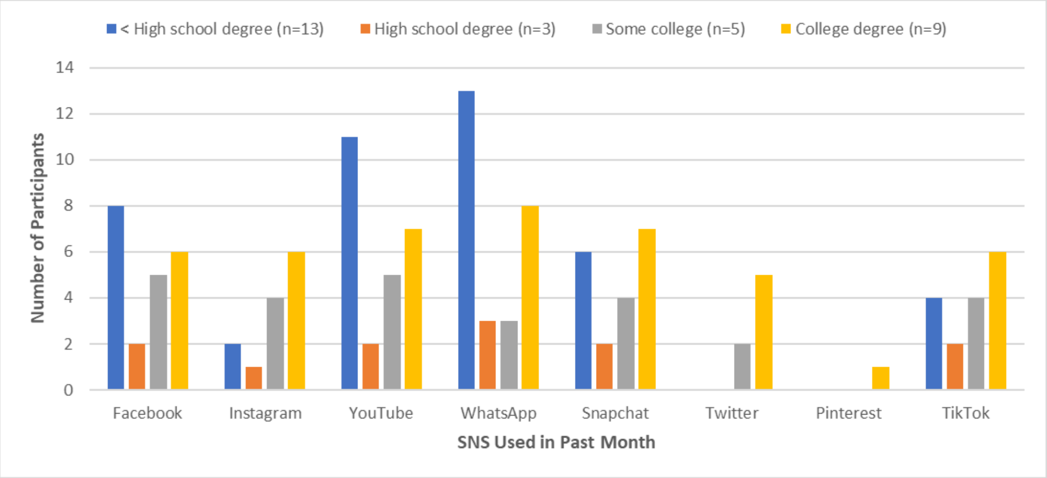
SNSs Used in the Past Month by Participants



Participants with lower education access and LEP gravitated more toward using an SNS with culturally specific information and familiar languages that did not require reading English. Every participant whose highest level of education was less than a high school degree and a high school degree and all with LEP used WhatsApp, and 11 of the 13 with less than a high school degree and two of the three with less than a high school degree used YouTube. WhatsApp groups connect them to others in their community, and YouTube can be used without reading. Both can be used on an app without accessing the Internet. Figure 8 shows which SNS participants used based on their highest level of education completed.

Figure 8

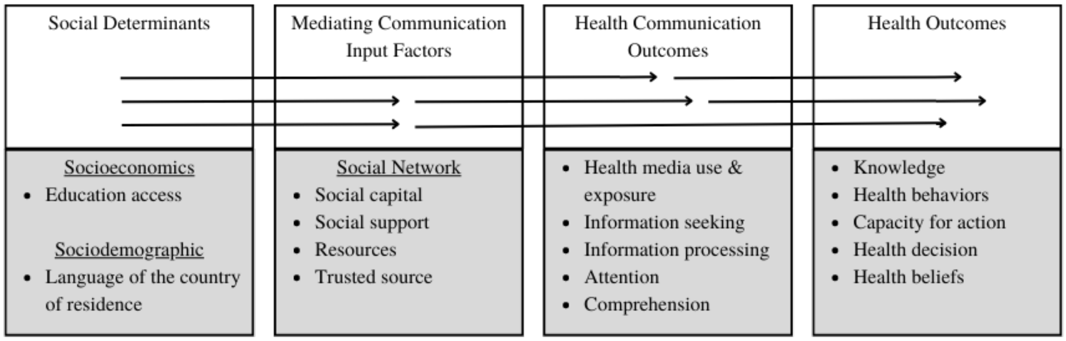
Participant Used SNS Based on Education Level



Participants highest level of education completed and English language proficiency were social determinants where correlations related to the mediating communication factors affecting health outcomes were seen in participant experiences. Figure 9 shows how the SIM framework was used to guide the data analysis process for this study using education access and English proficiency to explore participants’ experiences of health outcomes based on the mediating communications factors of the study.

Figure 9

Study Customized Structural Influence Model of Communication Framework



Education access and English language proficiency were the social determinants explored to understand how participants experienced health outcomes based on the mediating communication factors in this study Arrows indicate the relationships investigated in this study. SIM Framework modified from Bigsby & Hovick, et al., 2018; Häfliger et al., 2023

Participant Interviews – Theme Development

During interviews, participants were asked twelve questions about their experiences accessing, understanding, and trusting health information while living in the U.S. and making health-related decisions based on the information found or received. The following four themes were developed from the analyzed categories and expanded list of codes, 1) information access, 2) information processing, 3) source trust, and 4) decision-making. This section describes a detailed theme explanation with verbatim quotes from participants.

Information Access

The first theme emerged as participants described how they looked for and found health information, the kind of useful health information they had found, and what had affected their ability to access it. Participants shared cultural differences that impact a Somalian accessing information as they learn about the U.S. health system. Participant Ten explained that “Americans look at information such as preventive care. They do their yearly checkups and don’t wait until they need help or information.” Participant Two stated, “Flyers [about health] are everywhere here. If you stop by any store or library, flyers everywhere.” Participant Six explained, "In America, they go to doctors and use websites to be prepared.” Participant Seven shares, “Living in the American culture, my family seeks out medical advice.”

In contrast, Participant Ten explained, “Somalis usually wait until the last minute to seek care and information they need when they get sick.” Participant Two shared, “In Somalia, we don’t do that way. You only find information through the hospital. So you have to go to the hospital to find information. You won’t find information from any place like flyers and everywhere.” Participant Six added, “I would say for Somalis, usually we look for things that benefit us if we’re sick or have like an illness or symptoms. We look in the moment when we’re feeling sick.” And Participant Seven expressed, “With Somali culture, they don’t really look into health information.”

Two subthemes emerged as participants described their experiences looking for information and what affected their ability to find information. The data was coded into two subthemes, *experience gaining information* and *access factors*.

Two distinct patterns became apparent in participants’ experiences gaining access to health information, explained in the subtheme *experience gaining information*. Two distinct patterns affecting their ability to look for and find health information were also clearly described through participant experiences, explained in the subtheme *access factors*. Participants’ highest level of education completed and English proficiency showed correlations related to the subthemes of information access.

Experience Gaining Information

The two patterns participants shared related to their experiences gaining information were actively seeking information and passively receiving information. Correlations were noted in each subtheme related to the participants’ highest level of education completed and English proficiency. Figure 10 indicates the differences related to the study participants' English proficiency, indicating that most participants with LEP passively received information and most participants with sufficient English proficiency purposefully sought information.

Figure 10

Participant Experience Gaining Information Based on English Proficiency

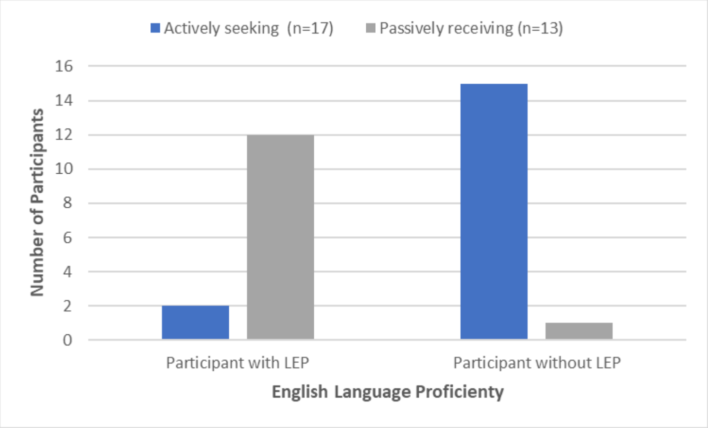


Figure 11 shows the differences related to the participant's education access. It indicates that study participants who had completed more education actively searched for health information, compared to their peers, who received health information from others without trying to find it.

Figure 11

Participant Experience Gaining Information Based on Highest Education Level Completed

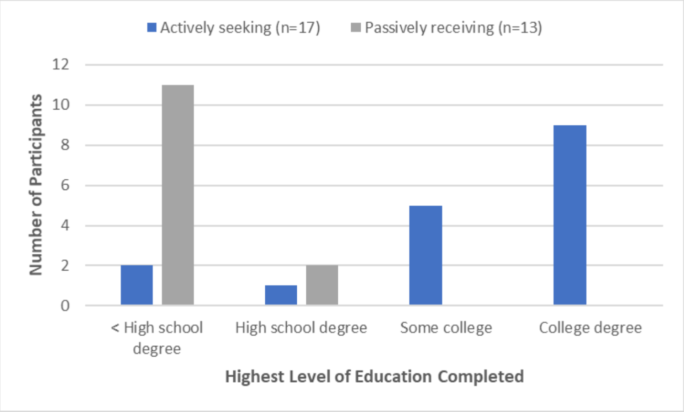


Table 2 compares the ten most common words used in each group in a word frequency comparison from the interview transcripts.

Table 2

Comparison of Word Frequency Usage from Participant's Gaining Information

Participants Actively Seeking Info	Frequency	Participants Passively Receiving Info	Frequency
information	37	doctor	26
doctor	35	information	11
use; -ful	28	get; -s	11
health; -y	25	health	11
get; -ting	17	need; -s	8
look; -ing	17	better	6
help; -ful	15	tell; -s	5
find	13	time	5
online	13	medical; medicine	4
need; -ing	12	appointment	3

The two word frequency lists closely align with how the two groups gained information. Participants that shared experiences of actively seeking information used words describing actions such as use, getting, looking, and find. Participants who shared experiences of passively receiving information used words such as needs, gets, and tells.

Actively Seeking Information. Participants who described experiences of actively seeking information discussed gathering different types of health information from community members, healthcare providers, the Internet, and social media.

Participant One stated, "I am always using social media, looking into more information when it comes to health things. I'll use Facebook, I'll use Instagram, and I'll also use the UWS [Utah Workforce Services] website. So, that's how I'm getting my information." Participant Three shared how she actively seeks information using several sources:

> I read online and go to a website, so some information can make me calm down, to see if it's nothing to worry about or if I need to call my doctor. I search like what is hurt. Like, I put in back pain, what would it cost, you know? Look up symptoms.

Participant Five also expressed actively looking for different types of health information, saying:

> Majority of the time, basically through my family. Like anytime I ask my family how to deal with certain issues or what they would do if they were in my situation. I use social media to find nutrition and fitness information because there are a lot of people talking about those things on the social media that I'm active on.

Participant Eight shared seeking helpful health information, saying, "Usually through the web, mostly Google and sometimes my healthcare provider. Basic stuff like when to seek for medical help, symptoms of blood pressure or diabetes, what you take for a fever or congestion, pregnancy information, things like that." Participant Ten shared several ways that she looked for health information when she needed important information, stating:

> So I talk to my primary care physician if I need a specific information. And I reach out to community members who are in the healthcare field and, of course, Mr. Google whenever I need to look up important information such as symptoms or conditions, nutrition etc. I make sure to look at reputable sources such as the CDC page or other medical pages that are known.

Participant Thirteen explained using various information-seeking tactics, "I think it's a mixture of things. Online, doctors, family, friends, research, books, podcasts." Participant Two added his opinion about the cost-saving benefits of information-seeking:

> Information nowadays it's all about the device you have in your hand, and that's very helpful looking through to search. For example, what your plan covers, you can Google

> it, or you can find that easily through the app. It will tell you, you need to go to this hospital, but you can also have an option, but it's out of your network, but you can still go, but this is how much the difference.

Participant Twenty-two shared how actively seeking health information in different ways has been beneficial:

> OK, so on healthcare.gov I find a lot of useful information. For example, what kind of plans they have for insurance that will cover what we need most. On Facebook and Instagram, I mostly find a lot of nutrition ideas. Also, on websites that I have visited when browsing for health insurance, we chose Select Health, and on its website, it has information about nutrition and about how healthy you are, like if there is anything wrong. Like if there is anything that you don't know is going on. Mostly going through the website that I get from my insurance kind of helped me to get information about nutrition and where to find out how healthy you are.

Outlier. Some participants described their process as typically passively receiving information. However, these participants shared a unique circumstance when they actively sought out nutrition information due to an opportunity to attend a Somali community nutrition class taught by a Somali dietitian, who teaches in Somali, and shares relevant Somali nutrition information. Each of these participants has LEP, speaks Somali as their preferred language, and has received little to no formal education. Two of these participants' experiences about actively seeking information in the nutrition classes are shared here.

Participant Twenty shared how she sought out health information through a local community nutrition class taught in Somali:

> Actually, through the nutrition class, that's where I found a lot of useful information about diet, about the things that can help, about how we can manage some of the things. I have found a lot of useful health information that helped me.

Participant Twenty-four also shared her experience actively gaining information from the Somali nutrition class:

> I get a lot of information about nutrition information from her [class instructor], like taking a lot of vegetables, putting a lot of salads in my refrigerator and I use them several days. Drinking a lot of water, a lot of juice and also I'm exercising. Also, I'm taking a lot of vegetables like sukuma wiki [collard greens].

