

**DEVELOPING INTERPERSONAL RELATIONSHIPS BETWEEN DEAF AND
HEARING PEOPLE USING INSTAGRAM**

by

Kimberly Ann Erskine

Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy in Communication

Liberty University

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Abstract

The purpose of this ethnographic study was to understand how deaf and hard of hearing individuals use Instagram to interact with and develop interpersonal relationships with hearing individuals. The researcher used her personal experience as a member of the deaf and hard of hearing community to connect with members of the researched population on a personal level. The theories guiding this study were Elihu Katz's uses and gratifications theory, Joseph B. Walther's social information processing theory (SIPT), and Sandra Ball-Rokeach and Melvin DeFleur's media dependency theory. These theories were applied to help the researcher gain a better understanding of the motives for why deaf and hard of hearing individuals choose to use or not use Instagram as a communication tool and to consider whether Instagram nurtures or hinders their interpersonal relationships with the hearing world. After analyzing the qualitative data, the researcher also included new medium theory as a lens to explain how participants shared common interests and supplemented FtF communication. 16 open-ended ethnographical interviews lasting no more than 1 hour each were conducted over Zoom. Interviews were recorded from those participants who gave consent and then hand-coded using textual and structural descriptions. Participants were also required to provide the researcher with .html downloads of their Instagram data where their comments and messages were read, coded, and analyzed. Data were collected from the interviews and the Instagram data files to allow the researcher to interpret and report on participants' experiences with Instagram in a way that was as thorough and accurate as possible. The findings of this research study showed that Instagram did not have a significant impact on the interpersonal relationships between deaf and hard of hearing individuals and the hearing world. Deaf and hard of hearing individuals prefer to use

Instagram to engage with the hearing loss community, educate themselves and others about their hearing loss, and advocate for their needs as deaf and hard of hearing individuals.

Keywords: deaf, hard of hearing, Instagram, interpersonal relationships, social media, communication, hearing, qualitative

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Dedication

My parents have always played a crucial role in my education. I still remember when my father would take me to Gloucester County Community college and tell me that I would return as a student one day. His words were true, and I cannot thank him enough for fostering a passion within me from a young age to pursue a college degree. Secondly, I would like to thank my mom, who has always been my biggest fan and advocate. You believed in me when the rest of the world did not, and you gave the rest of the world a reason to believe in me. You not only forbade me from giving up on myself, but you forbade everyone else, too. Thank you for fighting for me and ensuring I was always given the same chances and opportunities as my peers. I dedicate this dissertation to my parents, for without their constant encouragement, love, and support, I would not be where I am today.

Acknowledgments

When I was in seventh grade, and I told one of my classmates that I wanted to be a writer, her response was, “Yeah, right. You’ll be lucky to be a 7-11 worker.” I never forgot those words. Rather than accepting my classmate’s version of my fate as a 7-11 worker, I used her words as fuel and encouragement. I have always been determined to prove her wrong and show her that even a deaf girl can and will accomplish great things. Her words all those years ago cut deep, but I may not have ever finished my dissertation and earned my PhD without them. For that, I sincerely thank her. She has impacted my life in ways she will never know.

Although writing a dissertation and completing doctoral coursework often feels like a lonely road, I know I was not alone in my journey. Jesus, my savior, was with me every step of the way. Philippians 1:6 says, “He which hath begun a good work in you will perform it until the day of Jesus Christ.” Job 23:10 says, “But he knoweth the way I take: when he hath tried me, I shall come forth as gold.” Some days I definitely felt like I was being tried, but in the end, I came forth as gold, all in the name and glory of God the father. God knew that I would pursue a PhD well before I ever did. I could not have completed this dissertation without his help and guidance every step of the way.

