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Confronting Uncertainty: COVID-19 Information Gathering Practices of Refugees in Kenya

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ABSTRACT

The global pandemic stemming from COVID-19 has dramatically altered lifestyles around the world. As physical distancing requirements began to necessitate the replacement of in-person interactions with virtual communications, the information gathering practices of many individuals have dramatically shifted. More essential information about the virus and how to prevent it has been published online, even as uncertainty of the true impact of the virus still remained. This emphasis on online communication has noteworthy implications for both individuals and organizations in communication and containment of the COVID-19 pandemic.

This is particularly true for refugees. Through survey data from refugees in Kenya, this study examines refugees' information practices and the impact on their understanding of the virus and trust in the government's efforts to mitigate the COVID-19 crisis.

The research helps illuminate the ways in which traditional and online news networks interact with refugee audience knowledge and associated trust in crisis situations. Several studies regarding refugee information needs as well as crisis communication models have been conducted over the past decade, and the need for a study uniting the two areas is especially important during the current global pandemic.

The data used in this study were collected through a June 2020 survey conducted by the United Nations High Commissioner for Refugees Bureau for East, Horn of Africa & The Great Lakes Region. The 12-section survey was conducted via phone and related to COVID-19 and life in Kenya. Both refugees and citizens of Kenya were selected to be interviewed using stratified random sampling. Data for this study were selected from this survey, limiting survey respondents to those who had identified as refugees and had completed section 11 of the survey relating to

COVID-19 government trust. This data revealed the continued importance of traditional and varied media in official communications, especially in times of crisis.

For future communications in public health and other crises, communication leaders are urged to utilize a variety of communication strategies to effectively instill messages to the general public, including but not limited to web-based sources for both easy-to-understand and comprehensive information.

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Chapter 1

Introduction

Since the late 20th century, Kenya has served as the home of some of the world's largest refugee settlements. Individuals fleeing insecure and unsafe situations in surrounding countries have continued to enter Kenya and establish temporary communities in 3 areas of the country dedicated to refugee settlement as well as within urban areas among Kenyan citizens. These areas have survived uncertain political, economic, and health-based challenges in part due to the government's ability to communicate information and influence behaviors of individuals within the refugee community.

In late 2019 into early 2020, an inflammatory respiratory virus widely unknown to the health community began to spread from Wuhan, China to countries across the world. The uncertainty tied to the virus led to mass lockdowns and enforced public health mitigation efforts, both officially enforced and unofficially encouraged among individuals who may be exposed to the virus during the pandemic. In general, crisis communication practices are one of the most important aspects of organizational and governmental function. Crisis situations, while often manageable, are nearly inevitable, and effective societal institutions are able to properly address these situations through well-designed and well-received communication models. The present COVID-19 pandemic is no exception, and this thesis seeks to emphasize the importance of communication channels in the public knowledge and trust in governmental COVID-19 mitigation efforts.

The paper begins with an introduction to the refugee situation in Kenya as well as the COVID-19 pandemic and its impact on the world community. The literature review focuses on previous studies of refugee information gathering practices, including studies of Internet-based information practices of refugees. The next section more broadly focuses on communication via the Internet and information-seeking practices during crisis situations, including how individuals respond to different forms of crisis situations depending on crisis type and media mode. The following section continues the theme of information in crisis with a discussion of COVID-19 information practices, especially focused on the usage of the Internet for information as the pandemic evolved. Next, the literature review focuses on the importance and influence of government trust levels during crisis situations. The literature review concludes with the formation of dual hypotheses regarding the link between Internet-based information and understanding of the COVID-19 pandemic as well as the exploration of the relationship between COVID-19 information sources and government trust levels among refugees regarding governmental ability to address and provide support throughout the COVID-19 pandemic in Kenya.

Following the literature review, a detailed review of the methods and procedures used to complete this study describes the structure of the survey as well as the selection of the variables for each area of the presented hypotheses and research questions. The paper continues with the survey's findings as well as its implications for the present-day communication practices within the refugee camps and settlement areas of Kenya. The discussion of the results serves to compare the survey's findings with existing literature on the subject, in particular with previous studies of communication practices during evolving public health crises such as the Zika virus epidemic, while recognizing the study's own limitations in a practical and academic context. The paper

concludes with a restatement of the paper's purpose, a summary of the overall findings, and a suggestion of areas for future research related to this study.

Chapter 2

Background and Context

Refugees in Kenya

Located in the eastern portion of Africa, Kenya serves as the second-most common destination for refugees on the continent, following Ethiopia (UNHCR, 2020). Today, there are 2 major refugee areas in Kenya, spread among 5 refugee camps as well as urban areas. The primary refugee areas, and those included in this study, are Kakuma, Kalobeyei, and Dadaab. Refugees from surrounding countries - primarily Somalia and South Sudan - settle in these areas as well as in urban areas, particularly Nairobi, Kenya's capital and major city. Figure 1 depicts the location of each refugee area and its demographics below.

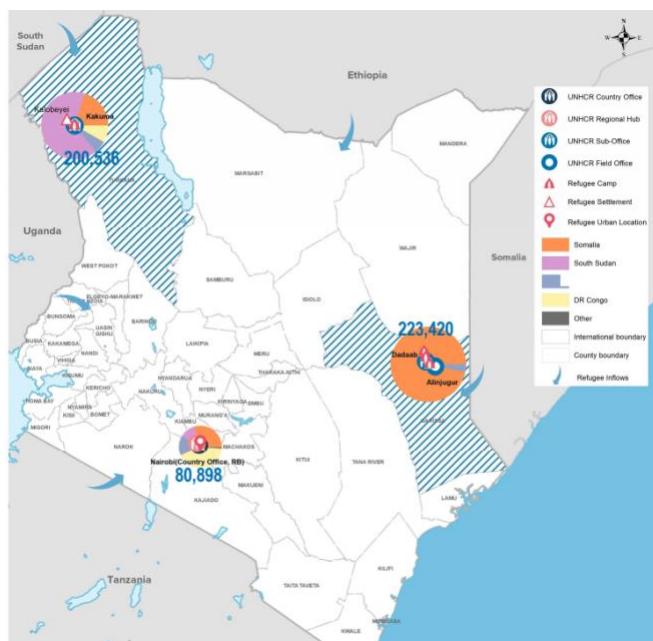


Figure 1: Map of Kenyan Refugee Settlement Areas, 2020. Source: UNHCR, 2020

In total, Kenya houses over half a million refugees and asylum-seekers. The majority of refugees entering Kenya are families, with 77% of its refugees being women and children. Additionally, the UNHCR estimates that the majority of refugees living in Kenya are children under the age of 17, closely followed by individuals between the ages of 18 and 59. Elderly individuals make up an extremely small portion of the refugee population, only 3% (UNHCR, 2020). Refugees living in urban areas, namely Nairobi, comprise 16% of the total refugees and asylum-seekers in the country, yet the majority of individuals entering the country settle in the refugee encampments (UNHCR, 2020).

Dadaab, the refugee camp located in the eastern portion of Kenya, was established in 1991 in response to the violent civil war in Somalia and has grown exponentially since its founding (UNHCR, 2020). As of December 2020, Dadaab housed over 220,000 refugees and asylum seekers. The overwhelming majority of those living in Dadaab are Somali refugees, fleeing from the civil war and political instability pervading Somalia for decades (UNHCR, n.d.).

Kakuma, the second largest camp in Kenya, was at one time the largest refugee settlement in the world (UNHCR, n.d.), surpassing its capacity and leading to the establishment of an additional camp, Kalobeyei, nearby. Kakuma and Kalobeyei support approximately 200,000 individuals, with the majority of refugees in these camps originating from South Sudan, a country subject to massive instability and the source of one of the world's largest refugee crises (UNHCR, n.d.).

Coronavirus Pandemic – COVID-19

The refugee situation in Kenya is further complicated by the current pandemic affecting nearly all parts of the world as of early 2021. In late 2019, a highly contagious disease of unknown origin affecting the respiratory system began to spread in the Wuhan area of the Hubei province of China. Determined to be closely related to SARS-CoV, an acute viral respiratory disease first identified in early 2003 in China and spreading to 4 nearby countries. Like SARS-CoV, COVID-19 (also known officially as SARS-CoV-2) is airborne and can spread in a similar manner to the common cold or flu (Dzinamarira et al., 2020). Those who contract COVID-19 present a wide range of symptoms, making the initial identification of the disease more difficult for professionals. Many aspects of the virus, including transmission, symptoms, and precise severity, remained initially unknown to the medical community due to its novelty, and medical organizations such as the World Health Organization (WHO) worked to understand the virus and how to prevent its spread.

By late January, China had severely restricted the citizens of Wuhan, placing the city on an unprecedented lockdown in an effort to mitigate the spread of the novel virus (Aluga, 2020). Despite these harsh measures, the virus continued to spread across the globe, exceeding the impact of the initial SARS-CoV crisis by early February of 2020. On March 11, 2020, the WHO declared COVID-19 to be an official pandemic, concerned with the “alarming levels of spread and severity” of the virus (AJMC Staff, 2020). The virus spread to Europe from China, with other governments soon implementing similar lockdown measures to those of Wuhan, China.

African countries, recalling the recent 2014 disease crisis of Ebola in West Africa, recognized the gravity of the disease potential and began screening travelers to countries in the

continent as early as January of 2020 and suspending flights to and from China. Nevertheless, the disease was first reported on the continent in Egypt on February 14, 2020 (Aluga, 2020).