Passively Receiving Information. Alternatively, when asked how they looked for information, participants who accessed information by passively receiving it shared their experiences of being given information by others. When these participants were later asked what was the most important thing they looked for when finding health information, most gave similar answers of receiving information from others without trying to seek it out. Receiving information most often occurred through visiting their healthcare provider.

Participant Twelve shared how she received information from a case worker and her healthcare provider:

> We had a case worker, I have at that time Medicaid, and they was telling me what doctor to use. All of the health information I get from my doctor. What they recommend to do. I feel like if you go to the doctor, they tell you what kind of food is good for you and how you get your body better or how you eating better.

Participant Sixteen explained that getting a Medicaid card gave her access to a healthcare provider who would advise her on health information. "The way I found health information was someone gave the medical card entrance [Medicaid insurance card]. So that’s how we actually got any information that we hear.” Participant Seventeen shared her experience in receiving health information, stating, “I have a primary family doctor where I go, and that tells me my health situation.” Participant Eighteen shared a similar experience of receiving preventive care, saying:

> I go to my doctor to get information. My blood level and my general health is considered by a doctor in case I need some vitamins or some nutrients or some medication. The doctor will prescribe it for me, and the doctor will give me advice, and through that way, I am healthy.

Participant Nineteen shared her experience of first arriving in the U.S. “Because I guess when I came to this country, I was connected with the doctor, and I learned a lot of information through the doctor.” Participant Twenty-one shared an example of receiving health information from her healthcare provider, “Through my doctor, I have learned I used to have very bad acid reflux, but I didn’t know that. So my doctor found out, and he gave me the medication for that.” Participant Twenty-eight explains, “I go to the hospital when I am sick and tell them about my sickness. I only consult with the doctor. I share with him about my symptoms. I don’t look for information online.” Participant Thirty shared a similar experience looking for health information, explaining, “I usually go to the hospital.” Participant Twenty-nine states, “I do not look for health information. I only go to the doctor when I get a message from them.”

Access Factors

The two patterns participants shared related to information access factors were access facilitators and access barriers. Table 3 compares the ten most common words used in each group in a word frequency comparison from the interview transcripts.

Table 3

Comparison of Word Frequency Usage from Participant's Access Factors

Information Access Facilitators	Frequency	Information Access Barriers	Frequency
doctor	5	know; -ing	25
health	5	information	21
think	5	doctor	20
tried	5	health	20
different	4	get; -ting	14
effect	4	barrier	12
get; -ting	4	interpreter; -tation	12
make; -ing	4	medical; medication	12
credible	3	find; -ing	11
find; -ing	3	language	11

The two word frequency lists indicate the facilitators and barriers that participants shared regarding things that have affected their ability to look for or find health information. Interestingly, some facilitators, such as get(ting), health, and doctor, are also listed as barriers. This difference depended on the individual's education level in this case study. Only participants with a college degree reported access facilitators. However, participants in all education categories reported access barriers. Those who had attained a college degree tended to report barriers for the Somali community rather than themselves. While others reported their own barriers to accessing information.

Access Facilitators. Participants described all information access facilitators as a result of their knowledge base, i.e., education. They acknowledged they are at an advantage by simply understanding the *need* to seek out information or additional information to later make a decision, to gain knowledge, or where and how to seek reliable information. Participant Eleven explained:

> Well, my education positively affects it [ability to look for or find information]. And when I look at health professionals are human and can make mistakes, and it's my life, and I am the one that will get hurt; obviously, I do my own research.

Participant Nine added his acknowledgment that having an education increases his ability to be able to access information and also understand when to question what the doctor has said and have a further conversation:

> I think nothing has hindered me from getting the information I want. I am educated, so I can figure out things. And then, when I find things that are not what the doctor told me, I book an appointment and go in to discuss what I found with what the doctor thinks.

Participant Thirteen added that with his knowledge, he understands that information is everywhere and can come from anyone, so it is essential to understand the intent behind the information source. He uses his knowledge of how and what information to seek:

> The positive effect is information is readily available and within our hand. And that's also the negative effect because there's so many different information out there. You don't know what's commercially intention versus what's actually good for you. I tend to search for preventative things. I like to focus on diet and exercise, understanding the different types of diets that are out there. I'm still trying to understand what's working best for me and my family, if there's any specific conditions, focusing on natural remedies, what kind of effects medications have, both positive and negative, and understanding that has been helpful.

Participant Fourteen added the benefit of her ability to conduct reliable research before going to the doctor, so she has information to discuss with her doctor:

> Like for diabetes, there's maybe what foods to eat, what foods to stay away from. High blood pressure, like how to maintain your blood pressure. So just those kinds of things I tried to look for. But when it comes to my own health, I try to look for, OK, I'm having these symptoms, what could it possibly be? And definitely, I'm going to see my doctor about it, but I just want to get an idea of what it might be. If I want to look up stuff online on Google like, *I* [emphasis added] know if this is a reliable site, and I can trust this information. But a lot of times, you cannot trust the information that's online.

Access Barriers. Participants described information access barriers resulting from communication issues, lack of knowledge, or not having an understanding of technology use. Five participants, all of whose highest level of education was less than a high school degree and who had LEP, reported that they could access all the information they needed. However, these participants did not indicate in their interview answers that they should seek information other than crisis care. Therefore, this was coded as a lack of knowledge barrier.

The language barrier is the most common communication barrier mentioned by participants. Participant Four speaks and understands English well. However, he shared his perspective and experience, stating, "Most our people have a language barrier. They try to seek for information, or sometimes they misunderstand because of the language barrier." Participant Three, who speaks English reasonably well, stated, "Sometimes language is a barrier to finding information and understanding." Participant Ten also spoke and understood English well and shared her experience related to her language barrier:

> So at first, language was definitely a barrier when I got here, but even though I speak fluently now, the one barrier I still have is the medical terms. Sometimes I will go in for a health concern, and I am given the different possibilities of what is causing my

> symptoms, and I don't know what any of it means. The doctor will rush out, and the nurse usually gives me instructions on post-care or follow-up, and I go home still confused about my visit. So yes, the language part of seeking care or looking up information is the barrier.

Participant Twenty explained how language affects her communication and ability to receive information:

> I don't know much English, that's why we have the interpreter with us today. But the big thing in the nutrition class, she explains everything in Somali, and I do understand Somali very well. I need the help in my native tongue.

Many participants described the need to use interpreters to access information. Participant Twenty-five said, "I can understand if I can get an interpreter for me." Participant Twenty-one similarly said, "When I go to a health facility, and then they asked me if I need an interpreter, I say yes. And that's how I get the communication." Participant Fifteen explained her experience of using an interpreter:

> When I go to the hospital, and I go to the reception desk, I would have loved to find a Somali interpreter that would assist me, but now what they do is they just make a phone call, and we just talk through the phone with the interpreter. I would prefer if there was an interpreter available. For example, when I reach the hospital, and I want to explain if my son or my child is sick, I would love to just find someone there and immediately start expressing whatever problem they are having.

Participant Twenty-eight expressed her experience utilizing her children and friend to make appointments, transport her to appointments, and communicate with her provider. She stated:

> My children, I ask my children to make an appointment for me for the doctor. That’s how I go to the doctor. But when my children are busy at school, I have my friend who gives me a ride and also interprets for me.

Participant Fourteen shared her experience as a child who had to interpret for her parents. She said, “For us, it almost feels like a privilege to understand and read and write and things like that because our parents didn't grow up with this educational system, so they would rely more on us to read and explain.” Participant Eight shared important insight from her perspective as a medical professional now working in urgent care. She came to the U.S. as a refugee and experienced many barriers that she now sees many others in her community facing:

> Language is a huge barrier because most of the health information is in English, whether it’s on the Internet or in the clinic. Some things can translate differently in Somali culture, so you can’t just translate information. And also, sometimes they feel like they cannot express themselves well because of the language barrier. There is a lack of interpreters that are well-trained in medical. You can be an interpreter, but are you familiar with medical terms? We’ll have somebody who does not have any medical background, like an Imam or a community leader, misinforming the population about a specific vaccine or a specific treatment, or even a surgery through their blogs or WhatsApp group.

Participant Twenty-nine explained that she could get information from those in her community but acknowledges that this is not always the best way to access information:

> When it comes to the community, I understand everything, but when it comes to outside the community, I either don’t get the information I need, or when I do get it, it doesn’t get translated as well, or I don’t get it in a timely manner. Language barrier is the difference.

Participants also expressed a lack of knowledge as a barrier to accessing health information. Participant Twenty-seven, who does speak English and has attended some college, shared these thoughts:

> The problem with the Somali community, most of them, not all of them, they are uneducated. They don't go to school. They don't learn. They don't read. They don't write. So if somebody is illiterate and they don't read, and they don't write, they don't know what's going on. They don't know how to go to the doctor, so that's why they stay home, and they become sick. So that's why we need to educate them.

Participant Nine also shared his experiences of those within the Somali community who lack the knowledge to gain health information:

> They are not familiar with the healthcare system here, so that is going to be a challenge for them. It's not that easy, you know. You have to be persistent. You have to be pushy. You have to be demanding. But I don't know, some of us are not pushy or demanding. These are traumatized people. They need to be mentally checked out before settling them into the country.

Participant Twenty-nine understood that she had health problems and explained that she did not know how to look for information or what information to look for about her condition. When asked what affected her ability to look for health information, she replied, "Knowledge, basically seeking knowledge towards what affects my health condition. I have thyroid condition, and my age-related health, and my need to know of [how to] looking for health information." For the five participants who shared answers of not experiencing any difficulties accessing health information and did not indicate they actively sought health information, their data related to this subtheme was coded as lack of knowledge.

Not understanding how to use technology was another barrier to accessing information experienced by participants. Participant Twelve shared how some Somalis struggle to use the Internet, “You know, if you can find Internet and even if you can find your language, they can explain. The issue is to use the Internet.” Participant Fifteen shared the need to be educated on how to use the Internet and search for information when she said, “Only someone who is educated and knows how surfing through online can get to information.” Participant Twenty-two shared that availability of a source does not mean a person can access and use it. They have to be taught just like any other skill:

> They don’t usually have all these resources available in Somalia. So they don’t have where you could just go to a website and find out about nutrition, for example. Even to find out about your health or if you know that something is wrong with you and you just want to find out more. There isn’t a website you can specifically go to. I think the difference is that the resources are not available in Somalia as they are here. It’s limited. I did not have a website that I could go to when I was there in Somalia to find out information about health, nutrition, or anything else related to health. This skill has to be taught to people when they arrive here.

Access to services is another barrier for many. Participant Eight stated, “A general barrier for many Somalis is if they need to look for health information, they don’t have internet access or transportation.”

Information Processing

The next theme emerged as participants were asked to describe their experiences in understanding the information they found or received so they could make a health decision. The participants described some cultural considerations important to their social construct. Many immigrants and refugees, especially female patients seeing a male doctor, are uncomfortable speaking up and asking questions to understand information or situations. Participant Nine explains:

> They are not familiar with the healthcare system here. Some of them are going to see a doctor because they might be told to go [preventive care check-up]. Some are dismissed by a doctor and told, ‘You look good; just go home’ when they are really sick [crisis care]. They don’t ask questions.

Lack of knowledge about the healthcare system or questions to ask are barriers to understanding information. The language barrier causes miscommunication or difficulty in communication, or they are too intimidated to ask questions.

Another commonality within the Somali culture is a reliance on one another’s past experiences of similar situations to gain understanding. Participant Five explained this common cultural practice of their community-based society:

> In the Somali community, we are more adjacent. We’ll ask the same people. If I have a certain health concern or issue, I’ll ask someone else if they had the same kind of issue. If they have, then whatever worked for them, I’ll use that as help for me and see if it works for me, or if it doesn’t.

Participant Nine shares how individuals are most comfortable seeking understanding from one another:

> In my culture, they usually just talk amongst themselves. And when the family if they know a doctor that can treat that particular kind of disease or has the experience, they are more comfortable within their community than going outside.

Somalians also often prefer home remedies and herbal medicines to pharmaceutical medications, which they attempt to see how they work, and will often revert back to when given a pharmaceutical with unpleasant side effects. Participant Seven laughingly shares, “When it comes to medicine, we tend to use herbal medicine when you’re sick. Parents like to give you Sprite, and say, here you go. So we have like our own home remedies.” Participant Ten agrees, saying, “We also turn to home remedies before relying on the health care system.”