Full disclosure: Liberty University was not my first choice when looking for doctoral programs. I did not get accepted to any of my original schools, and at first, I was content to accept that maybe I was not meant to earn my doctoral degree. I give a special thanks to my parents for not allowing me to give up on my pursuit. Thank you, Dad, for encouraging me to look at Liberty University one last time, even though I knew they did not have any programs related to my chosen field. Thank you, Liberty University, for creating the brand-new PhD in Communication program at the perfect time. Thank you, Mom, for wiping away my tears,

helping me through my quarterly meltdowns each semester, and encouraging me every time I felt I could no longer continue. Thank you to my parents for allowing me to live at home and providing me with care during my most stressful times. I could not have completed this without your help.

I was the first (and, to this day, only) person in my immediate family to earn a college degree. With that being said, this was all a new experience to me and overwhelming at times. I give special thanks to the staff at Liberty University, especially my dissertation chair, Dr. Romo, and my committee member, Dr. Previte, for helping me navigate the program. I also give special thanks to Dr. Mott, Dr. Hepburn, and Dr. Leinen. Your feedback, advice, help, and guidance were instrumental to my success, and I cannot thank you enough. Lastly, a huge shout out and thank you to my classmates and the members of the Liberty University PhD in Communication Facebook group for answering all my many questions, providing feedback, and helpful instruction. We may all be separated by distance, but that did not stop you all from becoming my friends.

My grandparents left me several years before pursuing my PhD, but I have always felt their presence in my life and throughout this PhD journey every step of the way. To my beloved Granny, you always told me if anyone in our family was going to make it, it would be me. I hope I have made you proud. To my Grandmom Brown, yes, you can tell everyone I'm a doctor now. To my beloved Grandpop, thank you for giving me your kind heart and storytelling skills. I see more of you in me each day, and that is the greatest gift and blessing of all. Last but not least, to Grandpop Brown – thank you for raising my mother to be the strong, stubborn, and tough person she is today so that I could grow up and become the same way. As you would say, “Job well done, Mom!”

Since enrolling in this PhD program, my church family has shown me immense love and support. Each week I am asked, “Are you a doctor yet?” I can finally say – yes! To my church family, thank you for your love, support, and prayers. To Pastor Lex, thank you for delivering exceptional sermons and helping me to better understand scripture and grow in my faith.

As I wrote these pages of acknowledgments, I realized how blessed I am to have such a loving, caring, and encouraging pool of friends and family members. Completing my PhD has shown me who my real friends are and who I can depend on, and I’m pleasantly surprised to see that there are so many wonderful people! I apologize for those that I may have forgotten or left out. I hope and pray that I can touch and inspire others to pursue similar journeys if that is God’s will for them. Stay humble, stay grounded in God’s word, and know and trust in the plans He has for you.

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List of Abbreviations

Additional Support Needs (ASN)

American Sign Language (ASL)

AOL Instant Messenger (AIM)

Computer-Mediated-Communication (CMC)

Decibels (dB)

Direct Messages (DMs)

Face-to-Face (FtF)

Groupe Speciale Mobile (GSM)

Institute of Education Sciences (IES)

Institutional Review Board (IRB)

Interactive Communication Process (ICP)

National Center for Biotechnology Information (NCBI)

Office of Special Education Programs (OESP)

People with Disabilities (PWDs)

Second National Longitudinal Transition Study (NLTS2)

Social Identification/De-individuation (SIDE)

Social Information Processing Theory (SIPT)

Social Networking Sites (SNSs)

Social Web for the Deaf (SocWeb4D)

Teletypewriter (TTY)

Chapter 1: Introduction

Overview

The following research study focused on deaf and hard of hearing individuals and how they used Instagram to connect with and develop stronger relationships with the hearing world.

Background

Historical Context

Communication has always been a challenge for deaf and hard of hearing individuals, especially when communicating with the rest of the hearing world (Ngugi et al., 2018). Before the development of modern technology, people lived in a world that had no choice but to embrace oralism (Ong, 2012). Conversations, news, and information were shared vocally through Face-to-Face (FtF) conversations (Ong, 2012). This was fine for the hearing population, but those who had hearing loss were left behind and altogether forgotten. This is the origin of how deaf and hard of hearing individuals became separated from the rest of the hearing world.