To mitigate the risks posed by the disease, the Kenyan government established the National Emergency Response Committee (NERC) on February 28th, 2020. Despite providing guidance to its citizens on how to remain vigilant against the disease by practicing hygiene, minimizing travel to affected countries, and avoiding contact with sick individuals, Kenya reported its first COVID-19 case on March 12, 2020 in Nairobi (Aluga, 2020). The NERC subsequently provided additional precautionary measures on March 20th, 2020. The committee's guidance included limiting of the number of the individuals in shopping areas, social distancing requirements of 1.5 meters (approximately 6 feet), encouragement for individuals to stay home, and mandated 14-day quarantine for individuals traveling to the country (Aluga, 2020). As with the rest of the world, the impact of the pandemic extended to cultural and communal aspects of life, with traditions and norms being disrupted in an effort to mitigate viral spread.

Kenya's response to the disease crisis, influenced by its own experience with the Ebola crisis, also recognized the need to address the potentially serious impact on those with comorbidities and other situations that may impact the status of the pandemic in the country (Geissler & Prince, 2020). In particular, the country's refugee situation is of particular interest given the close quarters of the refugee camps as well as the best communication practices for health guidelines, testing plans, and quarantining procedures as necessary for the large number of individuals located in the refugee camps and areas of resettlement.

Chapter 3

Literature Review

The following literature review seeks to provide background on the areas of refugees, information seeking behavior, and information in crisis. The review first offers a definition of the term *refugee*, based on existing literature and adopted for the purposes of this study focused on refugee's interactions with information sources and government trust during times of crisis. Though the term "refugee" often refers to a broad category of persons displaced from their home for reasons related to insecurity in their home area, the data concerned in this study distinguishes refugees from asylum seekers and migrants, more generally. Refugees surveyed in this study meet the qualifications of official refugee status as described by the UNHCR in the 1951 Refugee Convention, defining a refugee as:

"someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion." (UN General Assembly, 1951)

Adhering to this more restrictive definition of refugee categorization provides a more narrow lens for this study, as migrants and asylum seekers, though at times informally referred to as refugees, may not have achieved the official legal status granted to refugees and therefore may have different experiences than those refugees surveyed within this study.

Refugees and Internet Usage

Modern technology is often considered to be a luxury, signifying social elevation. Images of individuals fleeing Syria while using mobile phones prompted a minor Twitter storm of complaints that the possession of a smartphone is a demonstration of a valuable item that evinces wealth and therefore stability, in turn demonstrating a lack of desperation or need for support from a potential host country (O'Malley, 2015). Yet on the contrary, refugees are often likely to consider phones - and Internet access through these devices - to be “as important as food” and a key element of their existence as displaced individuals, a necessity rather than a luxury (Bock et al., 2020).

Indeed, mobile networks are a key element to the knowledge sharing and social structure of refugee lives, even in the face of uncertainty in many aspects of life. Though refugees are 50% less likely than the general population to have an Internet-enabled phone, most refugees carry a smartphone with them on their journey to resettlement as both a source of information and as a link to their old lives (Emmer et al., 2020; Vernon et al., 2016). The value of a smartphone is dual-faceted, posing as a valuable source of information and a portable means of communication both during a refugee’s journey and after settling in temporary or semi-permanent asylum in a refugee camp or urban area, with 93% of all global refugees living in places with mobile network access to the Internet (Vernon et al., 2016).

While the presence of mobile technology is undoubtedly influential during the journey to temporary resettlement, refugees’ most intense information needs may arise once refugee status has officially been reached and settlement has occurred (Maitland, 2018). The result of this is an

increased reliance on mobile phones, with mobile Internet and phone communications ranking as a key facet of communication within refugee communities (Dahya & Dryden-Peterson, 2017).

When examining the impact of Internet usage on refugee life, consider the 2017 study of Somali refugees' mobile phone usage in Dadaab (Dahya & Dryden-Peterson, 2017). In the camp, access to computers was extremely limited, especially in comparison to the capabilities of smartphones. Interviewees reported having utilized shared access to technology for a variety of purposes, ranging from educational endeavors to job opportunities to "life" in general (Dahya & Dryden-Peterson, 2017). In particular, interviewed refugee women reported using mobile technology as an essential support structure in their daily lives, especially in relation to their pursuit of higher education. Particularly interesting about this usage is its application in both social and educational aspects: refugee women primarily utilized networks located on social media platforms as both social endeavors and as a means to obtain essential knowledge related to their daily lives and further their own education (Dahya & Dryden-Peterson, 2017). In this way, social media is more than a mere entertainment platform and serves instead as a powerful engine of knowledge delivery.

Reliance on social support networks, facilitated through mobile communication technologies - especially those accessible via the Internet - reflects and fortifies the cultural importance of friends and family among refugees (Horst, 2007). Andrade & Doolin's (2016) findings further demonstrate that ICT usage among refugees facilitates an expansion of individual agency and empowerment through the expanded control over circumstances and local environment, especially when considered in conjunction with Sen's capabilities approach (1999). The ability to participate in an information society in a "purposeful fashion" improves not only

the individual's sense of self but also their ability to participate in the social network, contributing to further knowledge spread (Andrade & Doolin, 2016).

In addition to information seeking practice, the ability to access ICT as a refugee provides an important reestablishment of foundational principles of agency and control in the social sphere. Internet usage - in general, though more notably for refugees - carries the immense potential for increasing an individual's level of engagement in society by cultivating an environment of social inclusion online (Andrade & Doolin, 2016). Social inclusion, more than a mere absence of social exclusion, is the "process of improving the terms of participation in society, particularly for people who are disadvantaged" (United Nations Department of Economic and Social Affairs, 2016). The key to social inclusion is the enablement of individuals to exercise agency, or the individual empowerment and ability to make decisions for oneself (Andrade & Doolin, 2016). Social inclusion, though multifaceted and broadly applied, provides for the individual's ability to improve their own life and participate in society fully. As discussed in this paper, technology facilitates social inclusion through the knowledge sharing, social support, and minimized barriers to entry evident in the online community, especially among refugees.

In addition, following Kardefelt-Winther's (2014) motivational theory for compensatory Internet use, technology use may alleviate different emotional stressors and, in turn, lessen feelings of insecurity or sadness. This is especially true for stressors associated with refugee life, with socio-emotional and informational support exchange being common motivations for refugees to engage in online behavior (Mikal & Woodfield, 2015).

Further, online access eliminates daunting aspects of requesting help by eliminating the face-to-face communication barriers: namely, social stigma and lingual uncertainty. By replacing two-way communication with algorithmic queries, the social aversion to embarrassment is eliminated or minimized as online activities carry fewer societal expectations or hierarchical norms, especially in comparison to formal consultation with experts - for example, interactions conducted with a local official. The evolving capabilities of the Internet can also present desired information in the native language of the individual, with translation functions becoming more effective and embedded in many websites' capabilities - both on official platforms and on social media – and offering real-time translation options in at least one official language of each common country of origin for refugees in Kenya (Vernon et al., 2016). As such, linguistic barriers previously inhibiting refugee adjustment to and existence in host countries can be minimized, enabling smoother information gathering practices of daily life.

In addition to educational and social components of the ICT systems of potential use for refugees, research supports the idea that mobile phone and Internet technologies create an environment conducive to the promotion of health among refugees through the lowered barriers to healthcare, in particular through the uses of medical knowledge acquisition and extended communication practices between patient and professional (Pottie et al., 2020). This is further supported through the socio-technical approach described above (Andrade & Doolin, 2016) wherein the lowering of barriers to entry creates opportunities for betterment among refugees. Healthcare information located on the Internet, both on official and socially-based channels, serves as a valuable source of knowledge for refugees seeking fast, understandable, and relevant answers for their health needs (Andrade & Doolin, 2016).

Social media allows its users to consume, create, and interact with others regardless of geographic status, an important aspect that allows refugees to give and receive emotional support. This helps refugees - often leaving a substantial portion of their social ties behind in pursuit of a more stable life - hold on to their old ties and emotionally fulfill themselves, relieving them from emotional despair and improving their ability to pursue fulfillment in other aspects of their lives. This is true regardless of the Internet's full functionality, with many refugees willing to engage in any form of instant communication - written, verbal, or audiovisual - as it is preferred over slower communication methods, or no communication at all. (Andrade & Doolin, 2016; Siddiquee & Kagan, 2006). This is especially true given the semi-permanent to permanent nature of many refugees' settlement journeys, as web-based applications enable sustained relationships even in the face of permanent displacement.

Social media usage also helps cultivate a network of trust for refugees. Interpersonal communication, the most trusted source of information among refugees and a core aspect of social media, creates an opportunity for refugees to gain knowledge and perspective on topics of interest, especially concerning their country of residence (Emmer et al., 2020). This study demonstrated that social media usage - and Internet usage in general - related positively with a more positive perspective on the refugee's country of residence - in the case of this 2020 research, Germany. Beyond simple perception, this research demonstrated a relationship between factual understanding of the host country and Internet usage, even when traditional media consumption did not correlate to more factual knowledge on the subject (Emmer et al., 2020). Thus, the usage of Internet by refugees as a means to gain information or communicate is an important aspect to consider when assessing how refugees gain an understanding of a host

country's character or of a given government's actions and is pertinent to the present study through its relevance to refugee perception of government action during the COVID-19 crisis.

Information Seeking Behaviors

In almost every context, information retrieval and implementation are essential components of functionality in a given society or situation. Knowledge, commonly referred to in the field of information science, can be understood as the application of information to address a problem or item at hand (Kuhlthau, 2005). Information needs in pursuit of knowledge attainment may stem from a plethora of spheres ranging from educational and functional to entertainment-based and socially grounded. However, the field of information science has been largely atheoretical, often attributed to the practical nature of the study (Schultz et al., 2011). One principal theory regarding information behavior focuses on the sense-making process of information attainment (Dervin, 1998).