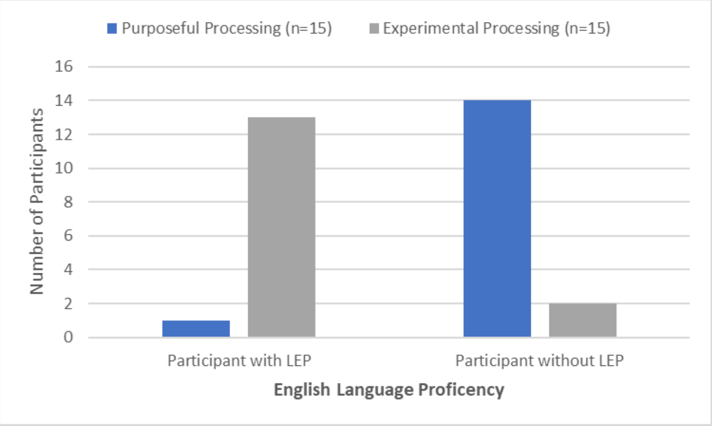
The participants described two processes for understanding the health information they found or received. Some participants described evaluating the information they had found or received, while others described taking the information and seeing what happened next. These experiences were developed into the theme of information processing. The data was coded into two subthemes the participant’s experiences related to their actions in processing information, *purposeful processing,* and *experimental processing*.

The noted difference in these subthemes is that those who purposefully process information desire to understand the information better, ideally guiding them toward making a decision or improving their knowledge. Those who experimentally process information do not indicate they intend to learn or gain knowledge as a purposeful processor would. They receive information or seek out information, and to process the information, they try a solution to see the outcome. If the first option does not have the desired outcome, they try something else. They process information through trial and error.

Figure 12 shows the difference among participants’ English proficiency, indicating that study participants with LEP described using an experimental information processing method. Those with proficient English describe a type of evaluation process of their information for greater understanding.

Figure 12

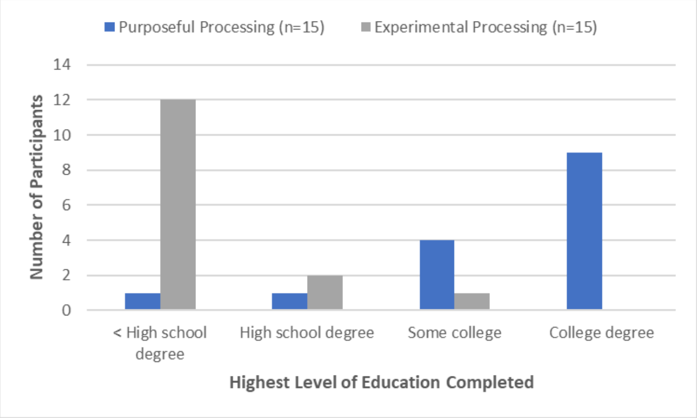
Participant Information Processing Based on English Proficiency



All participants who received a college degree used purposeful information processing, and twelve of the thirteen participants who received less than a high school education used experimental processing. Figure 13 shows the differences related to the participant's level of education completed.

Figure 13

Participant Information Processing Based on Highest Education Level Completed



Participants in both information processing groups shared common words when describing their preferred process, but notable differences exist. Table 4 compares the ten most often used words in each information processing group in a word frequency comparison from the interview transcripts.

Table 4

Comparison of Word Frequency Usage from Participant's Information Processing

Purposeful Processing	Frequency	Experimental Processing	Frequency
doctor	37	doctor	20
information	24	information	14
look; -ed; -ing	23	take; -ing	14
understand; -ing	19	know; -s	13
make; -ing	17	get; -s; -ting	11
get; -ing	16	see	11
see	16	help; -ed; -ing; -s	10
try; -ing	16	medication	9
think	12	tell; -ing; -s	8
talk; talking	11	advice	7

The two word frequency lists indicate diverse ways the two groups experience processing information. Participants that share experiences of purposefully processing information used words describing evaluation actions such as looking, understanding, and making. Participants who share experiences of experimentally processing information used words such as knows, see, help, and tell, indicating they will be watching to see what happens with the information gathered or given.

Purposeful Processing

Participants who purposefully processed health information chose to take action to find understanding in the information they received or found to guide them toward a decision or health outcome.

Participant Ten shared looking up information and talking with her doctor or the nurse to make sure she understands the information they have talked about:

> So, I make sure to ask the doctor questions that will help clear any confusion. As I said before, the medical terms are hard to understand whether they use it in communication or it is on patient education forms. I like to also have the information to all back up whenever I have questions, so I look for things that will help me understand whatever symptoms I have. I would ask more questions. I would try to speak with the nurse afterward after the doctor leaves so I can have the information again in simpler terms. If I am unable to get the information or care I need, then I will go to another doctor and see if what he or she says matches up with the last doctor said.

Participant Fourteen discussed how she ensures that she understands the health information she receives from her healthcare provider. She explained:

> There are sometimes when the doctor says a medical term, and I need to go look it up in the dictionary and see what this term is and try to understand and put the medical terms or medical information into terms that I understand. Or sometimes, I just go on to Google and see if someone is talking about diabetes or whatever and watch a video on that. Or just reading articles that are peer-reviewed and making sure, like, OK, this is what the article says, and this is what this doctor is talking about. Plus, you can read pamphlets and ask them, can I have a copy about this that tells me more information, or can you refer me to a site that I can learn more information about this that you're saying?

Participant Two talked about how he sought additional medical attention when he was concerned about a health condition and then prepared to ask questions at a doctor's visit to understand if he was on the correct medication. He said:

> We have a doctor on demand through my work, so it's an app where you make an appointment, and it's a video chat. When I got COVID then, I got better, I still had a

> remaining cough that kept going, and I was concerned that it wasn't going away, and the clinic tell me I need to take this other medicine. So, I had to write it down and make an appointment. I asked the question, I need this explained to me because I do not understand what I should take and what I should not take. That's helpful for me.

Participant Twenty-seven also discussed seeking understanding through his healthcare provider, stating, "Usually I contact my doctor, and I ask questions, and he explains to me." Participant Seven discussed a few different approaches to better understanding health information. He explained:

> First, I approach my sisters because they are in the health field, and I have no idea anything about it, so I talk to them first get their idea. And then, from there, I might search this stuff they tell me about and just to get an understanding of what they are explaining to me, and if I might dig a little bit more or even talk about it with the doctor.

Participant Nine also described using a few different sources to better understand information. He explained:

> I usually go to WebMD. So, WebMD has a lot of YouTube videos. I'll watch some doctor giving a talk on any topic or any disease I'm interested in understanding more. And the other thing I just Google and understand what the doctor kind of say that might be having to get a better understanding.

Participant Eleven talked about how she takes extra steps to understand the information that she reads, stating:

> I looked through peer review and research. I read scientific journals. I go through sites that are verified. When I'm reading, and it's mainly in the field's jargon, I have to research the words that are in the research, and it takes more time.

Experimental Processing

Participants who shared experiences of experimental processing chose actions that tried information or directions to see the outcome. They receive or find initial information, and to process that information, they go through a trial-and-error process to find a solution.

Participant Fifteen explained how she processes information she receives when she takes her child to a healthcare provider, explaining, "When my kid falls sick, I take him to the hospital. If he gets treated, I take him back home. If he falls sick again, I still bring him back again." Participant Twenty discussed how she chooses to process health information experimentally:

> I would get a suggestion from someone or maybe advice from someone, and then if I see that the advice has actually helped me, I'll go on with that advice, and if it helped, well then good. If it doesn't, then I will stop.

Participant Thirty explained how she processes information about which medications to take from her healthcare provider:

> If the doctor prescribes me a medication the first time I see it has very bad side effects, I don't take it anymore. I don't continue taking it. In Somalia, we actually use herbs. If someone has a headache, constipation, or food poisoning, they use herbs. I do the same. If he [the doctor] tells me to go buy a medicine and the medication has side effects, I will go back to the natural side and use herbs instead of taking the medication.

Participant Sixteen explained that when she receives information, she watches to see how it affects herself or others and then acts based on what happens:

> I think I usually go off of how the advice affects me and give it time to see for myself if I am better or worse. About the COVID [vaccine], I gave it some time to see for myself to see how it would affect people for better or worse.

Participant One explained that he processes information by seeing how things affect him and then talks to others in his community to get their input and guidance. If he receives medication, he thinks about what would be best. If he takes the medication and gets sick, he stops taking the medication. He asks others in his community if they also got sick from taking the medicine. He consults with his Imam to help heal his body.

Source Trust

The third theme emerged as participants answered the questions of what made information trustworthy or not trustworthy and how they decided what information to trust when receiving conflicting information. Almost every participant discussed experiences of how and why they did or did not trust the source of the information rather than the content.

Participants shared some cultural considerations related to source trust. People in Somalia do not have health insurance or easy access to testing or proper treatment for diseases. Participant Two stated, “You go to the hospital, you pay for outright. There’s nothing called insurance.” Often, individuals do not seek care if they can go to a pharmacy and receive medication that may treat their symptoms. Participant Twenty-five explained:

> Over there [Somalia], when you go, they only check one thing. For example, if you have a fever, they will focus on malaria; they will test you if you have malaria. If you feel sick, you just go to the pharmacy and buy medicine from the pharmacy instead of going to the doctor.

Participant Sixteen shared the same explanation of receiving medication from a pharmacy in Somalia without testing to find out what sickness an individual has so it can be treated appropriately:

> In Somalia, you have a headache, and then you go to a pharmacy, and he gives you a medicine for a headache. If you are sick and you don't know exactly the kind of sickness that you have, they just give you Tylenol, and you go on your way, but you won't be able to know exactly what's wrong with you health-wise.

Contrary to medical care in the U.S., Participant Seventeen exclaimed, "So here in America, we have health insurance, and we are accessible to doctors and appointments and medicals and all that." Participant Nineteen added, "Here, [America], if you don't have enough income, the government will help you with your medical problems [Medicaid]." Participant Two shared the same sentiment about access to health insurance, "Because here we have if you're not working, you have the government [Medicaid]." Participant Twenty explains, "Having access to a medical health provider is actually much easier here. So whenever we had an issue, we would go to the doctor and get the medication that we will be needed." Participant Twenty-one shares, "There's a lot of testing that's done here. There's a lot of things that are done so that it can lead to ultimate disease treatment. And then when we can get the help that we need." Participant Twenty-five adds, "In here [America], if you are sick and go to the doctor, they will check everything."

Participant Eleven shares insight into how these experiences can contribute to trusting a healthcare provider as a source of information:

> In the Somali culture, from my experience, I see that we're on polar opposites of trusting health providers. We're either too intimidated to ask questions of a professional, or we believe in it 100% to a point where we don't even ask for a second opinion.

Two subthemes were categorized based on descriptions of how the participants chose to trust sources of health information. The subtheme *corroboration* describes participants' experiences seeking source validation to discover whether the source from which they had found or received the health information was trustworthy. If these participants did not fully feel confident in the source of information, they would seek another source where they could try to corroborate their information and feel a sense of trust. The experience of participants that shared information coded in the subtheme *single-source confidence* indicated they felt assurance in the credentials, knowledge, or experience of the source and therefore trusted the information.

Correlations were noted in each subtheme related to the highest level of education completed and English proficiency. Figure 14 indicates differences in participants' English language proficiency, demonstrating that those with LEP tended to feel high confidence in the credibility of the single source where they found or received health information. Alternatively, those without LEP desire to corroborate the source of the health information to discover its trustworthiness.

Figure 14

Participant Source Trust Based on English Proficiency

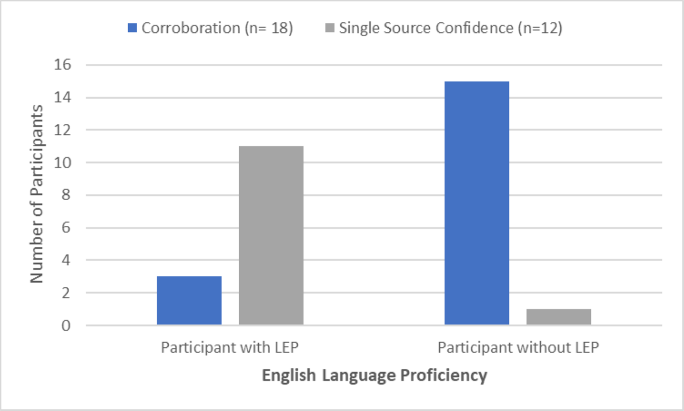


Figure 15 displays the differences related to the participant's education access, indicating that those with higher education degree completion were more apt to corroborate source information before they felt they could trust it. Others felt they found or received information from a trusted source.

Figure 15

Participant Source Trust Based on Highest Education Level Completed

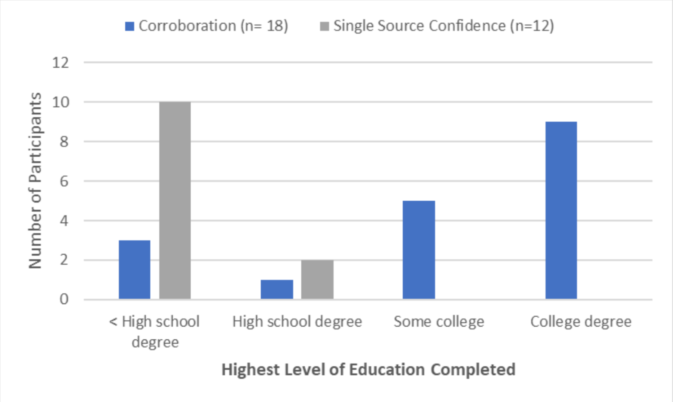


Table 5 compares the ten most common words used in each source trust group in a word frequency comparison from the interview transcripts.