In 1876, Alexander Graham Bell worked towards bridging the gap in communication between the deaf and hard of hearing by inventing the telephone (Maiorana-Basas & Pagliaro, 2014). However, Bell forgot that using the telephone would require one major thing that deaf and hard of hearing individuals simply could not do; it would require them to hear. While Bell may have intended to invent the telephone to help deaf and hard of hearing individuals to communicate, in the end, he only further helped hearing individuals to communicate with one another while at the same time causing an even deeper divide between deaf and hard of hearing individuals and the outside hearing world (Maiorana-Basas & Pagliaro, 2014). It would not be

until the mid-1960s that telephones would become accessible to deaf and hard of hearing individuals thanks to the invention of the teletypewriter (TTY) (Roos & Wengelin, 2015).

The TTY is not used often today, especially not by younger demographics (Maiorana-Basas & Pagliaro, 2014). However, at the time, the TTY was revolutionary for helping deaf and hard of hearing individuals to communicate with the hearing world and gain their freedom and independence (Maiorana-Basas & Pagliaro, 2014). One could even argue that the TTY was the original form of computer-mediated communication (CMC) for the deaf and hard of hearing. While the TTY is considered outdated technology today, many deaf and hard of hearing individuals have upgraded to using text messaging, social media, and the Internet at large for much of the same purposes: to connect and communicate with the hearing world and develop and maintain deeper relationships with them.

Previous research suggests that CMC may help supplement FtF interactions for deaf and hard of hearing individuals (Bishop et al., 2000). It is beneficial because it does not depend on the communicator's or the communication partner's ability, or lack thereof, to hear (Bishop et al., 2000). In the past, one of the challenges with CMC was that it had limited options available to help communicators evoke emotion or express their feelings in non-verbal ways (Bishop et al., 2000). However, technology has since advanced, and with the development of social media, users can now engage with each other through a combination of text, images, and videos. Society is closer than ever before to being able to mimic FtF conversations through the use of CMC.

More recent research has shown that these developments in technology have been highly beneficial for deaf and hard of hearing users (Bannon et al., 2015; Choudhury et al., 2017; Crowson et al., 2017; Kožuh et al., 2016; Shpigelman & Gill, 2014). Deaf and hard of hearing individuals reported using social media to stay connected with friends and family (Blom et al.,

2014; Terlektsi et al., 2020; Wong et al., 2016), to receive support for their hearing loss (Choudhury et al., 2017; Crowson et al., 2017; Kožuh & Debevc, 2019; Stamou et al., 2014), and to gain knowledge (Azahari et al., 2021; Guimarães & Fenandes, 2018; Huang & Su, 2018; Kholis et al., 2019). However, most previous research studies have focused solely on Facebook (Ammari & Schoenebeck, 2015; Kožuh & Debevc, 2019; Kožuh et al., 2016; Ngugi et al., 2018; Shpigelman & Gill, 2014; Stamou et al., 2014). With the growing popularity of Instagram, coupled with research that shows it is high in media richness and therefore a highly beneficial communication tool for all users (Deering & Pugliese, 2020), further research was needed to understand how this platform may be beneficial specifically for deaf and hard of hearing users.

The following research study explored how deaf and hard of hearing individuals use Instagram to develop relationships with the outside hearing world. This chapter introduces the communication challenges that deaf and hard of hearing individuals have faced, especially as it relates to their desire to communicate with the dominant hearing world. It includes an overview of the study by presenting relevant background information, the situation to the researcher, the statement of the problem, its significance, and the overall purpose of the research. Research questions were posed, and a definition of key terms, as well as assumptions, are included.

Social Context

As mentioned in the historical context section, communication has always been a challenge for deaf and hard of hearing individuals (Ngugi et al., 2018). These communication barriers often prevent deaf and hard of hearing individuals from being able to participate as active members of society. This has caused many deaf and hard of hearing individuals to look for ways to adapt to society and to get by despite their inability to hear and effectively communicate. For some, this has meant learning sign language and becoming immersed in Deaf culture by

joining the Deaf community (Azahari et al., 2021; Kholis et al., 2019). However, the problem with the Deaf community is that it exists outside of the hearing world and may cause a further divide between the deaf and hard of hearing individuals and the dominant hearing society (Azahari et al., 2021; Kholis et al., 2019).