Dervin (1998) utilizes the sense-making approach to describe the means by which users approach their information needs. Through sense-making, individuals utilize their past experiences and means to attain knowledge in order to bridge gaps between previous circumstances and new situations. With this theory, individuals seek to reduce uncertainty as a primary goal, minimizing the knowledge gap and evaluating methods to do so continuously throughout the information journey. An important aspect of Dervin's model is the eternal and ever-changing nature of uncertainty: an information need may arise at any time, and individuals must reassess their existing knowledge base for each unique situation.

Dervin's approach concurs with Wilson's classic information seeking behavior model, demonstrating that information needs drive the search for information (Wilson, 2000). When presented with a need - in any context - a user will utilize available resources to address the need through information seeking procedures designed to address uncertainty and gain knowledge suited to the situation.

Internet as an Information Seeking Platform

Especially in modern society, with a multitude of information sources rapidly available to the average person through the expanded access of web-based services, information seeking behavior is a key element to understanding behaviors and reactions related to the online environment. Zhitomirsky-Geffet & Blau (2017) demonstrated two primary categories of Internet usage in the information seeking realm: social and functional/cognitive information seeking.

- **Social Information Seeking:** described by Zhitomirsky-Geffet & Blau as both active and passive processes of utilizing an Internet-enabled mobile device to interact with social platforms and content (e.g. Facebook, SMS, etc.)
- **Functional/Cognitive Information Seeking:** defined as using the mobile device to actively engage with content that does not require interpersonal communication with other users (e.g. news websites, Google searches, etc.)

In their survey, social information seeking outperformed the more functional/cognitive needs of users; in essence, the Internet is more often used to satisfy desires stemming from social

and entertainment-based needs than to assuage strictly fact-based needs. Yet within the same study, it is important to note that evidence of cross-sectional usage was observed: those individuals - more often women than men - utilizing socially-dominant platforms and means of information acquisition were not limited to solely informal knowledge acquisition.

Indeed, users may also obtain functional/cognitive information from social sources, and this acquisition is amplified through the ability to share the newly acquired information with others (Horst, 2007). Among socially-based information gathering procedures, modern social applications with the potential for group communications (e.g. WhatsApp, social media sites) prevailed over more dated, 1:1 communication methods such as email or SMS. As such, the power of the group dynamic is increasingly prevalent on social media, an important aspect of information-gathering behavior.

While online forms of traditional media such as newspapers or video coverage provide information as curated messaging, social and online media contain large amounts of user-generated content, encouraging interaction, engagement, and further exploration (Geiß et al., 2016). The distinguishing of media-for-monitoring and media-for-searching can be assumed to fall roughly along this divide, with media-for-monitoring serving as a passive information source and media-for-searching requiring direct action on the part of the information consumer (Geiß et al., 2016). The two types of media are interrelated, however, with topics covered in media-for-monitoring often prompting the direction of a user's desire for media-for-searching.

The interplay between these types can result in a fluctuation of uncertainty: with media-for-searching seeking to reduce the uncertainty brought about by information presented in media-for-monitoring sources. An example of this is Wikipedia searches for specific topics spiking

consistent with the traditional news cycle: for example, Wikipedia activity for the massive 2010 earthquake in Haiti rose and fell in the morning and early evening, which coincided with radio and television daily news schedules (Geiß et al., 2016). In this instance, Wikipedia - a clear form of media-for-searching - satiated the information needs of media consumers responding to uncertainty presented in radio and television news broadcasts - the typical form of media-for-monitoring.

Information in Crisis

In moments of crisis, the inability of more rigid media-for-monitoring sources to provide necessary and immediate information may supersede concerns about credibility or bias related to media-for-searching sources. Crisis situations, including but not limited to natural disasters, terrorist attacks, and public health events, often affect a portion of the population intensely while impacting outsiders more slowly. The population at the epicenter of the crisis often requires information to be distributed quickly and cannot wait for official descriptions and directives from organizational entities. The user-generated content of social media is beneficial in two ways: allowing those impacted to communicate vital information with one another in real-time and providing outsiders with a sense of the scope of the crisis and how it may eventually impact their own existence.

For example, the use of social media during natural disasters to document damage, direct residents, and locate individuals was especially useful during the 2012 hurricane season, with more government agencies engaging via social media during Hurricane Sandy. The constant nature of social media allowed for the distribution of information regardless of time, without the

need for individuals to depend on the rigidity of the news cycle or official press releases (Cohen, 2013). An additional benefit of social media as an information source is the locality and accessibility of social media platforms on many smartphones, portable devices that can often operate without access to a WiFi network - using cellular data to access information when and where it is necessary to do so, even if access to a computer or traditional information source is unavailable. This aspect may be especially applicable to our own study of refugees' information practices in the time of COVID-19, given the stark decrease in available public resources in the era of social distancing and viral spread mitigation efforts.

The utilization of social media as a means of information dissemination during a crisis elevates the victim to reporter status, making firsthand accounts easily accessible and valuable resources in the time of crisis. Yet official messaging from organizations and government institutions also serves as important references during a crisis, as these institutions often carry more credibility and weight than the average unverified user generated content (Park & Avery, 2018). Active government participation in the online environment, especially in media-for-searching based interactive platforms (as opposed to passive, official transmissions via broadcast), can facilitate broader impact of official messaging and mitigate disaster implications.

During the Fukushima Daiichi nuclear disaster in 2011, crisis communication output by Toyko Electric Power Company sought to demonstrate its actions taken in response to the earthquake that damaged the reactor. Updates sent via social media from the company framed the disaster from the perspective of Tokyo Electric Power Company and allowed the power company to control or at minimum contribute to the narrative on social media rather than relying entirely on official media sources to dispel their messaging. This online engagement with the

directly impacted individuals via social media mitigated the spread of negative reactions as individuals processed the information surrounding the disaster. In a study conducted by Utz et al. (2013), individuals who viewed a crisis communication in which Tokyo Electric Power Company was framed as the victim rather than the cause of the disaster were more likely to trust the company than those who viewed a near-identical crisis communication in which the power company was viewed in a more negative light. This is especially pertinent to the research presented here as it suggests the importance of crisis communications in developing and supporting widespread trust in government action.

Further, research by Schultz et al. (2011) demonstrates the increasing importance of platform choice in online media communications. This research builds upon existing situational crisis communication theory (SCCT), a means of explaining public reactions to crisis-related messaging distributed by an organization. This approach begins with the identification of crisis type and subsequently assessing the most effective way to address a given situation, positing that there is not one uniform appropriate means to address a crisis and are instead a variety of factors that must be considered in order to craft an effective message, with larger crises requiring more attention to the precise messaging (Coombs & Holladay, 2002). Schultz et al.'s 2011 research extends to the realm of social media, exploring the importance of the means of delivery in a given crisis and determining that organizations can manipulate public reactions more through their delivery choices than through the messaging itself, with the platform selection impacting the public's impressions of credibility (Schultz et al., 2011).

This is important as it demonstrates that social media discussion and its nuances directly impact the reaction of the general public during crises. While reputation of government agencies is not the principal focus of this study, it is worth noting the potential for agencies to control the

narrative through direct social media participation with the general public in information-spreading practice during crises. However, the 2011 study does not minimize the importance of official communication channels - namely, traditional news media - as a means to disseminate information, as official news media such as newspapers or online journals was held to a higher standard of credibility than user-generated content located on social media. Considering this, official and unofficial sources can coexist in social media, with user-generated content amplifying the officially published news sources through sharing, reacting, and commenting.

This combination of official and unofficial sources located online has profound impacts on the ability of individuals to react to ongoing crisis situations in a manner that minimizes damage to impacted populations. Online communications and user-generated capabilities of social media empower the individual, transforming the public from a victim to an active component of disaster response.

Most relevant to this discussion of various situational contexts and their impact on public response during crises requiring information gathering practices by the general public is the situation of a health-related threat. Unlike other types of disaster and crisis, public health threats impact a wide range of the populace and can more so transcend geographic location, economic situation, and social status. Further, individuals in public health crises must be directly involved in the crisis response, as health crises - especially disease-related crises - involve humans as a vector in addition to a victim, with the heightened potential for exacerbation of the crisis in situations where individuals do not properly adhere to recommended guidelines (Sharma et al., 2017).

The Zika virus epidemic is a good example of this phenomenon where potential victims need to take direct action in response to disseminated government and agency directives. Zika

virus, spread via mosquitoes and known to cause microcephaly (a severe birth defect) in cases involving pregnant women, became the focus of public health experts and the general public in 2016, as the World Health Organization declared it an international health emergency. Research by Sharma et al. (2017) sought to examine the relationship between communication and audience reaction - in particular, the intent to follow directives.

Key to the analysis was Griffin, Dunwoody and Neuwirth's (1999) model of risk information seeking and processing. Similar to the SCCT, this model suggests that communication initiators in situations of crisis must cater to the crisis context, taking into account both audience needs and potential motivations (Griffin et al., 1999). Sharma et al. (2017) found that individuals tend to utilize different news sources during routine situations than those typically sought after in crisis situations.

This is consistent with the concepts of media-for-searching/monitoring and the uncertainty principle: in a health crisis situation, the apparent uncertainty about a given situation requires the individual to engage in active information-seeking practices in order to obtain more information as it pertains to their unique situational context (risk factors, local guidance, etc.). Further, Sharma et al. (2017) emphasized that while social media offers an efficient means of disseminating information, traditional news media such as television were highly valued among individuals for fact-based information during health crises. Importantly, health department websites and medical professionals ranked highly among information sources during the Zika epidemic. While social media is an effective platform for medical professionals to reach large audiences, it is important to recognize the vitality of credible sources published on social media for audiences to further investigate and evaluate independently, viewing social media bases as vectors rather than as inherent information providers.