Table 5

Comparison of Word Frequency Usage from Participant's Source Trust

Corroboration	Frequency	Single-Source Confidence	Frequency
doctor	50	doctor	37
information	24	information	21
get; -ing	23	get; -ing; -s	13
trust	19	trust	1
know; -s	16	health	9
research	15	one	9
look; -ed; -ing	14	take	9
make; -s; -ing	14	know; -s	8
see; -ing	14	ask; -ed	7
medical; -tion	11	follow; -ed; -ing	6

The two word frequency lists indicate diverse ways the two groups decided how to trust sources of information. The first four words in each list are the same, indicating both groups are getting information involving their doctor in some way and need to decide their level of trust. Participants that share experiences of seeking source corroboration used words describing an action of confirming information, such as research, looking, and seeing. Participants who shared confidence in a single source used words such as one, knows, and followed, indicating they felt assured in the source.

Corroboration

Participants who discussed corroboration shared experiences of a desire to ensure the source of information could be trusted. Participant Four shared that it can be hard to know who to trust, and he has to go back sometimes and get additional information:

> Sometimes when I seek for information it is kind of hard to understand who you can trust and who you can talk to and stuff like that. For me, when I hear from my community or my people with questions about where I get the information, then I will go and find other information and research.

Participant Fourteen discussed her preference to get a second opinion or a desire to read about information to make sure her healthcare provider is giving her accurate information:

> I guess who it’s coming from [makes health information trustworthy or not]. Like a lot of doctors, they’re doctors, right, so they should know what they’re talking about. But some of them do not know what they’re talking about. I like getting second opinions on things. I just don’t like going to one doctor that says, hey, I think you have this, or you have that. OK, cool, thank you so much. Can you give me a pamphlet, or I look it up on my own? OK, thank you. Then I tried to go to another doctor, who has time, and get a second opinion. I want to make sure that the information I’m getting from my first doctor if they’re being truthful and especially not having trust in that medical system.

Participant Two described also getting a second opinion to validate information received from a healthcare provider:

> I never just take one word from one doctor. If one doctor gives me something, this is this or whatever they say to me, and I go to another doctor. I go to three or four doctors. And then I want to see if they're all the same thing. If they all not say the same thing and one person is saying a different thing, and I know that's wrong. I have to look for out of the ordinary.

When asked how do you know when to trust the information, Participant Six stated she would confirm the doctor was giving truthful information and may seek out a second opinion:

> I think when it's coming from the source, like the doctor, I still look into if it's trustworthy more than just online. Like I compared the both of them. The doctors and try to find, to also research on my own, so I can better understand and see what's best for my body and also ask advice for another doctor. Get a second opinion.

Participant Thirteen also discussed corroborating information from a doctor with a second opinion and with information from a source he trusts online.

> There are some good doctors, and there are some doctors that are more concerned with how much money they make. So instead of giving you natural remedies that can solve the problem, they're so quick to give you medication and surgeries that sometimes are not necessary. So I would get multiple opinions to make sure this is information I can trust and that I feel at peace. Also, using some of the websites that I go back to are the ones that have made sense and are beneficial, and are not commercialized.

Participant One explained how he relies on the experiences of others in his community to help him decide where to put his trust. He expressed, "The doctor always explained to me what's good, what's bad, so based on what I see, most of my knowledge, my doctor is telling me what's good." I asked him, "Do you trust your doctor the most?" He replied, "50/50, sometimes the doctor he's telling me to take this medicine, but sometimes I see people get sick, so I have to make sure I know. So the people [in my community] share information when we come together." I asked him, "So, do you trust your friends most?" He said, "Yes. I check with other people who have been here [had a similar medical situation] before me and see if it's good for me. They explain to me. Then I see if it's good for me."

Participant Eleven discussed that she checks sources between one another to make sure they corroborate:

> For me, like I said, verified sites, but also peer-reviewed research, do they back each other up? And I will ask for second and third opinions, and even if it's coming from a professional, I will ask another professional in the same field or an equal field. And if five are saying the same thing and two are saying the opposite of those five, I will go with the three.

Single-Source Confidence

Participants who shared their thoughts on having confidence in a single source talked primarily about trust in their healthcare provider, who they felt would provide accurate information. Participant Seventeen shared her trust in her healthcare provider as her source of health information. She said, "I will follow the doctor's advice because that doctor is the one who knows the problem, not others." When asked what makes health information trustworthy or not trustworthy, Participant Twenty-one answered, "For a reliable source, if it comes from my doctor." Participant Twenty-three shared a similar experience, saying, "I don't look or get information from anywhere other than my doctor. And that is the source that I rely on." When asked how she decided what information to trust when receiving conflicting information, Participant Twenty-five answered, “I don’t listen to ideas about people telling me about things. I just find my doctor. I trust my doctor and do what he suggests.” Participant Twenty-six answered similarly and said:

> I always trust the doctor. The doctors they know more than me, you know. They have more education. They have the ability to explain that one [information] comes from. And what is the benefit and what is the reason for that one because they already went to school and they learned about that one. But I don’t have the ability. Yeah, I trust the doctors.

Decision-Making

The fourth theme, decision-making, emerged as participants answered how they made a health decision, such as choosing a health behavior, getting treatment for an illness, getting more information, etc. Participants were also asked two questions to understand their responsibility regarding making health decisions. They were asked who was involved in making health decisions for them and for whom they were responsible for making health decisions. These two questions were open-ended. The three common answers participants gave to the question of who are the people involved in making health decisions for you were: my family, my doctor, or myself. Some participants stated that only they were responsible. Some stated that only their doctor was, and some answered with a combination of people involved. Participants gave five common answers to the question of who are you responsible for making health decisions for: my children, family, parents, spouse, and no one else. Two participants answered that they were only responsible for themselves. All other participants reported being responsible for at least one other person.

Figure 16 shows who participants reported are responsible for making their health decisions based on the participants' highest level of education completed.

Figure 16

Participant Health Decision Support Based on Education Level

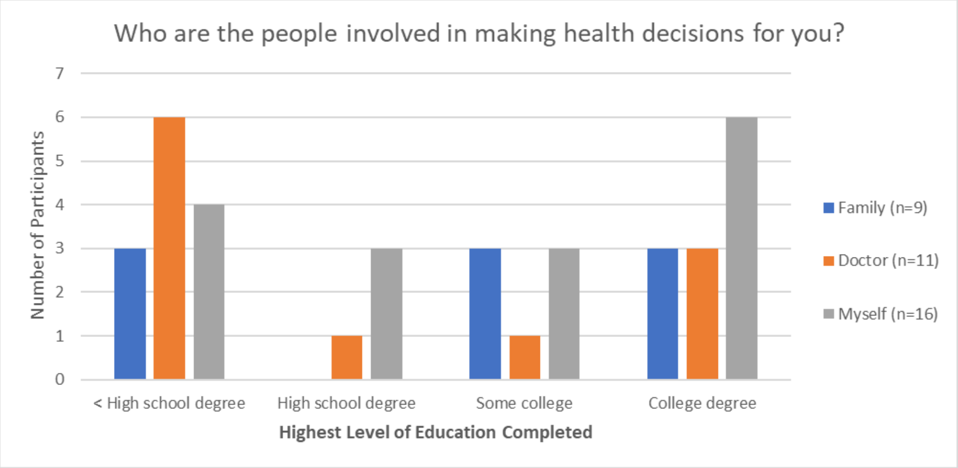
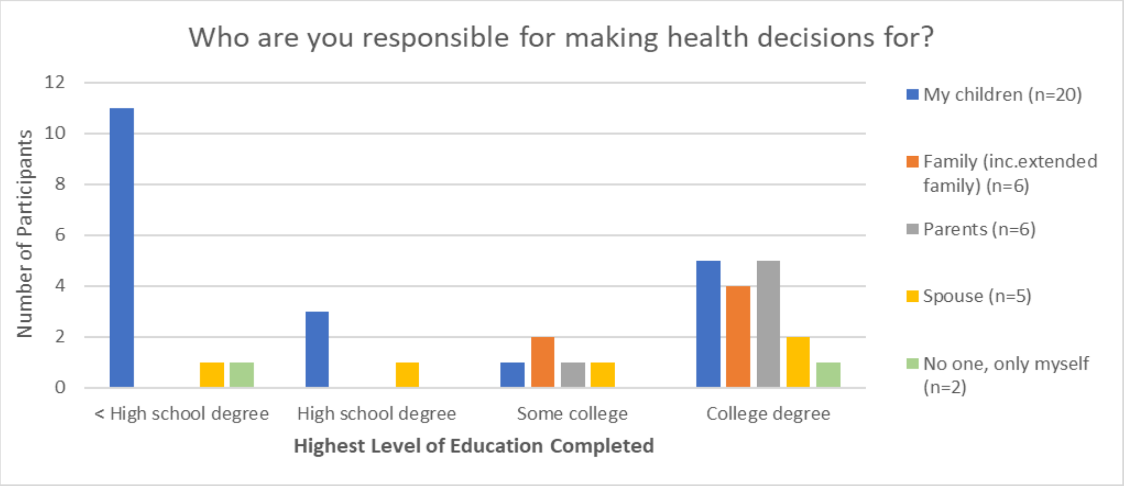


Figure 17 shows whom participants report they are responsible for making health decisions for, based on the participants' highest level of education completed.

Figure 17

Participant Health Decision Responsibility Based on Education Level



The two subthemes were categorized based on how participants described their decision-making process once they accessed health information and processed the information through a trusted source. The two subthemes in the decision-making theme are *informed decision* and *directed decision*.

The subtheme of *informed decision* came from participants' descriptions of processing all the information and making a decision based on the knowledge they gained. The subtheme, *directed decision*, was formed from participants' descriptions of trusting or allowing another individual to decide for them. They felt that another trusted individual knew what was best for them and could direct them in the best health decisions, such as which medications to start taking, which health behaviors to follow, etc.

Correlations were noted in each subtheme related to participants' highest level of education completed and English proficiency. Figure 18 indicates the differences in the participants' English proficiency, showing that participants without LEP discussed experiences of making decisions based on the information they assessed. Participants with LEP shared that they allow someone they trust to direct them in a decision.

Figure 18

Participant Decision-Making Based on English Proficiency

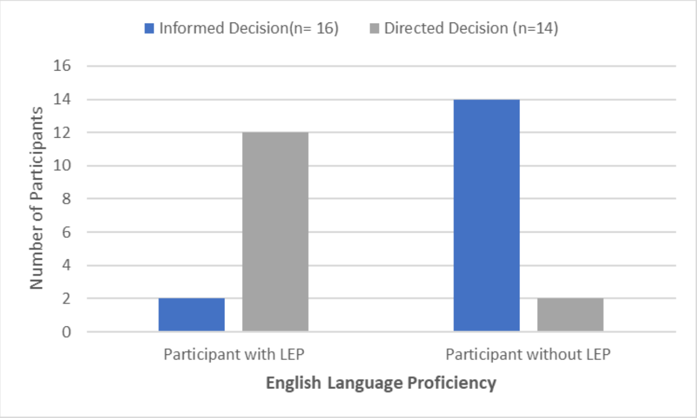
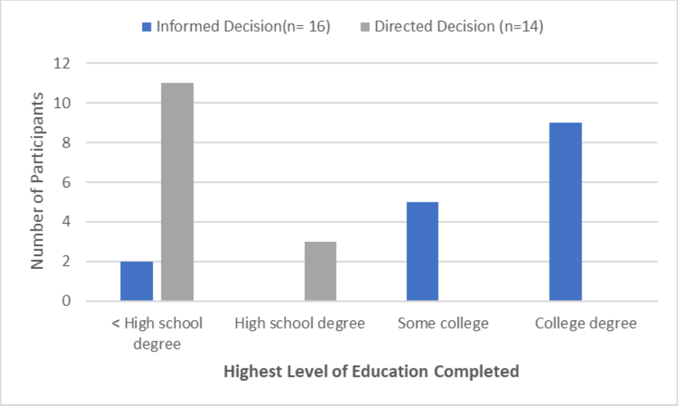


Figure 19 presents the differences related to participants' education access, indicating that those with higher education levels of completion shared experiences of making an informed decision. Participants that had completed less education had trust in others to direct them in health decisions.

Figure 19

Participant Decision-Making Based on Highest Education Level Completed



Informed Decision

Participants who shared experiences of making an informed decision discussed reviewing information and talking with individuals they trust to make a decision they felt was best for their health. Participant Two shared the importance of speaking with his spouse to review the information and making a shared decision to ensure they make a decision that will lead to the best health outcome:

> I sit down with my wife. We make a decision together. We talk about it. Once I get information, I sit down, and we'll make a decision together from based on through our family. When it comes to health, I can't just make a decision by myself. Health is very important and not something that I can go back and fix if I make the wrong decision. So

> those kinds of stuff, I have to sit down with my family, and we'll make a decision together based on a conversation.