Deaf and hard of hearing individuals that wish to be united with the dominant hearing world must find other ways to adapt to the hearing world and overcome the communication barriers that exist with traditional FtF communication. Modern technology has played a large role in helping deaf and hard of hearing individuals to achieve this goal. Tools like text messaging and social media have paved the way for deaf and hard of hearing individuals by allowing them to communicate with the hearing world for informational, recreational, and relational purposes (Azahari et al., 2021; Maiorana-Basas & Pagliaro, 2014). Deaf and hard of hearing individuals can choose whether they want to disclose their hearing loss status or try to “pass” as hearing (Shpigelman & Gill, 2014).

Text messaging is, of course, text-based. Similarly, many social networking sites (SNSs) are also text-based, although some, including YouTube and Instagram, rely more on visual communication in the form of videos or images (Guimarães & Fenandes, 2018; Huang & Su, 2018). While the more visual platforms can sometimes create accessibility barriers for deaf and hard of hearing individuals due to a lack of captioning (Dobrinsky & Hargittai, 2016), they can also open more doors and help them to become advocates for their hearing loss. Some deaf and hard of hearing individuals use sign language on these platforms or even utilize the platforms to teach others about sign language or the need for better accessibility and rights for deaf and hard of hearing individuals (Guimarães & Fenandes, 2018).

This research study focused on how modern technology was used by deaf and hard of hearing individuals to nurture or hinder their relationships with the hearing world. More specifically, this research study focused on how Instagram was used by deaf and hard of hearing individuals. It used ethnographic interviews and document analysis to examine a range of deaf and hard of hearing users' Instagram activity, including creation of and engagement with content, accounts, and followers. By examining these social contexts, the following research study aimed to explore how Instagram either helped or hindered deaf and hard of hearing individuals' abilities to become active members of society in an audio-driven, pre-dominantly hearing world.

Theoretical

The following research study was largely influenced by the sociopsychological tradition. This tradition suggests that communication influences an individual's thoughts and their ability to process messages (Craig, 1999). Several communication theories fall under the sociopsychological tradition. The following research study focused on uses and gratifications theory, social information processing theory (SIPT), and media dependency theory. When combined, these theories explain the motives behind why deaf and hard of hearing individuals turn to social media platforms, including Instagram, to communicate and how these platforms impact their abilities to exist in a predominantly hearing world.

Uses and gratifications theory suggests that individuals use media to help them to accomplish a specific goal (Katz et al., 1973-1974). In the case of deaf and hard of hearing individuals, the goal is often to improve communication with others, especially those that are hearing. In the context of this research study, Instagram specifically was assumed to be used as a tool to help deaf and hard of hearing individuals to strengthen their interpersonal relationships with hearing individuals and to exist in the hearing world. Similarly, SIPT can be applied to

explain how these relationships are strengthened over time (Pang et al., 2016). Individuals often engage in CMC with specific individuals over a long period of time in hopes of gaining a reward (Walther, 1992). In this case, the reward was acceptance by the hearing world and the foundation of a strong interpersonal relationship with a hearing individual.

Lastly, media dependency theory explains how individuals become dependent on certain technologies over time (Ball-Rokeach & DeFleur, 1976). Media dependency theory explains how certain forms of media may impact or influence an individual's views, beliefs, and behaviors (Ball-Rokeach & DeFleur, 1976). Similar to uses and gratifications theory, individuals will once again utilize a specific media in hopes of accomplishing a goal (Jung, 2017). These goals can be broken down into three categories: understanding, orientation, and play (Jung, 2017).