Perhaps most interestingly, social media platform usage - specifically Facebook - demonstrated a link to a higher intent to follow directives related to the Zika epidemic (Sharma et al., 2017). While causality is not evident with this study alone, the results of this study demonstrate the importance of government and organizational presence on social media during health crises - to combat misinformation and to provide up-to-date and easily accessible guidance on proper behavior in order to mitigate public health crisis risk.

COVID and Internet Usage

In terms of public health crises, COVID-19 has become one of the most widely acknowledged and highly concerning, yet largely unknown and unfamiliar, public health situations in decades. The rapid viral spread, understandably, has created a large knowledge gap in which people sought answers in order to make sense of the situation and gain an understanding of how best to avoid contamination and community spread. Importantly, though, COVID-19 was not the first modern public health crisis - less notable yet still influential epidemics and similar crises have created a framework of experience for individuals who remembered recent health crises to navigate their information search process.

The 2013 H7N9 virus surfaced in a time in which the Internet had matured with access to a large swath of the affected population (Vos & Buckner, 2016). During this crisis, the Internet provided an outlet for individuals, though Vos & Buckner note the purposes varied among users. Examining Twitter's involvement on the discourse surrounding the virus, Vos & Buckner, (2016) determined tweets generally fell into one of two categories, drawing on the Crisis and Emergency Risk framework:

- **Sensemaking Communication:** allows individuals to reduce their uncertainty about the virus. Importantly, the sensemaking process is not inherently grounded in facts or truth: individuals may rely on inaccurate information so long as it fits plausibly into their existing framework for comprehending the event and identifying patterns related to the event.
- **Efficacy Communication:** instructs individuals on proper response to the crisis at hand. Informational content in this category seeks to convince the public of the importance of recommended behaviors and establishes trust between readers and official communicators

Interestingly, sensemaking communications vastly surpassed efficacy communications, comprising nearly 90% of the observed tweets. Tweets focused more on general information about the virus rather than actionable steps to be taken for the crisis at hand, limiting the preparedness of individuals to address the viral spread. This has implications for future methods of information regarding health crises as it reflects the intense filtration aspect of the Internet in which only certain information is circulated while other information – regardless of relative importance – may fall by the wayside (Vos & Buckner, 2016).

Perhaps the most important finding was a diminished discussion of self-efficacy messages on the Internet, minimizing accountability of the individual in the face of a public health crisis when in reality the individual's participation is essential in mitigating viral spread and preventing further damage. Yet the results of this study were not solely negative on the impact social media has for information spreading during social media: a majority of these tweets, in both sensemaking and efficacy contexts, contained hyperlinks to other information,

often official media posted on social media sites such as CDC or WHO information. This supports the idea of social media as a source for more in-depth information sources as opposed to an inherent and independent source, indicating that while social media may not be an entirely reliable information source, it nevertheless is an important aspect of disease communication as it rapidly spreads valuable information from more formal channels that do not contain the same level of audience reach as more common social media platforms used by the general public (Vos & Buckner, 2016).

With COVID-19, the role of social media and other online networks is especially important for information gathering. As in-person interaction and unnecessary outings/travel are discouraged or even prohibited by local governments, many information sources, such as family and friends or local officials are constrained to the virtual sphere. As such, online discourse about the novel coronavirus has become paramount for the sensemaking ability of those impacted by the virus, either directly or indirectly.

Saud et al. (2020) found that Internet usage among affected individuals chiefly focuses on social support and health advisory. Social media usage was highly linked to an individual's capacity building in the face of the viral crisis, demonstrating social media's impact on effective information spread.

Government Trust and the Internet

In mitigating public crises, governments need their publics not only to receive and understand information sent, but also to comply with recommended guidelines in order to ensure an effective and safe response by the public. This is true in a variety of crisis contexts, but

especially public health crises, as any noncompliance with recommended guidelines increases the risk of a super-spreader event and further endangers even those who followed guidelines from the start.

The existence of the Internet, when managed properly by government actors, is a large contributor to public perception of government and official organization actions. Especially in the modern information environment, the Internet represents a platform both for governments to disseminate their guidance and for critics to advocate against that guidance. In such a situation, research suggests that Internet usage can diminish trust in government (Im et al., 2014). This dynamic is especially important to consider when evaluating refugee networks, as the level of trust between refugee and host government can remain largely unstable throughout the refugee's time in the host country, and misinformation spread via refugee social networks can severely impact understanding and trust of government motivations (Demiroz & Unlu, 2018). Further, Demiroz & Unlu (2018) found that the social network environment of refugees heavily influences the relationship refugees have with their government, with the average political viewpoint of the refugee's social environment determining the likelihood of pro-government perceptions among the interviewed refugees.

Low government trust is especially noteworthy as it often detracts from the level of government compliance among public entities (Im et al., 2014). In order to combat this, governments must adapt to new situations, especially the ever-evolving online environment. During the COVID-19 pandemic, administrations that have utilized innovative strategies to address uncertainty and rely heavily on social and formal media networks have demonstrated higher levels of success in their efforts than those that relied primarily on traditional and routine forms of addressing the crisis (Schomaker & Bauer, 2020).

During public health crises, (Park et al., 2019) found that individuals are more likely to utilize social media and online sources to gain a variety of input and reaffirm trust in recommended directives through cross-referencing credible sources with personal accounts online. The implications of this are that government and official organizations seeking information spread can utilize social media as a method of information dissemination, as publics are more likely to view these sources during this crisis type.

Given the reviewed existing literature, the current study posits three hypotheses for consideration:

H1a: The retrieval of COVID-19 information via Internet-based sources is positively related to a greater understanding of COVID-19 symptoms in comparison to traditional information channels.

H1b: The retrieval of COVID-19 information via Internet-based sources is positively related to a greater understanding of COVID-19 necessary prevention behaviors in comparison to traditional information channels.

H2: The retrieval of COVID-19 information via Internet-based sources is negatively related to the level of trust in government capability among refugees.

Chapter 4

Methodology and Procedure

Data Collection

In order to gain an understanding of the socio-economic impact of COVID-19 on the livelihoods and behaviors of persons located in Kenya - “persons of concern” (PoCs) - both citizens and refugees, the United Nations High Commissioner for Refugees Bureau for East, Horn of Africa & The Great Lakes Region conducted a 12-section survey on topics related to COVID-19 and life in Kenya. The survey was conducted at both the household and individual level via phone.

Participants were identified using mixed methods, with stratified random sampling occurring for potential participants in Kakuma, Kalobeyei, Dadaab, and Urban areas within Kenya. 1250 households were reached, with 3075 individuals selected to be interviewed from these households. The survey consent rate was 51 percent. Of these surveyed individuals, 693 were determined to be the head of household and additionally considered to have obtained refugee status. Further, the study participants were randomly divided, with half being assigned to complete section 8 of the survey referring to anxiety-based questions and the other half being assigned to complete section 11 of the survey referring to government and general trust. Of these, 3 individuals claimed not to have heard of COVID-19 at the time of the survey. As such, this study considers the 326 individual responses from those refugees who had heard of COVID-

19 acting as the head of household and randomly assigned to respond to section 11 of the UNHCR survey.

Measures

Participants were asked demographic questions about both household and individual behaviors. This study focused on the responses of individuals functioning as heads of household in order to narrow behaviors to individual choices, as individuals who did not self-identify as the head of household were not asked the relevant questions for this study. To address the relationship between information source and COVID-19 awareness, this study selected multiple questions from the UNHCR survey. Participants were asked to indicate which sources of information they utilize to obtain information regarding the COVID-19 pandemic. Sources were not listed for selection but rather recorded based on individual response. Both traditional and Internet-based sources were included. Traditional media included television, newspaper, radio, and billboards. Also in the traditional media classification were official communication channels including government agencies, NGOs and CBOs, political leaders, or medical professionals.

For the purposes of this study, Internet-based sources were considered to include news on the Internet, WhatsApp, and social media such as Facebook or Twitter. The inclusion of WhatsApp within the Internet-based source category aligns with existing research on WhatsApp as both a primary means of instant messaging and an online news source, with emphasis on WhatsApp as a form of “mobile and interpersonal communication” (Boczek & Koppers, 2020). Its mobile connectivity requirements lead some researchers to categorize the platform as a social

media channel and additionally lends itself to the characteristics of the other modern Internet-based sources included in this category (Sha et al., 2019).

Participants were then asked to indicate their level of understanding of the COVID-19 pandemic through a series of questions, consistent with Kuhlthau's (2005) definition of knowledge as a tool for understanding apparent problems or situations. The first question addressed whether the individual had heard of the COVID-19 pandemic. If the individual answered "No," the individual was not asked any more questions and the response was excluded from the sample. Participants were also asked to indicate whether anyone they knew had been diagnosed with COVID-19. Additionally, participants were asked to describe known symptoms of COVID-19. Potential symptoms were not listed but instead respondent replies were coded by type. Finally, participants were asked to identify measures they could take to prevent the spread of COVID-19. For this question, common disease mitigation practices were listed by the interviewer for the interviewee to indicate agreement or disagreement with having known about the practice as a means to prevent COVID-19.

Next, to address the question of government trust in the time of COVID-19, questions were also selected from the survey. These questions had only been asked of 50% of the randomly sampled population, so the sample size is smaller than the survey's total response rate. Participants were asked to assess their level of trust with the Kenyan government in the care of refugees within Kenya on a 5-point scale (*1 = Strongly Distrust; 5 = Strongly Trust*). Further, participants were asked to indicate whether they were satisfied with the government's response to the coronavirus crisis. Finally, participants were asked a series of questions gauging their extent of agreement with the following statements on a 3 point scale (*1 = Disagree, 3 = Agree*):

a) The Government is trustworthy in the way it manages the Coronavirus crisis, b) The

Government is willing to provide health care to address the Coronavirus crisis, and c) The

Government is able to provide health care to address the Coronavirus crisis.