Participant Nine also shared discussing information and making decisions as a family, stating, "Me and my wife will sit down and look up an indication of whatever the doctor advised, and we will decide to do on any level of our family."

Participant Four shared taking the information he had collected and thinking through the best option before making a decision:

> I'd like to see, to weigh it out, the good and the bad, my own research, to see what was the best for me. I'll make my decision from that. Then, in the end, I put my faith in God and hope for the best.

Participant Thirteen discussed his decision-making process of patience and thoughtfulness to ensure peace of mind:

> I think the main thing is, does it make sense, and is it beneficial? Talk to family and friends and just give some time. It's not a major thing to just seeing throughout time what makes sense, what doesn't, and what works. And then obviously tell if someone's being genuine or not. And I look at does it go with my faith. I think that's the main thing for me. Make sure I have enough information to give me inner peace.

Participant Seven discussed found information with family, stating, "I usually go back to my family and see what they say and their thoughts are. After considering everything, I make the decision I think is best." Participant Twenty-two also discussed health decisions with family:

> That kind of depends on the decision. If it's a major decision, I definitely consult with my family or someone I trust or that I'm close to and just get their advice on that. I try to find all the information I need and then decide.

Directed Decision

Participants who shared experiences about others directing them in their health decisions shared experiences of trusting the knowledge or credentials of others enough to follow or do as they suggest.

Participant Eighteen answered when asked how do you make a health decision, “I will take the doctor’s information.” Participant Twelve similarly replied, “I talked to my doctor. I make the decision what they recommended me to do.” Participant Nineteen also shared that she relies on her healthcare provider to guide her in health decisions, explaining, “My doctor helps me with whatever I need for my health. If I need a vaccine, if I need anything else, it’s my doctor that I connect to for what I need to do.” Participant Twenty-one expressed trust in her healthcare provider to guide her in health decisions, saying, “If he [health provider] tells me that this is a good decision, I have to make it for my good health, then I go ahead with it.” Participant Twenty-four said, “I don’t listen to ideas about people telling me about things. I just find my doctor. I trust my doctor and do what he suggests.” Participant Three also relies on her healthcare provider to direct her in health decisions. She also replied, “I just trust the doctor to make the decision.”

Research Question Responses

The researcher sought to examine the health outcomes of Somalian refugees and immigrants who have sought health communication from a trusted source while living in the U.S. The researcher used participant data from semi-formal interviews and questionnaire analysis to answer the CRQ and SRQs. The participant experiences from the discovered information access, information processing, source trust, and decision-making themes supported the research questions.

Central Research Question

How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions? Somali refugees' and immigrants' information-seeking behavior directly impacts their capacity to make a health decision and the quality of their decision. The participants that described behaviors of actively seeking information had access to mediating communication factors, allowing them to intentionally look for and take steps to understand the information to gain knowledge and make an informed health decision.

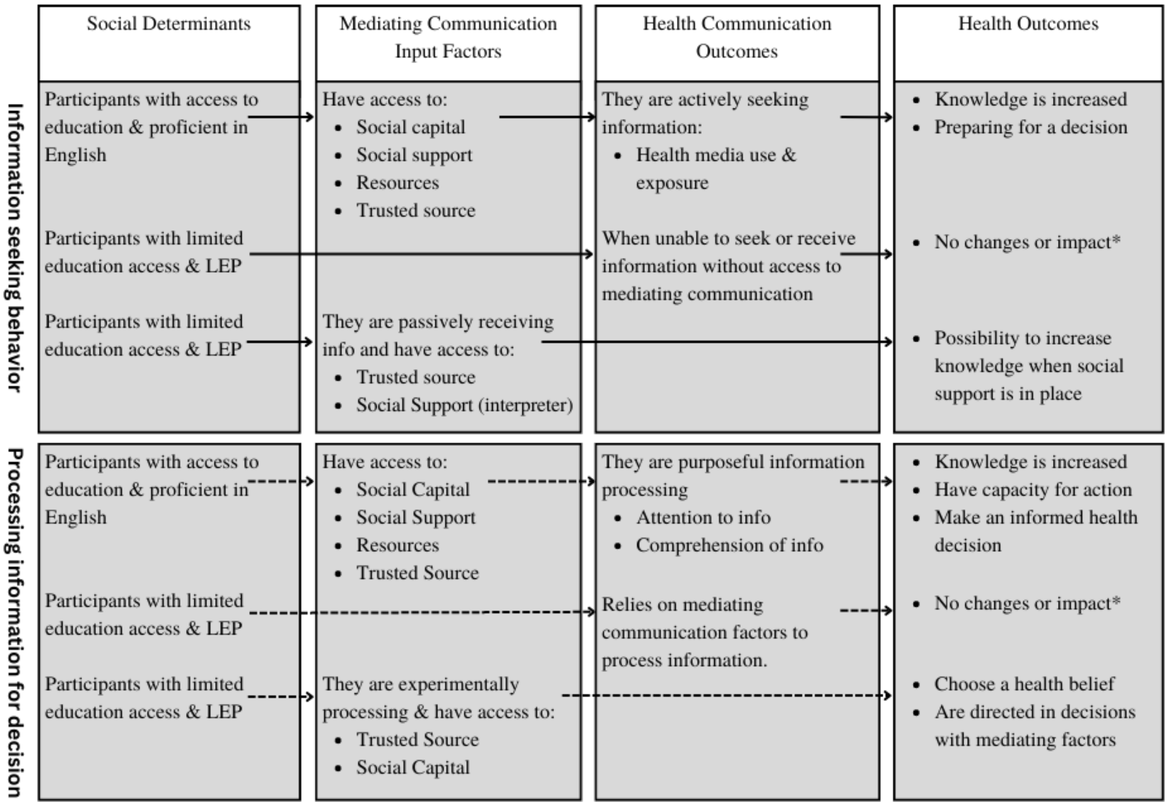
The participants who described passively receiving information did not have equitable access to mediating communication factors to make an informed decision. When there is a language barrier for these participants, knowledge will only increase if they receive information interpreted or translated accurately into their understood language. The information received often leads these participants to try what the doctor or another trusted source tells them to do without understanding or comprehending the information because they do not ask questions or gather more information. They allow others to direct them in a decision due to a lack of knowledge, and they trust that others know what is best. Alternately, they shape their health beliefs by experimenting with what works and does not. They are not making an informed decision but following a belief in what could or did work. They are not gaining knowledge to make an informed decision in either situation.

Without having the skills needed, i.e., the ability to efficiently communicate, knowledge of how to access more information, and the critical thinking skills that come with obtaining an education, these participants do not express having the capacity to make a well-informed health decision for themselves or others. They report relying on their doctor and family to help them make health decisions. However, many are responsible for making health decisions for their children.

The SIM framework served as a guide to understanding the effects of communication inequalities. Those with access to education and proficiently speaking English could access the sources and resources needed to seek and understand information to make an informed decision. Without equitable access to communications factors, seeking and understanding information is often limited, leading to being directed in a decision. Figure 20 shares how inequitable access to mediating communication factors can lead to inequalities in health outcomes.

Figure 20

Information-Seeking Behavior Impact of Health Decision



	Social Determinants	Mediating Communication Input Factors	Health Communication Outcomes	Health Outcomes
Information seeking behavior	Participants with access to education & proficient in English	Have access to: • Social capital • Social support • Resources • Trusted source	They are actively seeking information: • Health media use & exposure	• Knowledge is increased • Preparing for a decision
	Participants with limited education access & LEP		When unable to seek or receive information without access to mediating communication	• No changes or impact*
	Participants with limited education access & LEP	They are passively receiving info and have access to: • Trusted source • Social Support (interpreter)		• Possibility to increase knowledge when social support is in place
Processing information for decision	Participants with access to education & proficient in English	Have access to: • Social Capital • Social Support • Resources • Trusted Source	They are purposeful information processing • Attention to info • Comprehension of info	• Knowledge is increased • Have capacity for action • Make an informed health decision
	Participants with limited education access & LEP		Relies on mediating communication factors to process information.	• No changes or impact*
	Participants with limited education access & LEP	They are experimentally processing & have access to: • Trusted Source • Social Capital		• Choose a health belief • Are directed in decisions with mediating factors

*Disparities occur with communication inequalities across continuum and inequitable access to learning

Table 6, sorted in order of participant number, lists each participant's highest level of education completed and how their experiences with accessing information, processing information, source trust, and decision-making were coded in the study.

Table 6

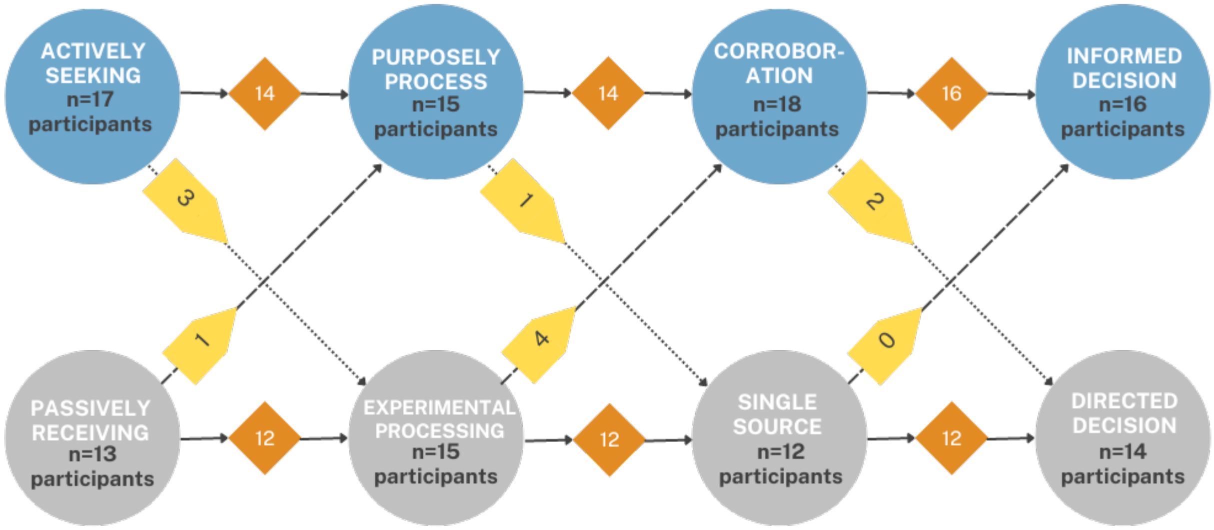
Coded Themes for Participants

Participant	Highest level of education	Information Access	Information Processing	Source Trust	Decision-Making
1	Some college	Active	Experimental	Corroborate	Informed
2	Some college	Active	Purposeful	Corroborate	Informed
3	High school degree	Active	Purposeful	Corroborate	Directed
4	College degree	Active	Purposeful	Corroborate	Informed
5	College degree	Active	Purposeful	Corroborate	Informed
6	Some college	Active	Purposeful	Corroborate	Informed
7	College degree	Active	Purposeful	Corroborate	Informed
8	College degree	Active	Purposeful	Corroborate	Informed
9	College degree	Active	Purposeful	Corroborate	Informed
10	College degree	Active	Purposeful	Corroborate	Informed
11	College degree	Active	Purposeful	Corroborate	Informed
12	High school degree	Passive	Experimental	Single source	Directed
13	College degree	Active	Purposeful	Corroborate	Informed
14	College degree	Active	Purposeful	Corroborate	Informed
15	High school degree	Passive	Experimental	Single source	Directed
16	< High school	Passive	Experimental	Single source	Directed
17	< High school	Passive	Experimental	Single source	Directed
18	< High school	Passive	Experimental	Single source	Directed
19	< High school	Passive	Experimental	Single source	Directed
20	< High school	Active	Experimental	Corroborate	Informed
21	< High school	Passive	Experimental	Single source	Directed
22	Some college	Active	Purposeful	Corroborate	Informed
23	< High school	Passive	Experimental	Single source	Directed
24	< High school	Passive	Experimental	Single source	Directed
25	< High school	Passive	Experimental	Single source	Directed
26	< High school	Passive	Purposeful	Single source	Directed
27	Some college	Active	Purposeful	Corroborate	Informed
28	< High school	Passive	Experimental	Single source	Directed
29	< High school	Passive	Experimental	Corroborate	Directed
30	< High school	Active	Experimental	Corroborate	Informed

The information-seeking behavior of Somali refugees and immigrants impacts how they make health decisions. Most participants who received an education and could communicate in English, actively sought information and took steps to make an informed decision. Most participants who did not receive an education and had LEP, passively received information and continued to take steps that led to others directing their decision. Figure 21 illustrates the pattern of behaviors among study participants. A few participants went between the paths. However, most participants consistently remained on one information-seeking/decision path.

Figure 21

Participant Path Choices from Information-Seeking to Decision-Making



Language is a common barrier to seeking health information for many Somali refugees and immigrants. When seeking information, whether actively sought or passively received, misunderstanding information that is not interpreted or translated correctly, has unfamiliar terms or jargon, or is unfamiliar in other ways, can lead to miscommunication. When mediating communication factors are unavailable, individuals often follow the experimental information processing path, which ends with a directed decision from another source or a health belief from experimental processing.

Sub-Research Question One

How do Somali refugees and immigrants describe their process of obtaining health information? Somali refugees and immigrants described two multi-layered processes that stem from cultural order. When asked how they looked for and found health information, some participants described a planned, proactive action to find information about a health topic from various sources to gain knowledge. Other participants described receiving information from a source when they sought care.

In Somalia, taking preventive care actions is not the cultural norm. It is more common for individuals to seek crisis care from a medical provider when they have symptoms of an illness. Participant 18 explains, “In Somalia, you will only see the doctor when you are sick. Here in America, whether you are sick or not, you will have yearly checkups. The doctor will look into your health situation and tell the health problem.” Participant Ten shares the same experience stating:

> Americans look at information such as preventative care. They do their yearly checkups and don’t wait until they are sick to seek information. Somalis usually wait until the last minute to seek care and information they need when they get sick.

Participants who described experiences obtaining information by actively seeking information describe utilizing the Internet, social connections, and trusted sources to gather information to learn more about a health topic. Participant One said, “I am always using social media, looking into more information,” Participant Five also expressed going to social media to find information. Participant Three added, “I read online and go to a website.” Participant Eight also described using the Internet to find information and added going to her healthcare provider to seek medical information. Participants obtain health information by seeking various sources to find the information where they can find answers. Participant Thirteen adds that accessing information “is all about the device you have in your hand.”

Other participants experience obtaining information from others, mainly healthcare providers, when seeking medical attention or care. Obtaining information in this manner is aligned with passively receiving information because they do not describe seeking the information but seeking a cure for a situation, completing a required action (yearly exam), and obtaining information from being in a situation. Similar to walking past a flyer in a grocery store and reading the content. Some participants describe going to their healthcare provider and receiving information to manage a health crisis. Participant Twenty-eight says she goes “to the hospital when I am sick and tell them about my sickness. I only consult with the doctor.” Similar to Participant Thirty, who says, “I usually go to the hospital.” Other participants obtain information as they visit the doctor for a check-up, a new healthcare process for many Somalians that provides them with more information than they had received in Somalia when only receiving crisis care. Participant Nineteen stated, “I was connected with a doctor, and I learned a lot of information through the doctor.” Participant Thirty said, “All of the health information I get from my doctor.”

Participants also obtain information through the use of SNS. They most commonly join various WhatsApp groups on their phones to stay connected and do not have to understand how to navigate the Internet. This platform allows them to communicate in their native language and obtain culturally appropriate information through audio and visual. Participants share experiences obtaining nutrition information in one group.

Sub-Research Question Two

How do Somali refugees and immigrants find understanding in health information? Study participants described experiences of finding understanding in information related to social and cultural norms of a traditional Somali community. Many refugees and immigrants from Somalia described a sociocultural community-based society where social interactions create reality, social order, and cultural traditions. Participants explain that they often find understanding through experiences and sharing. Participant Eight states, “The community is not based on evidence. It is based on word-of-mouth. Everyone puts in their two cents.” Participants discuss relying on the experiences of others to find understanding in their symptoms or a diagnosis or medication a doctor may have given them. Participant Five shares that they will ask others who have had a similar health concern or issue what worked for them and “see if it works for me.” Participant Twenty will also get advice from others and see if “ the advice has actually helped me.” If the suggestions from others help, they will continue. If it does not help, they will stop or try something else. Experience discussions and then experimentation with the information helps them find understanding.

Participants who had received an education and were proficient in English could also navigate the Internet. They described using those skills to communicate with their healthcare provider when they had questions or searched for additional information to learn more. Participant Ten said, “I make sure to ask the doctor questions that would help clear any confusion.” Participant Fourteen shares that when the doctor uses a medical term that she does not understand, she can “go look it up in the dictionary and see what this term is and try to understand and put the medical terms or medical information into terms that I understand.” Participant Nine uses the Internet to find information on sites such as WebMD, where there is written information and videos that explain information for even better understanding. These participants still respect their community's social and cultural norms, and many speak of consulting with friends, family, or religious leaders to discuss the experiences of others. In addition, these participants use questioning, web searches, reading, and other resources to gain understanding.

Sub-Research Question Three

How do Somali refugees and immigrants decide what health information is trustworthy? Participants decide on information as being trustworthy based on the source of information. Participant Four said, "It is kind of hard to understand who you can trust." Participant Fourteen added that what makes information trustworthy is "who it's coming from." Participant Five also said, "It really depends on the source that it's coming from."

Many Somali refugees and immigrants became accustomed to limited access and resources to healthcare and communication systems. Participant Sixteen shared, "If you are sick and don't know exactly the kind of sickness you have, they give you Tylenol." Without the Internet, insurance, and complete medical testing to understand a health condition, discussion of shared experiences and experimentation of home remedies, and trying medication from the local pharmacy was how individuals came to trust information when living in Somalia. They trusted their community as a source of information.

Once they came to the U.S. and gained access to a healthcare system with insurance, accessible doctors, and appropriate medical testing, many realized, as Participant One expressed, "The treatment, it's good." Participant Twenty said, "Whenever we have an issue, we would go to the doctor and get the medication that we needed." Participant Twenty-one spoke about having access to needed help by understanding the causes of your sickness and being able to treat it. She said, “There’s a lot of testing done here.” These experiences gave participants high trust in their healthcare provider as a source of information and anything they suggested or advised. Participant Seventeen expressed having sole trust in her healthcare provider “because the doctor is the one who knows the problem, not others.” Participant Twenty-one expressed the feeling that her doctor is a reliable source. Participant Twenty-five trusted her doctor so much that she stated, “I always trust the doctor. The doctors they know more than me.”

Other participants who understood how to use the Internet, what questions to ask, and had a good understanding of the healthcare system, decided to trust sources of information differently. Participant Eleven said, “American culture has healthy doubts in health professionals.” Rather than trusting everything they are told, these participants use other sources to corroborate one another. They want to see two or three sources of information state the same information to be trustworthy. Some discuss seeking out a second opinion from another healthcare provider. Participant Two said, “I never take just one word from one doctor… And then I want to see if they’re all the same thing.” Participant Fourteen said, “I like getting second opinions on things.” Others like to see if what a healthcare provider says matches online information. Participant Six explained, “I like to compare both of them.” They feel that the information is trustworthy if both sources share similar information. Participant One trusts information from his healthcare provider but confirms information with people in his community and religious leaders. He has high trust in all the sources and wants to see if the sources can all confirm a good outcome for him.

Summary

This chapter described the study’s participant recruitment process and the participants involved. An introduction of the participants included their participant number, gender, age-rage, years they have lived in the U.S., highest level of education completed, and their English proficiency, measured through whether they utilized an interpreter for the interview. The spiral analysis process described reviewing, coding, categorizing, and developing themes from the interview transcripts and discovering patterns in the socioeconomic data related to the themes. The four themes of the study, information access, information processing, source trust, and decision-making, and their subthemes developed from participant experiences, were each described and supported with quotes from participants. The CRQ and SRQs were each answered, supported by participant quotes and experiences. Chapter five will share a discussion, interpretations of the research findings, and suggestions for future research.

Chapter Five: Conclusion

Overview

This chapter discusses and interprets the study findings, followed by implications. Then presents research limitations, delimitations, and recommendations for future research. The chapter then gives a research conclusion.

Discussion

The design of this descriptive case research has allowed for an in-depth understanding of Somalian refugees' and immigrants' experiences with cultural health literacy and a better understanding of how information-seeking behaviors affect health outcomes. This study used the communication inequality theory to better understand the communication inequalities across the communication continuum with Somali refugees and immigrants. These research findings include a summary of the research question findings, a discussion of the thematic interpretations, and research implications.

Interpretation of Findings

Four main themes emerged from the experiences of Somali refugees and immigrants seeking health information that aligned with the CRQ *How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?* These themes also supported the three SRQs. The main themes were information access, information processing, source trust, and decision-making.

Summary of Research Question Findings

Each SRQ aided in answering the CRQ. All developed research questions explored understanding participant experiences by using *how* questions. All questions sought to better understand cultural health literacy for Somalian refugees and immigrants, exploring how information-seeking behaviors impact decision-making and the factors of accessing, understanding, and trusting information.

Central Research Question. *How does the information-seeking behavior of Somali refugees and immigrants impact their health decisions?* Access to mediating communication factors allows them to intentionally seek information and take steps to understand the information to gain knowledge and make an informed decision. Participants who described having access to resources and skills such as knowledge of how to use the Internet, ability to speak and read English, and knowledge gained from at least a high school education, understood how to ask questions, corroborate information, and could take steps to gain more knowledge to make an informed decision. Participants without access to mediating communication factors described the significant access barriers as language, lack of resources, and lack of knowledge. Without access to mediating factors, participant information-seeking behaviors are significantly impacted. Participants passively receive health information, use experimental processing, and are directed in their health decisions.

Sub-Research Question 1. *How do Somali refugees and immigrants describe their process of obtaining health information?* Somali refugees and immigrants described two very different processes for obtaining health information based on their knowledge of how to use resources to access information and English language proficiency. Some participants described using resources and communicating with trusted sources to actively seek information about a health topic to gain knowledge. Other participants described seeking medical care and receiving information from a source, often through the use of an interpreter.

Sub-Research Question 2. *How do Somali refugees and immigrants find understanding in health information?* Participants find understanding through sharing experiences. For some participants, these experiences create reality and health beliefs. For others, these shared experiences are added to additional steps in finding understanding in health information by using questioning, web searches, reading, and other reliable sources.

Sub-Research Question 3. *How do Somali refugees and immigrants decide what health information is trustworthy?* Participants decide on information as being trustworthy based on the source of information. Participants who do not understand how to seek information or speak English proficiently have high trust in the healthcare provider as a source of information. They feel that a healthcare provider is educated and knows what is best for them. Others will use several sources of information and ensure the sources corroborate with one another for the information to be trustworthy.

Summary of Theme Findings

The first theme, information access, relates to how participants look for and find health information, the kind of information they have found, and things that affect their ability to access information. The subthemes of experience gaining information and access factors describe participants' experiences seeking health information and the facilitators and barriers they faced. The second theme, information processing, describes participants' experiences understanding the information they have obtained so they can make a health decision. The subthemes purposeful processing and experimental processing share processes of participants to find understanding in health information. The third theme, source trust, shares how participants decide what makes health information trustworthy and what information to trust when information conflicts. The subthemes corroboration and single-source confidence express how participants decide what source of information to trust. The fourth theme, decision-making, explores how participants make health decisions and their level of responsibility involved in decision-making for themselves and others. The subthemes, informed decision and directed decision, describe the participants’ process and involvement in decision-making.

Information Access. Access to mediating communication factors was integral for participants’ process of accessing information. The availability of communication factors such as social support in the form of adequately trained interpreters, learning to navigate the healthcare system, and using the Internet increases opportunities for seeking information. Past research shows that those with limited internet access do not improve their computer literacy skills, and their ability to seek health information is limited (Philbin et al., 2019). Many refugees do not understand how to use the Internet. Therefore, its availability is not a valuable resource for seeking information if a person cannot access and use it. Furthermore, research indicates that technology has shifted from a passive audience to active media users discovering content that interests them (Podara et al., 2021). Some, who are comfortable with technology, acknowledge that mobile devices have become the preferred connection method, and studies indicate the same (Borg et al., 2019).

Without English proficiency or learning that comes from receiving an education, individuals often cannot access or do not understand the questions to ask to access information without the support that comes from mediating communication factors. Refugee and immigrant women are often unsure how or where to seek information (Nagler et al., 2017). When an individual chooses to look for information and desires to learn more, the information is more impactful. Cultural differences in healthcare systems contribute to confusion, and language differences add to information access barriers. For Somalians, a system of seeking health information is new, and having access to resources such as the Internet is also new and different. Access to education increases an individual’s ability to understand how and what information to seek. Past studies have shown that those who seek more health information are often White and those with a higher level of education than their peers (Sato et al., 2019).

Language affects individuals' ability to search for and receive information. Information is often written or spoken in English with unfamiliar jargon and terms that cause confusion and overwhelming feelings. Using culturally and linguistically appropriate SNS such as WhatsApp provides a space for obtaining information. However, when the information is created and shared by those within the community, it is not always accurate.

Information Processing. Access to mediating communication factors was integral for participants to process information. Social support, in the form of an interpreter, was necessary for individuals to understand the information received that was not in English or written in plain language. Past research has found that health information often includes medical jargon and terms without explanations, and resources without visual graphics, giving visual cues of the information (Abdi et al., 2020). Communication inequalities occur when someone cannot communicate with their healthcare provider and understand health information (Bekalu & Eggermont, 2014). Visual information is processed more quickly and efficiently and can bridge the communication inequality gap (Mackert et al., 2016). The use of WhatsApp and YouTube is a way for those who do not speak the local dominant language to access information from others in an easy-to-understand format.