Chapter 5

Findings

Of the 326 observed individuals, 214 identified as male while 112 identified as female. This disparity can be attributed in part to the requirement for the individual to be head of household, a role traditionally reserved for males of the household. The age range of the individuals is displayed in Figure 2, with the ages of 23-38 being the most popular. This is largely consistent with broader estimates of typical age ranges of individuals who identify as refugees (UNHCR, 2020). Of these individuals, 72.7% of respondents indicated residency in one of the designated refugee settlements of Dadaab, Kakuma, or Kalobeyei. The remaining 27.3% of individuals included those who settled outside of the camps, including in urban areas such as Nairobi.

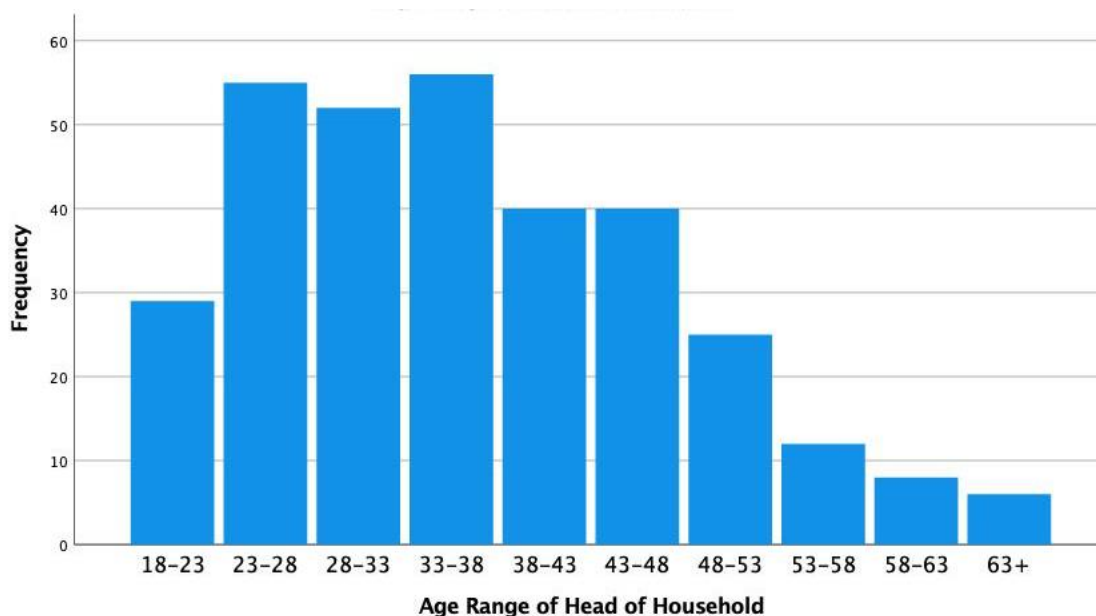


Figure 2: Age Range of Respondents

In comparing the breakdown of male and female head of household status, it is clear that more females are designated as head of household in older age ranges than males (Figure 3) and are more likely to be designated as head of household when in a monogamous marriage or when no longer married, whether due to divorce, separation, or widowhood (Figure 4).

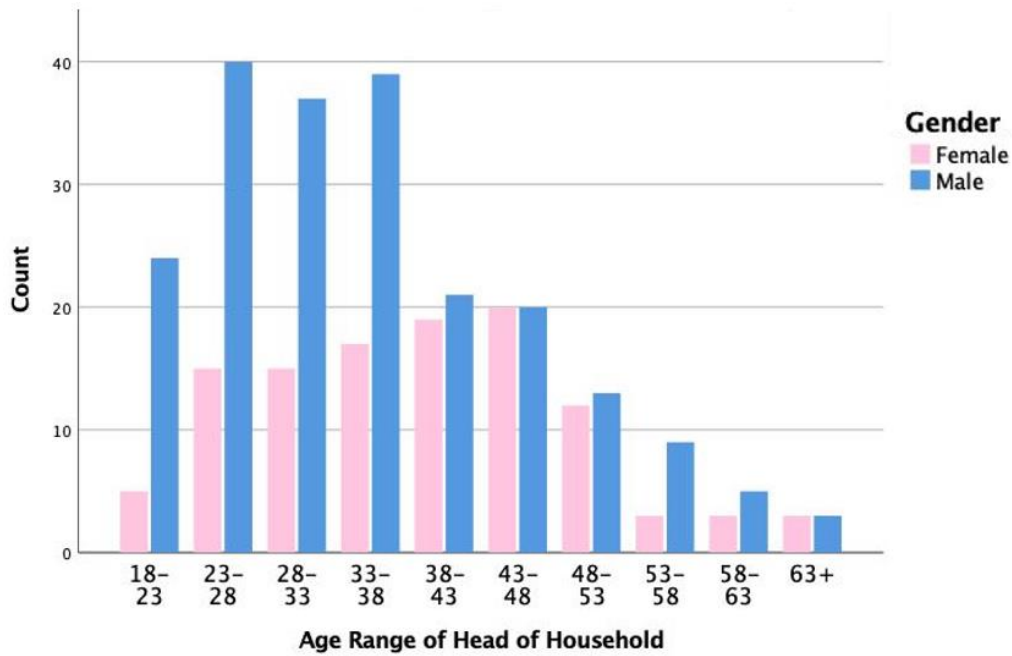


Figure 3: Age Range of Respondents by Gender

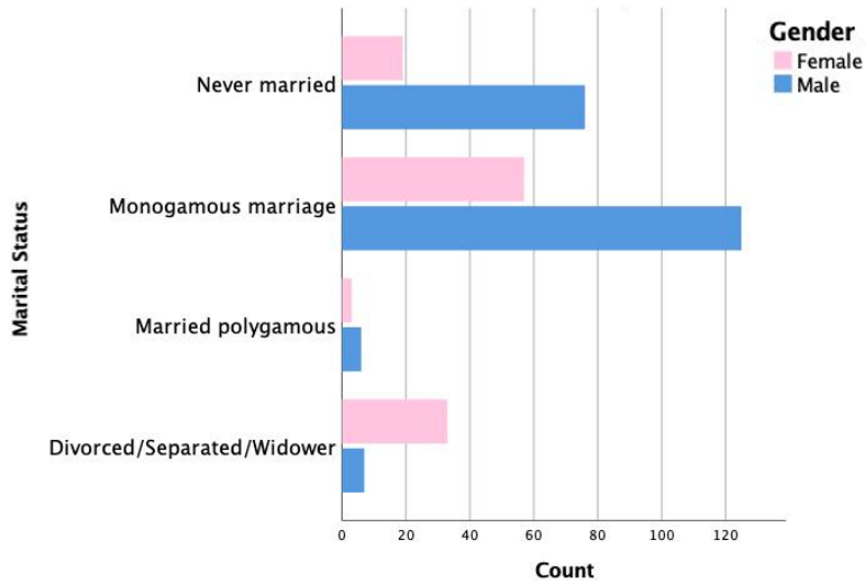


Figure 4: Marital Status of Respondents by Gender

Knowledge of COVID-19

Knowledge of the COVID-19 pandemic is considered to be twofold: the individual's understanding of COVID-19 symptoms and the individual's understanding of appropriate preventative behaviors during the COVID-19 pandemic. Individuals with a high level of understanding of symptoms, behaviors, or both, are considered to have higher levels of knowledge surrounding the COVID-19 pandemic. The median number of symptoms described was 3, and individuals had been prompted to list symptoms of the coronavirus, rather than being given a list of choices to identify from. Of the symptoms identified, the most commonly identified symptoms were cough, fever, and headache. The summary results of the symptoms can be seen in Table 1.

The ability to identify multiple symptoms was highly and positively correlated with the ability to identify common measures to prevent the spread of COVID-19, significant to the .01 level with a correlation of .145. Both males and females were similarly able to identify multiple symptoms, with no significant difference between the most commonly identified symptoms between gender groups.

Preventative behaviors, alternatively, were a source of much higher level of knowledge for the survey respondents, with the most common response being the identification of all 10 measures within the survey as proper COVID-19 behaviors. All participants were able to correctly identify at least 6 possible measures, with every participant also selecting handwashing as an important measure to reduce the spread of COVID-19, and all but one participant selecting the options of "stay home," "avoid crowds," and "social distance". In addition to these options, mask wearing, lack of physical greetings, and use of sanitizer were popular answers among respondents. Results of the survey's questions regarding preventative measures can be seen in

Table 2. “Use of gloves” was the least popular answer among respondents – though most respondents still indicated it to be a proper measure – with 278 respondents indicating that this was an appropriate measure to stop the spread of COVID-19. There was little difference between men and women’s ability to identify proper measures to prevent COVID-19, including in the least-reported measure: the p-value reported in the t-test between gender and use of gloves was .252, indicating no significant difference. Further, the identification of the use of gloves as an effective measure to prevent COVID-19 was significantly correlated at the .01 level ($r = .161$) with the respondent’s number of symptoms identified: the more symptoms identified, the more likely the individual was to indicate the use of gloves, even despite it being the least popular measure.

Those who understood the behavior of sanitizer use as an appropriate measure in combating COVID-19 were more likely to identify multiple symptoms of COVID-19 during the survey, with a correlation of .235 significant to the .01 level.

In general, knowledge of COVID-19, considering symptoms and behaviors, was incomprehensive given the parameters of the study. Out of 27 possible knowledge areas between symptoms and preventative behaviors, the median was only 13 and the maximum was 16. However, all individuals surveyed listed at least 8 points of knowledge between symptoms and measures, indicating that no individual who had heard of COVID was completely ignorant of the disease’s effect on daily life. Between the two gender groups indicated on the survey, the individuals’ ability to identify knowledge about COVID-19 was approximately similarly distributed, with most individuals in both female and male categories falling into the 13-point range, as can be seen in Figure 5.

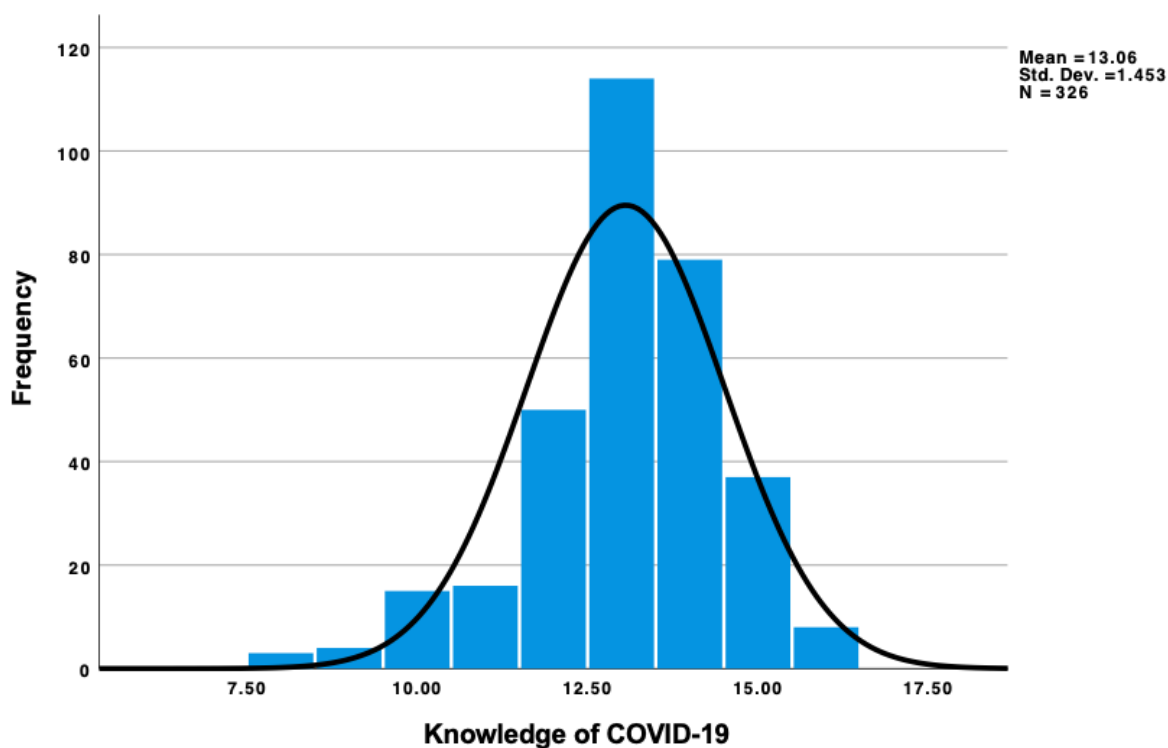


Figure 5: COVID-19 Knowledge Level Distribution

Information Gathering Practices

For the purposes of this study, Internet-based sources were considered to include news on the Internet, WhatsApp/SMS communications, Facebook, or Twitter. Traditional sources included television, newspaper, national or local radio, billboards, or communications from friends, family, or colleagues, international or government agencies, NGO or CBO representatives, religious or political leaders, or medical professionals.

The use of national radio was the most common information source for surveyed individuals, closely followed by international/government agencies as well as television and news on the Internet, as can be seen in Table 3. Individuals using television were also significantly more likely to utilize news on the Internet, significant to the .05 level ($r = .141$) and were significantly more likely to utilize a high variety of information sources, significant to the

.01 level ($r = .352$). Combined with Figure 6, it is clear that the vast majority of all those surveyed actively seek out at least one information source to learn about the COVID-19 pandemic, with the average number of sources used by an individual being 2.

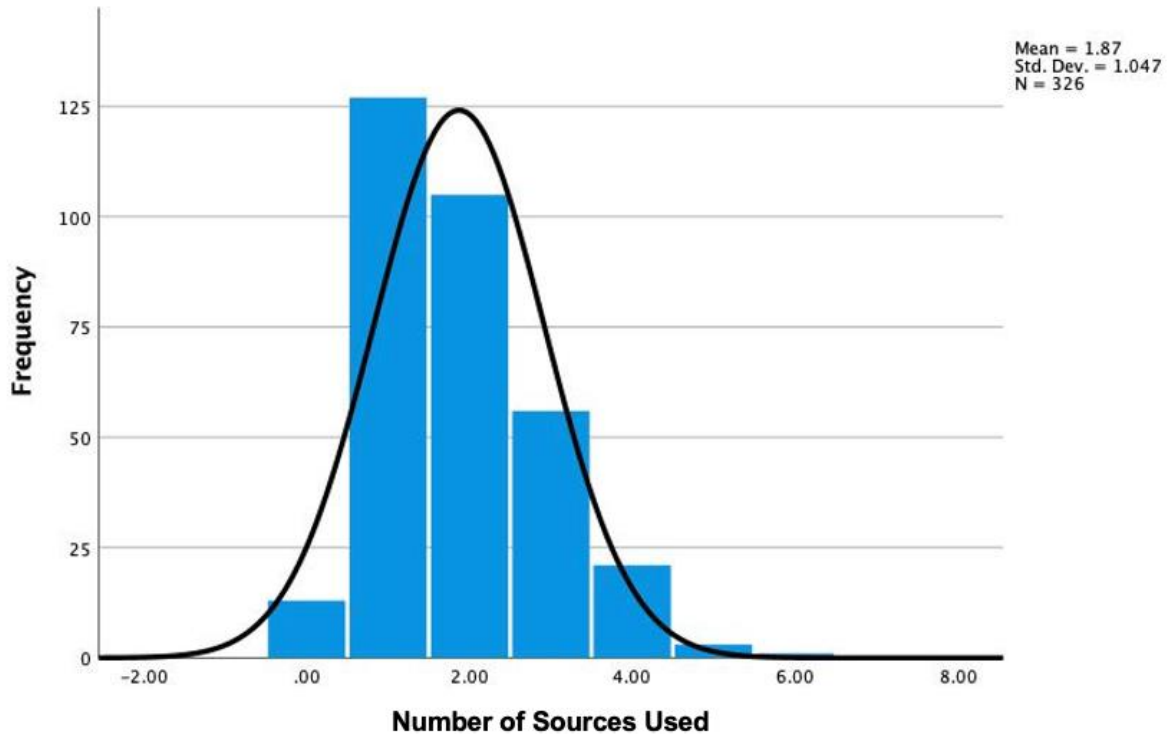


Figure 6: Number of Sources Used per Individual

Further, those that utilized multiple information sources were more likely to search for information about COVID-19 using Internet-based news sources, positively correlated to the .01 level ($r = .616$). In general, the use of news on the Internet was correlated to higher levels of information variety, significant to the .01 level ($r = .507$). Additionally, men were much more likely than women to diversify their information source usage. A t-test of gender and information source type revealed that the total number of information sources by gender was statistically significant with a p value of less than .001, regardless of information category: t-test results were significant in Internet-based sources, traditional-based sources, and source variety in general.

Worth mentioning is that social media sites were wholly unpopular as indicated sources of information, with 0 individuals indicating that Facebook or Twitter were sources of information for COVID-19. Considering that this question's responses were coded rather than given as a list, it is possible that the individuals simply categorized these sites as other forms of communication, grouping these sites to fall under the "friends, family, and colleagues" source. This claim is substantiated with the fact that respondents that indicated a usage of WhatsApp were less likely to indicate a usage of friends, family, or colleagues as a source for information, and vice versa.

The most popular sources were forms of traditional media, but the popularity of source type differed greatly between gender identity groups. Of those utilizing TV as a means of COVID-19 information, 70.5% identified as male, as compared to 29.5% female. Further, men were more likely to utilize news on the Internet as a means to learn about COVID-19, with 37% of men utilizing the Internet in contrast to only 10.6% of women.

Women utilized more informal and social information sources than men. Women more often relied on friends and family-based communication forms as a means to gain insight into the COVID-19 pandemic. Among the few categories in which the percentage of women utilizing an information source surpassed the percentage of men, interpersonal communication forms prevailed: 23.0% of women utilized family, friends and colleagues in comparison to 17.1% of men. Interestingly, those who utilized friends, family, and colleagues as a source were less likely to identify multiple symptoms of COVID-19 ($r = -.172, p < .01$) yet more likely to identify multiple measures to stop the spread of COVID-19 ($r = .252, p < .01$).

The use of government agencies as news sources for COVID-19 related information is correlated to higher variety of traditional sources ($r = .588, p < .01$) as well as information source variety in general ($r = .390, p < .01$)

Further, high variety of Internet-based sources was significantly negatively correlated with individuals' level of knowledge of COVID-19, with a correlation of $-.131$ and significance at the $.05$ level, while a variety of traditional sources of information was significantly positively correlated with individual's level of knowledge of COVID-19 with a correlation of $.205$ and significance at the $.01$ level.

Government Trust

For this study, the level of government trust has been identified using the degree of agreement with positive statements regarding government performance. A scale of government trust was constructed and validated using Cronbach's alpha. The four items included (1) the respondent's trust in Kenyan government to take care of refugees and immigrants, (2) the respondent's trust in the government's management of COVID-19, (3) the respondent's belief in the government's willingness to provide healthcare for COVID-19, and (4) the respondent's belief in the government's ability to provide healthcare for COVID-19. Cronbach's alpha for this set of variables was calculated to be $.613$. This demonstrates consistency in government trust levels across all explored areas of COVID-19 management during the pandemic as well as in general for refugees and the reliability of a summed scale as a measure for government trust within this study.