Those without English proficiency or learning that comes from receiving an education do not often understand the questions to ask or how to find additional information to gain more understanding without the support that comes from the mediating communication factors. Those facing communication inequalities have trouble reconciling conflicting health information, leading to confusion and reduced opportunities to discuss the conflicts (Nagler et al., 2017).

Studies show that refugees arriving in the U.S. from other countries often have a low education level, limited health literacy, with limited understanding of health information, and the ability to translate information (Wångdahl et al., 2019). Access to resources such as correctly translated information, culturally appropriate information, and social support to explain the information is necessary for individuals to understand the information. Miscommunications often occur when information is inaccurately interpreted or translated. Misunderstood information can lead to uninformed health decisions and unnecessary illness (Wångdahl et al., 2019).

Source Trust. Trusted information lies within a trusted source. Research indicates a link between communication inequality, access to health information, and trusting the information related to health information resources (Bekalu & Eggermont, 2014). When individuals cannot access information due to language, literacy, or lack of technology access or knowledge, trust will lie in the source they can access. Individuals trust experts as information sources (Kreuter & McClure, 2004). A healthcare provider who performs the necessary tests to understand an underlying health condition creates trust. When individuals can develop a personal relationship with their healthcare provider, they highly trust them as a source of information (Chen et al., 2018; Clark et al., 2014; Purvis et al., 2021).

For others who feel that healthcare providers are not infallible, finding corroborating information from various sources helps them feel that the source is trustworthy. Family members, medical websites, search engines, specialty doctors, friends, and health center brochures are other highly trusted sources of health information (Chen et al., 2018; Clark et al., 2014). Refugees and immigrants are also likely to trust their community and community leaders as sources of information (Abdi et al., 2020).

Decision-Making. Understanding information to make the decision that is best for one's health is overwhelming. Choosing eating behaviors, getting proper amounts of physical activity for a healthy body, taking medication, and knowing when and how to seek medical care can feel daunting. Using health information effectively can increase knowledge and help individuals make informed decisions, have greater self-efficacy, and increase their physical quality of life as they increase their self-care abilities and improve health behaviors (Lambert & Loiselle, 2007). Discussing obtained and learned information with trusted sources can guide Somali immigrants and refugees toward their own informed decision. However, when Somali refugees and immigrants do not fully understand information or feel equipped to make an informed decision, they rely on their trusted information source to direct them in a decision. How someone judges, interprets, believes, or has feelings toward the information will impact their decision on how to use it (Lambert & Loiselle, 2007). Research indicates that an individual's cultural background may shape their concept of health, affecting how they receive and understand information and make decisions (Andrulis & Brach, 2007).

Implications

The purpose of this qualitative case study was to examine the health outcomes of Somalian refugees and immigrants who have sought health information from a trusted source. There was a desire to understand better how seeking health information affected the decision-making process of refugees and immigrants based on mediating health communication factors. The data collected from this case study suggest policy, practice, and theoretical implications and are supported by the literature.

Policy Implications

Understanding cultural health literacy and information-seeking behaviors can change the systematic health communication processes and policies in healthcare and government to better meet the needs of those seeking information. Most refugees and immigrants pass through government and healthcare facilities when they arrive in the U.S. and receive health screenings that include a plethora of information about insurance, vaccines, health conditions, etc. Utilizing only culturally appropriate and accurate information written in an individual's preferred language during this process should be policy. A multilingual repository of culturally and linguistically accurate health information is available through the CDC on many diseases, as Adbi et al. (2020) suggested. Participants from this study agreed that more education must occur when individuals arrive in the U.S. to teach them about the information they receive. There is a lack of understanding about the healthcare system, insurance, and other cultural norms they are entering.

In HP 2030, organizational health literacy states that organizations have a responsibility to "equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others" (Healthy People 2030, n.d.-b, para. 3). The implementation of organizational policies will help ensure that individuals are part of decision-making. Language access policies are essential tools organizations use to ensure that anyone with LEP can access provided services meaningfully (Holland, 2021). Policies should include always using a qualified medical interpreter to reduce misinterpretation and miscommunication so an individual receives correct information and can be included in decision-making (Holland, 2021). Participants from this study agreed that an available interpreter was their communication connection to their source of information. They also agreed that when information was misinterpreted or mistranslated, it caused mistrust with the healthcare team or disconnected accurate sources of information.

Practical Implications

Understanding the health communication needs of individualized groups can guide organizational practices to meet accessibility needs better. Learning the communities' cultural beliefs, values, practices, and realities should be standard practice for healthcare, public health, and government agencies working with diverse cultures (Kagawa-Singer et al., 2015). Just as immigrants and refugees must learn to navigate a new culture when they arrive in a new country, those who are part of their social network must learn of their culture and health literacy needs to help them achieve the best possible health outcomes (Andrulis & Brach, 2007). Study participants expressed the importance of home remedies and herbal cures when possible. In the Somali culture, these are considerations for a healthcare provider to understand and respect. Cultural considerations are essential in building trust (Yeheskel & Rawal, 2019).

Improving self-efficacy for decision-making requires increased information exposure and access to mediation communication factors. Health literacy skills can improve health outcomes (Kim et al., 2020). Health literacy skills include accessing, understanding, and using information for decision-making. Participants agreed that the two most prevalent barriers to accessing information were the language barrier and not understanding how to use the Internet. English classes are free for many individuals ready to learn the language. Childcare, transportation, jobs, etc., can hinder attending classes. Alternative learning options should be explained and made available. The same applies to learning technology skills. As self-efficacy in seeking and understanding information improves, individuals can be more involved in decision-making.

Empirical Implications

The Somali community is a sociocultural society where communication shapes, produces, maintains, and transforms their reality (Apuke, 2018). The importance placed on sharing experiences to understand and process information at macro and micro levels in their society stresses how communication develops social structure. Participants discussed the implications of the orally shaped society as group interactions construct patterns of thought and behavior. Reality is often constructed through those interactions, not through objective outside arrangements (Littlejohn et al., 2017). The use of WhatsApp groups increases communication opportunities. Participants expressed that experiences, information, and ideas are shared within the community through these means and other congregate settings. These everyday social interactions create and alter the social structure and cultural patterns (Craig, 2009).

The observed significance of communication mediation indicates an importance to be placed on access. Participants experiencing limited access to communication mediation through lack of resource use and limited social support due to LEP and education significantly decreases their ability to access, understand, and use health information. Therefore, they cannot make informed health decisions. Culturally appropriate resources and information availability within the sociocultural community will increase communication mediation access. Refugees and immigrants trust their communities and community leaders (Abdi et al., 2020). Involving community members in developing and sharing accurate, culturally appropriate health information is imperative in improving communication mediation, reducing misinformation, and creating a sociocultural shift. Access to mediation includes understanding the target audience and how they best receive information. An oral society that values shared experiences should have access to oral information through plain language videos in their native language, sharing health experiences. Communicating information through culturally appropriate language and storytelling is relatable, credible, and has positive results in an oral society (Fadipe & Salawu, 2021).

Theoretical Implications

The communication inequality theory used for this study implies that disparities occur when there are communication inequalities across the communication continuum and inequitable access to learning that manifests within specific individuals or groups (Viswanath & Ramanadhan, 2008). Research findings from this study support this theory. The SIM framework is used with the communication inequality theory to understand how mediating communication factors impact the health outcomes of individuals related to social determinants. This study identified two social determinants correlating to the information-seeking behavior of Somali refugees and immigrants and decision-making, language and education.

Language, the ability to communicate or find information in the same language as their preferred language, was mentioned by participants as the most common barrier to seeking information. The literature indicates that those with LEP have more significant communication challenges within the healthcare system, which can result in improper care (Holland, 2021). Research indicates that access to trained medical interpreters and plain language culturally and linguistically appropriate communication materials is necessary for those with LEP to limit barriers to accessing information (Rozenfeld et al., 2020). Language, as a social determinant factor in accessing information within the SIM framework, manifests as not having access to the mediating communication factors of social support and resources of interpreters and materials to make communication equitable. The health outcome is that decision-making becomes directed by others.

Lack of knowledge was the second most common barrier to seeking information. Participants mention that not knowing what to seek or how to seek information deters them from doing so. Other research using the SIM indicated that the level of education impacts seeking information. Those with low education were the group identified as most affected by communication inequalities linked with health disparities in a study by Häflinger et al. (2023). In the study, those with lower education had lower knowledge and were less likely to apply preventive behaviors. The literature indicates that illiteracy is a social determinant that limits exposure to communication content in many African countries (Viswanath & Ramanadhan, 2008). Education, as a social determinant factor in accessing information within the SIM framework, manifests as not having access to the mediating communication factors of social support and resources of internet use, understanding how to ask questions, advocating for information, make communication equitable. The health outcome is that knowledge and capacity for action are not increased, and others direct decision-making.

Delimitations and Limitations

Several noted delimitations and limitations within the study influenced the research scope, process, analysis, and findings.

Delimitations

A delimitation for this study was using a case study for the research design to gain an in-depth understanding of cultural health literacy for Somali refugees. Using a descriptive case study in a real-life setting within a bounded system helped paint a clear picture of the case and develop relevant concepts of cultural health literacy for Somali refugees living in the same urban place. Using a case study design produced information through participants' experiences to shape a priori knowledge for the study, bringing forth themes and detailed descriptions of cultural health literacy. Using an ethnography design would not have been appropriate in this research because the intent was not to determine how the culture worked or to describe the Somali refugee group.

Choosing purposive sampling was another delimitation for the study. This ensured that participants had similar lived experiences necessary for research. This research was specific to understanding the cultural perspectives of individuals from Somalia. Having a participant sample of individuals with a shared cultural understanding allowed for a shared reality of the social constructs related to the research questions.

Choosing participants who came to the U.S. and lived in the same urban place allowed for a more focused comparison of communication factors. Participants had similar access to information sources, social capital access, and resource availability than if they lived in different states, in which case the Somali community, resources, and information sources could be vastly different, giving participants different experiences.

Limitations

Recruiting participants to represent the sociodemographic categories evenly was challenging to control. Working with the organizations assisting with recruiting allowed for some additional purposive sampling, asking them to look for men or those who they knew were newer to the country, but still did not lead to as even of representations as desired. There were significantly fewer men represented in the sample group. Additionally, all male participants had attended some college or received a college degree. All male participants also were proficient in English. Another limitation was the number of years participants had lived in the U.S. All participants had lived in the U.S. for at least four years. There were not any participants who had arrived in the U.S. in the past four years. Therefore, their experiences were based on having a few years to integrate into social and cultural U.S. systems.

Two different interpreters were used for the interviews. Each was a paid certified interpreter and translator from a local agency who was Somali and understood the Somali and local cultures and local common words. Each had a slightly different interpretation style. One would interpret the participant's answer for the researcher, and then if she felt the participant did not understand the question, would ask the researcher if she could re-explain the question to the participant. She would then usually be able to share back an answer that more fully answered the research question. The other interpreter did his best only to share word for word what the researcher and participant each said. Both interpreters provided the participants' words and experiences. The female interpreter may have been able to pull richer data from participants by sensing hesitancy in their answers and making them feel comfortable.

This study, by theory design, was looking for correlations. It does not signify or state that correlation is causation. These experiences reflect participants in this case study. A correlation between participants' LEP and education access was noted between information access and information processing related to trusted sources and decision-making. This study does not indicate or state causation between factors.

Future Research

Opportunities should be explored for this population to improve access to mediating communication factors and health outcomes. These opportunities should include longitudinal research to explore an accessible learning program to teach U.S. healthcare culture, attainment of further education, and English as a second language (ESL) classes to understand the impact on access to mediating communication factors. Research should explore how each learning opportunity individually impacts access to mediating communication factors and how combining all learning opportunities impacts communication access and health outcomes.

Additional cultural health literacy case studies should be explored with cultural groups of different nationalities to understand how they experience information-seeking, information access, and health outcomes differently than in this study.

A case study that includes those from various nationalities should explore how participants with limited education access and who do not speak the language of the country of residence each experience information-seeking and decision-making. Similar research to the current study should be conducted with groups in rural areas to understand a group's shared experiences.

Further quantitative research should explore structural equation modeling on the information-seeking to decision-making pathway of choices within this and other populations testing various social determinants.

Further research should also explore the sociocultural tradition of the Somali culture within social media, looking at how the use of WhatsApp groups contributes to distributing culturally appropriate trusted information or misinformation within the Somali community. WhatsApp groups should also be further studied within other communities to understand if the sociocultural tradition impacts trusted information sharing, understanding, and decision-making processes.