In terms of government trust, respondents generally indicated a high level of trust in the government, as can be seen in Figure 7, with the median being 13 on a 14-point scale. Of this group, males and females had similar levels of trust in the government, with no significant difference between the reported genders' trust in the government. The distribution of government trust by gender can be seen in Figure 8, and while male trust in the government is slightly more heavily left skewed, the distributions are roughly equally skewed to the left, indicating high government trust across the groups.

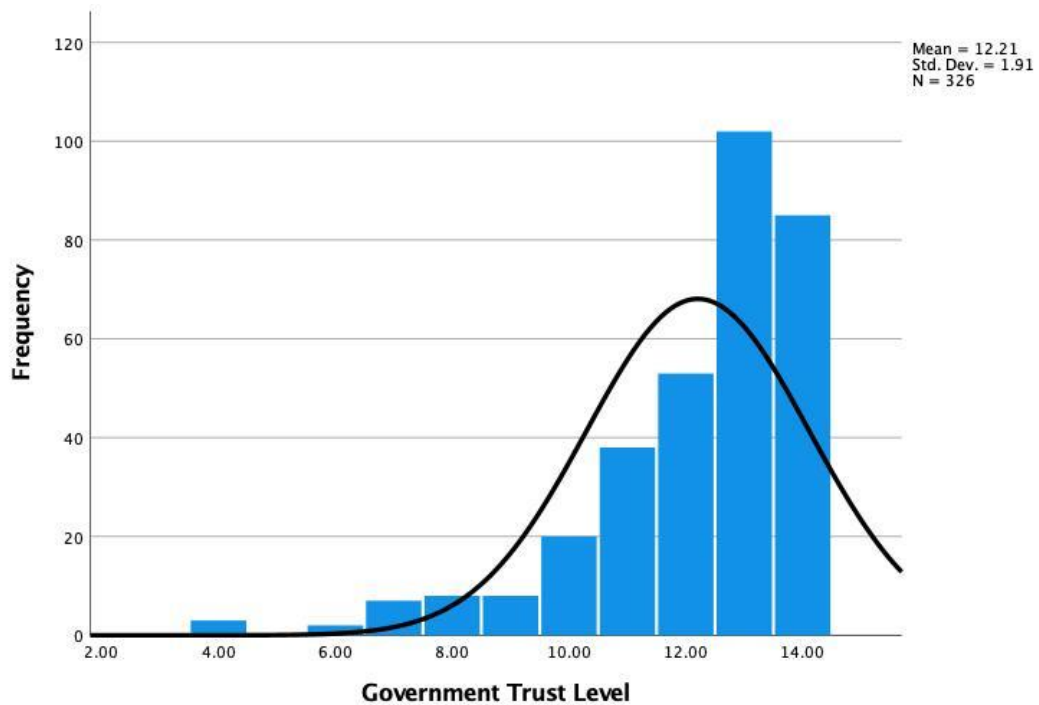


Figure 7: Government Trust Level Distribution

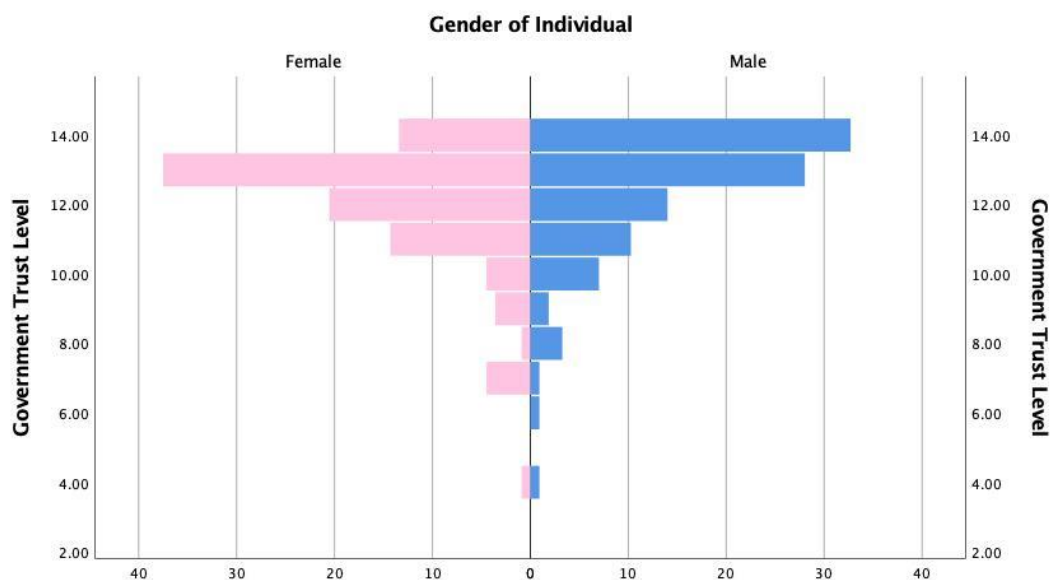


Figure 8: Government Trust by Gender, distributed by Percent of Gender Responding to Each Level

Higher variety of information sources in general is significantly correlated with higher levels of trust in the government ($r = .219, p < .01$). A significant correlation was also observed between government trust and traditional source variety ($r = .221, p < .01$) but significance was not replicated for the relationship between government trust and Internet-based source variety. Additionally, knowledge of COVID-19 pandemic was correlated to higher levels of government trust ($r = .159, p < .01$).

Chapter 6

Discussion

The field of crisis communication requires two key elements: the accessibility of the message and its ability to impact its audience in a productive way. Crisis communication models seek to understand the most efficient way to convey information in a time-sensitive manner, especially in times when information may be incomplete. The results of this paper suggest the importance of both information type and information variety, with each element impacting government trust and general knowledge independently.

COVID-19 Knowledge Attainment

The relationship between knowledge of COVID-19 and source type highlights important themes on the reliability of Internet-based information as compared to traditionally formal means. While Cohen's 2013 findings suggest that Internet-based sources may serve more useful purpose during disasters due to the lack of rigidity in information dissemination schedules, the findings of this study somewhat contradict the utility of Internet-based sources, as the relationship between knowledge and Internet-based sources is a significantly correlated, negative relationship. This negative relationship, viewed alongside the positive correlation of traditional source variety with COVID-19 knowledge, contradicts this paper's initial hypothesis as well as the 2020 research of Emmer et al., with a suggestion that higher levels of Internet-based sources are related to a lower understanding of the current pandemic situation. This lower level of knowledge associated with Internet-based sources may be a manifestation of the more widely held belief that information found on the Internet is untrustworthy and unverified.

However, this study's findings relate to Schomaker & Bauer's 2020 research suggesting that administrations taking a varied and innovative approach during the pandemic have higher success rates in information dissemination than those who only relied on traditional media by implying a need for higher levels of government and official presence in online news channels. This study's findings further support the 2011 research by Schultz et al. suggesting that the message platform can be more powerful than the message itself during a health crisis, further emphasizing a need for government and official organizations' needs to take control of the online COVID-19 narrative through innovative strategies both on and offline. Yet the overall high level of COVID-19 knowledge observed in this study may demonstrate effective practices with regard to information dissemination during the pandemic despite the negative trend of Internet-based sources with COVID-19 knowledge.

Further, the correlation between informal communication such as WhatsApp with traditional communications suggests the utility of Internet-based platforms as a supplement to traditional means, providing easily accessible information that can later be cross-referenced with credible and traditional information dissemination practices. Dayha & Dryden-Peterson's 2017 findings of the importance of Internet and phone communications in the refugee community were not fully replicated within this study: WhatsApp/SMS was not a popular information source listed among respondents, yet Internet-based news sources were ranked second only to national radio as the most common source of information during the pandemic, suggesting that the relationship with the importance of Internet and phone communication may rest more on the formality of the source than the source's mobility.

With regard to the Internet's reliability, this study's findings suggest a tendency to diversify information source when utilizing Internet-based sources: the positive correlation

between general information source variety with Internet source variety may offer support primarily for the broad idea that Internet-based information requires further verification, yet may also support the media-for-searching and media-for-monitoring interaction observed by Geiß et al. (2016) wherein popular traditional sources within this study – largely considered to be media-for-monitoring – prompt subsequent media-for-searching usage – sources that are largely considered to be Internet-based.

Additional support for the media-for-searching and media-for-monitoring approach discussed by Geiß et al. (2016) is the finding that television users were likely to utilize news on the Internet for information in addition to their television source, demonstrating a relationship between television – a common media-for-monitoring source – with the Internet – a typical example of media-for-searching.

While traditional and media-for-monitoring sources were popular sources with regard to knowledge attainment, Horst's 2007 findings of the importance of community within refugee populations is nonetheless relevant to the present study, as the element of friends, family, and colleagues was still an important aspect of the respondents' information landscape. This was especially true among women, further supporting Dayha & Dryden-Peterson's 2017 study. The refugee social network – interpreted to mean the web of relationships established regardless of Internet status – is still an important aspect of refugee interactions and serves as an essential supplement to the media landscape for information dissemination.

Government Trust

The results of this study demonstrated dual important relationships involving government trust: the importance of both type and variety in information usage and the interaction of COVID-19 knowledge with government trust. Firstly, this study suggests that high information variety is related to higher government trust, even among the overall high level of reported government trust among respondents. This supports the general ideas found in general information theory, where an individual may satisfy their information needs through the attainment of information variety presenting consistency, especially during crisis communication. Consistent with Kulthau's theory of information seeking, the need to reaffirm beliefs through redundancies may be related to higher trust in government through the usage of multiple information sources.

Interestingly, in addition to general information variety, the importance of information type is once again emphasized: the positive and significant correlation between government trust and traditional information source variety may indicate that trustworthy, traditional sources can serve as a foundation for and encouragement of government trust formation. The correlation between traditional information sources and government trust establishment once again emphasizes the importance of organizational guidance in traditional communication channels, as these channels may represent a trustworthy and convincing means to communicate important information during crises requiring individual accountability.

The influence of source on audience perception is further indicated through the disparity in government trust between local radio and national radio listeners, with the former indicating higher trust in the government than the latter and is moreover consistent with the Situational Crisis Communication Theory's idea that platform choice and framing serve as an important

element in audience reception and impressions of a given crisis. Broadly, the importance of widespread information dissemination – with emphasis on traditional channels – can be considered to be an essential element of the crisis communication toolkit, as variety and type have demonstrated a significant relationship with government trust and support from individuals during the COVID-19 pandemic.

The strong positive relationship between knowledge of COVID-19 and government trust has important implications for the manner in which administrations address the ongoing crisis. This research's findings support Schomaker & Bauer's 2020 research suggesting that innovative and attentive government action during the pandemic to disseminate information and keep the population informed on matters related to the current COVID-19 pandemic have shown higher rates of success in addressing the health crisis.

This study's format and scope may have limited the results in a few ways, in particular as related to knowledge of COVID-19 and information source choice. In terms of COVID-19 knowledge, the contrast between symptom and preventative measure identification ability may stem less from a lack of knowledge and more from the format of the questions themselves, with symptom identification functioning as an open-ended prompt while preventative measures were presented as a multiple-selection option. With the open-ended prompt, individuals may have chosen not to list all symptoms exhaustively, while multiple-selection questions may have resulted in selection biases for the preventative behaviors prompt.

Further, the lack of respondent input on social media sites of Facebook and Twitter represents a large area of potential for future research. When beginning this study, the initial belief was that Internet usage – in particular, the social media community – would breed simultaneous knowledge and criticism. This study's results are unable to determine the cause of

social media underrepresentation in information sources nor its potential impact on the refugee community, though it is possible to posit that the lack of response may be related to Dayha & Dryden-Peterson's labeling observations in their 2017 study that references to "technology" were reserved for less accessible hardware. In a similar fashion, the lack of social media response may be attributed to a broad categorization of social media as a means for social communication or as a vector rather than a source of official information, leading to the reclassification of social media platform usage as friend, family, or colleague communication for social communication and as Internet-based news for information presentation aspects.

While the use of social media as a channel rather than a primary source may have limited the response rate of individuals on these prompts, Vos & Buckner's findings affirm social media's importance even as a delivery platform as opposed to a primary source, as social media may have a broader reach than traditional or formal communication channels. However, this claim requires further research to be substantiated, as the sample obtained for the purposes of this study is insufficient to address this aspect of information practice. Nevertheless, the underlying claim remains: the dynamic between knowledge of the COVID-19 pandemic and both government trust and information source type demonstrates the importance of both knowledge attainment and government action throughout the pandemic in a manner that keeps individuals both informed and supported, representing a formula not only for the present health crisis but also for the future.

Chapter 7

Conclusion

As the COVID-19 pandemic continues to evolve, cultivating uncertainties even as initial questions begin to be answered, this study offers a perspective on a potential pathway to success for organizations seeking to address the pandemic successfully to their audiences, centered on the importance of source variety and special attention to traditional channel maintenance. Though the Internet continues to serve as an important aspect of information dissemination in many spaces, crisis communication continues to necessitate the maintenance of authoritative sources using traditional mass media channels in order to support the relationship between government and individual. While the limitations of this study did not allow for social media analysis, the initial findings support the continued interest in this area, leaving an opportunity for further investigation on the topic through the continued collection of data in this area going forward.

Moreover, this study offers a powerful message on the importance of carefully prepared information not only in the current situation of uncertainty, but more broadly in the evolving information landscape that often loudly demands immediacy. Both during health crises and times of relative stability, official communication agencies must consider not only their communication needs, but also their audience's tendencies. Understanding the interaction between information availability and accessibility may potentially make the difference between successful and unproductive crisis communication practice, and enabling audience agency, both on and offline, is paramount to organization and individual success.

Appendix A

Figures and Tables

Table 1: Symptom Identification

<i>Symptom</i>	<i>Count</i>	<i>% Identifying</i>
<i>Cough</i>	309	94.8
<i>Fever</i>	306	93.9
<i>Headache</i>	164	50.3
<i>Sore Throat</i>	80	24.5
<i>Vomiting</i>	69	21.2
<i>Feeling Unwell</i>	60	18.4
<i>Chronic Fatigue</i>	56	17.2
<i>Nasal Congestion</i>	53	16.3
<i>Pneumonia</i>	0	0
<i>Loss of Smell</i>	0	0
<i>Diarrhea</i>	0	0
<i>Skin Rashes</i>	0	0
<i>Unexplained Bruises</i>	0	0
<i>Unexplained Bleeding</i>	0	0
<i>Coughing Blood</i>	0	0
<i>Pox/Boil/Rash</i>	0	0
<i>Nausea</i>	0	0

Table 2: Measures Identified

<i>Preventative Measure</i>	<i>Count</i>	<i>% Identifying</i>
<i>Handwashing</i>	326	100
<i>Avoid Crowds</i>	325	99.7
<i>Stay Home</i>	325	99.7
<i>Social Distance</i>	325	99.7
<i>Avoid Travel</i>	323	99.1
<i>Use of Mask</i>	322	98.8
<i>No Physical Greetings</i>	320	98.2
<i>Use of Sanitizer</i>	312	95.7
<i>Avoid Touching Face</i>	304	93.3
<i>Use of Gloves</i>	278	85.3

Table 3: Information Source by Type

<i>Info Source</i>	<i>Count</i>	<i>% of Individuals Utilizing*</i>
<i>National Radio</i>	105	32.2
<i>International/Government Agencies</i>	92	28.2
<i>News on the Internet</i>	92	28.2
<i>TV</i>	88	27.0
<i>WhatsApp/SMS</i>	68	20.9
<i>Friends, Family, or Colleagues</i>	63	19.3
<i>Local Radio</i>	51	15.6
<i>NGOs or CBOs</i>	51	15.6
<i>Facebook</i>	0	0
<i>Twitter</i>	0	0
<i>Local Medical Professionals</i>	0	0
<i>Other Medical Professionals</i>	0	0
<i>Religious Leaders</i>	0	0
<i>Political Leaders</i>	0	0
<i>Newspapers</i>	0	0
<i>Billboards</i>	0	0
<i>Total</i>	610	<i>*more than one option could be selected, leading to a % greater than 100%.</i>

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ACADEMIC VITA

Mikayla J. Casey

EDUCATION

The Pennsylvania State University, University Park, PA May 2021
Schreyer Honors College Dean's List 9/9 Eligible Semesters
Bachelor of Science in Security and Risk Analysis, College of Information Sciences and Technology
Bachelor of Science in Spanish, College of the Liberal Arts
Minor in Arabic

HONORS AND AWARDS

Lockheed Martin Engineering Scholar 2019 • Spanish Student Marshal 2021 • Paterno Fellow 2018-2021

RELEVANT PROJECT EXPERIENCE

Flood Risk Analysis Spring 2019

- Created visual representations of flood plain and income data using public FEMA and census data
- Analyzed and displayed results through overlays, database merges, and spatial joins using ArcMap
- Determined potential citizen relocation and building damage from a Philadelphia area 10-year flood

TECHNICAL SKILLS

Adobe Photoshop • ArcGIS • Microsoft Excel • Minitab • Python • SPSS • SQL • Tableau

EMPLOYMENT

Archbow Consulting, LLC **Remote Opportunity**
Data Management Intern May 2020 – August 2020

- Organized and consolidated existing file structures for ease-of-access by internal authorized users
- Implemented presentation management strategies to ensure efficient and impactful content creation
- Analyzed productivity metrics to recommend task delegation based on consultant specialization

Penn State Speaking Center **University Park, PA**
Public Speaking Mentor January 2019 – Present

- Address student questions about speech structure and delivery techniques to enhance performance
- Coach students on best situational communication practices in presentations for varying audiences

LEADERSHIP

Penn State Lion Ambassadors **University Park, PA**
Professionalism Committee Member Spring 2019 – Present

- Inform fellow members of professional development opportunities via panels and weekly meetings
- Engage and educate prospective and current students through interactive monthly campus events
- Lead in-person and virtual tours and panels for alumni, visiting scholars, and prospective students

Relay For Life – Penn State Chapter **University Park, PA**
Recruitment and Involvement Chair Fall 2017 – Present

- Lead a 5-person committee tasked with expanding campus and community engagement events
- Generate on-campus and local support for the American Cancer Society's national campaign

Liberal Arts Ambassadors at Penn State **University Park, PA**
Web Coordinator Fall 2017 – Spring 2019

- Updated social media with upcoming events to generate an average of 15 new page visits per month
- Maintained internal websites and file storage to inform current members of organizational changes

GLOBAL AND LANGUAGE EXPERIENCE

Ronda Abroad Homestay and Education **Ronda, Spain**
Summer 2019

- Lived with a host family while immersed in local culture and courses

Applied Biotechnology in Cultural History **Palermo, Italy**
Summer 2018

- Studied the preservation practices of cultural artifacts with local faculty

Middlebury Arabic Immersion Program **Poultney, Vermont**
Summer 2016

- Gained Modern Standard Arabic proficiency in an Arabic-only setting