Conclusion

This descriptive case study explored the information seeking behaviors of Somalian refugees and immigrants in an urban county and their health outcomes. A greater understanding of how communication inequalities affected information-seeking and decision-making came from participant interviews and an understanding of correlating social determinants of health. The use of data analysis revealed four themes and eight subthemes related to the participant's experiences. These themes and subthemes were 1) information access – experience gaining information and access factors, 2) information processing – purposeful processing and experimental processing, 3) source trust – corroboration and single source confidence, and 4) decision-making – informed decision and directed decision.

This study showed that those with access to more education and who were proficient in English had more access to mediating communication factors. They could access resources such as the Internet, books, articles, flyers, etc., in their preferred language and knew how to access them. They had the necessary social support to communicate with others to discuss health information in the local language. They could corroborate information sources to ensure they understood the information and then make an informed decision. Those will less education and LEP did not have equitable access to mediating communication factors. They had difficulty communicating without an interpreter, and miscommunication happened often. There was limited access to culturally and linguistically translated information. They often did not understand what questions to ask to gain further information, where, or how to gain more information. They often experimented with solutions that others in the community had used when trying to understand symptoms or using herbal medicine instead of a pharmaceutical. They trusted their healthcare provider to make health decisions for them.

Implementing organizational language access plans can help ensure that those preparing information and interpreting information are appropriately trained to do so to limit miscommunication. Increasing education opportunities for immigrants and refugees who have not had access to education will help them in all areas of their lives. Increasing opportunities for those ready to learn English will improve their health literacy and open many other opportunities.

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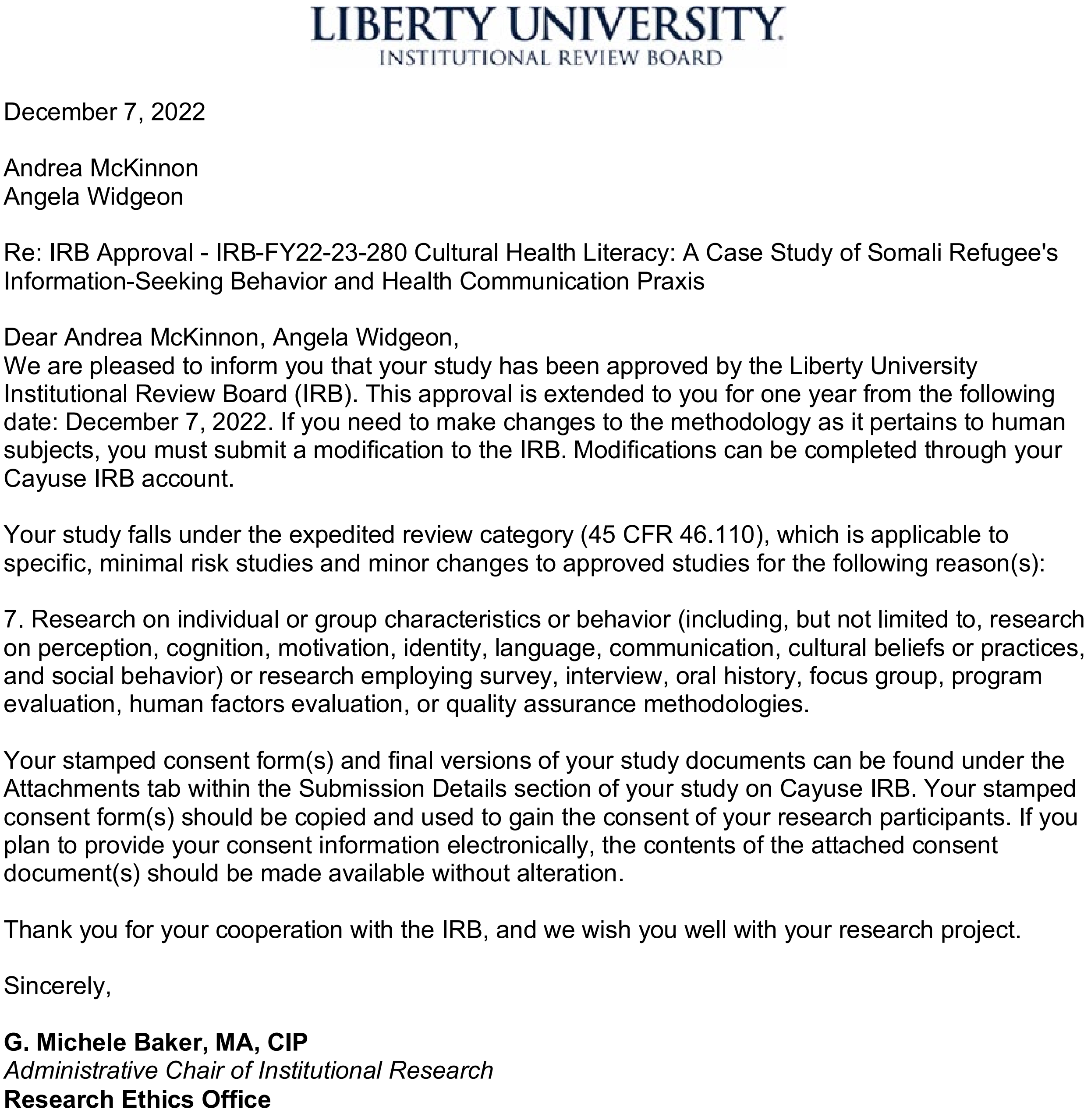
Appendix A



LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

December 7, 2022

Andrea McKinnon
Angela Widgeon

Re: IRB Approval - IRB-FY22-23-280 Cultural Health Literacy: A Case Study of Somali Refugee's Information-Seeking Behavior and Health Communication Praxis

Dear Andrea McKinnon, Angela Widgeon,
We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: December 7, 2022. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix B

Participant Consent Form

Title of the Project: Cultural Health Literacy: A Case Study of Somali Refugees Information-Seeking Behavior and Health Communication Praxis
Principal Investigator: Andrea McKinnon, Ph.D. Student, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be 18 years of age or older, a refugee or asylum seeker originally from Somalia, able to verbally communicate in English, Somali, or Arabic, and have looked for any type of health information while living in the U.S. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The study aims to examine how Somalian refugees look for health information in the U.S. and make decisions with that information. The research will explore how refugees find culturally relevant and trustworthy information.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Complete an online questionnaire that will ask you to answer questions about yourself, such as age, gender, etc., on an iPad, which should take about 5 minutes. The questionnaire will be completed in-person prior to the interview. An interpreter will be present to assist you with any questions you may have.
2. Participate in an in-person interview. The interview will ask you to answer open-ended questions about your experience looking for health information and making health decisions while living in the U.S., which should take about 45 minutes. The interview will be audio recorded. An interpreter will be present to assist you with any questions you may have.
3. Review a transcript of your interview to make sure it is accurate. This should take approximately 15 minutes to complete. An interpreter will be present to assist you with any questions you may have.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include understanding how Somali refugees seek health information in the U.S. and make health decisions.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published records will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential through the use of pseudonyms. Interviews, questionnaires, and transcript reviews will be conducted in a location where others will not easily overhear the conversation.
- Data will be stored on a password-locked computer and in a locked file cabinet. The data may be used in future presentations. After three years, all electronic records will be deleted and all physical records will be shredded.
- Interviews will be recorded and transcribed. Recordings will be stored on a password-locked computer for three years and then erased. Only the researcher will have access to these recordings.

How will you be compensated for being part of the study?

Participants will be compensated for participating in this study. You will receive an incentive choice of either a water bottle, a self-care journal, a $10 Smith's grocery store gift card with a canvas tote bag, or a sectioned food container with utensils. The incentive will be given to you once you review a transcript of your interview. You will still receive the incentive if you choose not to answer all interview questions.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University, Somali Community Self-Management Agency, The Utah Refugee Center, or the Somali Bajuni Organization. If you decide to participate, you are free to not answer any question or withdraw at any time.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Andrea McKinnon. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted] You may also contact the researcher's faculty sponsor, Dr. Angela Widgeon, at [redacted]

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio record me as part of my participation in this study.

____
Printed Subject Name

____
Signature & Date

SHORT FORM CONSENT TO PARTICIPATE IN RESEARCH

Cultural Health Literacy: A Case Study of Somali Refugees' Information-Seeking Behavior and Health Communication Praxis
Andrea McKinnon
Liberty University
School of Communication

You are being asked to participate in a research study.

Before you agree, the investigator must tell you about (i) the purposes, procedures, and duration of the research; (ii) any reasonably foreseeable risks, discomforts, and benefits of the research; (iv) any potentially beneficial alternative procedures or treatments; and (v) how confidentiality will be maintained.

You may contact Andrea McKinnon at [redacted] any time you have questions about the research. The researcher's faculty mentor is Dr. Angela Widgeon, and you may contact her at [redacted]

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop.

Signing this document means that the research study, including the above information, has been described to you orally, and that you voluntarily agree to participate.

Signature of Participant Date

Signature of Witness Date

Appendix C

Social Media and Text Participant Recruitment

ATTENTION SOMALI REFUGEES: A student is conducting research as part of the requirements for a Ph.D. at Liberty University. Her research aims to examine how Somalian refugees look for health information in the U.S. and make decisions with that information. To participate, you must be 18 years of age or older, a refugee or asylum seeker originally from Somalia, able to verbally communicate in English, Somali, or Arabic, and have looked for any type of health information while living in the U.S. Participants will be asked to complete a short questionnaire (5 min), participate in an in-person interview (45 min), and review the interview transcript for accuracy (15 min). If you would like to participate and meet the study criteria, please message us to schedule an interview with the researcher. A consent document will be given to you to discuss and sign at the time of the study. Participants will receive their choice of either a water bottle, a self-care journal, a $10 Smith's grocery store gift card with a canvas tote bag, or a sectioned food container with utensils.

Appendix D

Verbal Script (Phone or In Person) Recruitment

Hello (Potential Participant Name),

I am calling from (partner organization) on behalf of a graduate student in the School of Communication at Liberty University. She is conducting research as part of the requirements for a doctoral degree. The purpose of her research is to examine how Somalian refugees look for health information in the U.S. and make decisions with that information, and if you meet the participant criteria and are interested, she would like to invite you to join her study.

Participants must be 18 years of age or older, a refugee or asylum seeker originally from Somalia, able to verbally communicate in English, Somali, or Arabic, and have looked for any type of health information while living in the U.S. Participants, if willing, will be asked to fill out a short questionnaire (5 minutes), participate in an in-person interview (45 minutes), and review the interview transcript for accuracy (15 minutes). Names and other identifying information will be requested as part of this study, but the information will remain confidential.

Would you like to participate?

[Yes] Great, can we set up a time for an interview? Are you comfortable having the interview conducted in English, or do you prefer having an interpreter assist in Arabic or Somali?
The interview procedure listed above will be in-person at (name of partner facility or community meeting space and address). The researcher, Andrea McKinnon, will meet you there on (date) at (time) for your interview.

A consent document will be given to you before the study begins so you can read over it. You will be asked to sign or mark the document at the time of the interview. The consent document contains additional information about the research.

Participants will receive either a water bottle, a self-care journal, a $10 Smith’s grocery store gift card with a canvas tote bag, or a sectioned food container with utensils at the end of the interview process.

Thank you for your time. Do you have any questions?

[No] I understand. Thank you for your time.

Appendix E

Questionnaire for Participants

1. Participant number
    a. Assigned in numerical order by the researcher
2. Time and date of interview
3. Referral organization
    a. Somali Community Self-Management Agency
    b. Utah Refugee Center
    c. Somali Banjuni Organization
    d. Friend
4. Age
    a. 18-25
    b. 26-35
    c. 36-45
    d. 46-55
    e. 56-65
    f. 66-75
    g. 76-85
    h. 85+
5. Gender
    a. Male
    b. Female
    c. Prefer not to answer

6. How long have you lived in the U.S.?
    a. Less than one year
    b. 1-3 years
    c. 4-6 years
    d. 7-9 years
    e. 10-14 years
    f. 15+ years
7. Highest level of education you have completed:
    a. Less than high school
    b. High school degree
    c. Some college
    d. College degree
8. Select all the social networking sites you used at least once in the last month:
    a. Facebook
    b. Instagram
    c. YouTube
    d. WhatsApp
    e. Snapchat
    f. Twitter
    g. Pinterest
    h. TikTok
    i. None

Appendix F

Interview Questions

1. How have you looked for and found health information in the U.S.?
2. What kind of useful health information have you found?
3. What differences do you see in Somali and American cultures related to looking for information about health?
4. What has affected your ability to look for and find health information?
5. Who are the people involved in making health decisions for you?
6. Who are you responsible for making health decisions for?
7. What is the most important thing you look for when finding health information?
8. What difficulties have you experienced in finding health information that you trusted?
9. What steps did you take to understand health information you have received or found so you could use the information to help you make a health decision?
10. How did you make a health decision, such as choosing a health behavior, receiving treatment for an illness, getting more info, etc.?
11. What made health information trustworthy or not trustworthy?
12. How did you decide which information to trust and follow when you received conflicting information?