The goal of understanding explains how media is used to help individuals to adapt to or become better acclimated to their surroundings (Jung, 2017). In the case of this study, it explained how deaf and hard of hearing individuals use Instagram to help them become better acclimated with the hearing world. Similarly, the goal of orientation explains how media is used to change an individual's behavior (Jung, 2017). This research study considered if or how Instagram was used by deaf or hard of hearing individuals to improve their communication capabilities with others, especially the hearing world. It considered how their communication preferences and behaviors may have been altered due to the introduction of Instagram into their lives. Lastly, the goal of play focuses on how media is used for entertainment and leisure (Jung, 2017). This research study examined how participants used Instagram, the accounts that they followed and the content they produced or engaged with, and the purpose and motivations behind it. At times, these purposes and motivations fell under the category of play.

Situation to Self

The researcher's motivation for conducting this research study stemmed from her personal experience as a deaf Instagram user. The researcher was born with progressive hearing loss that quickly became profound. While she wore hearing aids from ages 3-25, they alone were not powerful enough to allow her to hear and comprehend spoken language. The researcher attended a public school and was mainstreamed with other hearing students. Since, as a child, the researcher had no need to communicate with other deaf individuals, she was never taught sign language. This, however, meant that communication with the dominant hearing world was a challenge.

The researcher recalls many instances as a child where she was left out of conversations with her peers and even family members due to her inability to hear. Communication was frustrating, and some individuals felt it was easier to not communicate with the researcher at all. Some imperfect solutions for the researcher's communication challenges were written text and CMC. CMC opened a whole new world of possibilities for the researcher. She recalls spending hours chatting with friends through AOL Instant Messenger (AIM) and other messaging apps and SNSs. In the researcher's experience, these conversations were always easier, more personal, and more meaningful than FtF interactions.

Now, as an adult, the researcher understands that CMC could potentially hold the keys to successful communication between deaf or hard of hearing individuals and the dominant hearing world. Instagram is an especially interesting SNS to study since it is high in media richness (Lai Lee & Borah, 2020). Such richness means that deaf or hard of hearing individuals could even choose to communicate using sign language if they desired. Instagram is also the fastest-growing SNS (Lee & Borah, 2020, p. 57), especially popular with the 18-29 demographic. (Huang & Su,

2018; Lai Lee & Borah, 2020). Since this is an SNS many deaf or hard of hearing individuals are already using, further research needed to be conducted to understand how deaf or hard of hearing individuals could further take advantage of its features to facilitate stronger interpersonal relationships between themselves and the dominant hearing world.

Philosophical Assumptions

The researcher applied epistemological assumptions to her research. The epistemological assumption considers the relationship between the researcher and participants and questions how knowledge is gained or formed (Creswell & Poth, 2018). With epistemological assumptions, the researcher must spend time with participants to begin to see the world or the phenomena through their perspective (Creswell & Poth, 2018). This was especially crucial for this particular study as it helped the researcher separate herself from the study, limiting the chance of researcher bias. The researcher got to know participants by conducting one-hour-long interviews with each participant via Zoom. Each interview used open-ended questions to further facilitate responses from the participants and more thorough explanations of their experiences using Instagram to communicate with the hearing world.

Paradigm

The researcher also used a social constructivist research paradigm. This research paradigm went hand-in-hand with the epistemological assumptions. Like epistemology, social constructivism stresses that individuals construct their own meanings of the world or phenomenon based on their experiences with it (Creswell & Poth, 2018). Social constructivists believe that individuals' experiences with a specific phenomenon are largely dependent on their social environment and contexts. In the instance of this study, individuals' experiences using Instagram may differ based on their degree of hearing loss and whether they rely on Instagram as a tool to

bridge the gap in communication that exists between themselves and those who do not experience hearing loss.

Introduction to the Problem

Problem Statement

Relationships between deaf and hard of hearing individuals and the hearing world are often strained due to the communication barriers that exist with FtF communication (Ngugi et al., 2018). Social media may help remove the barriers in FtF communication between deaf or hard-of-hearing individuals and the hearing world (Terlektsi et al., 2020, p. 159). Previous research has shown that social networking sites (SNSs) positively impact deaf and hard-of-hearing individuals' abilities to communicate, connect, and engage with others (Kožuh et al., 2015; Oyewumi et al., 2015; Shpigelman & Gill, 2014). However, few studies have been conducted on how deaf and hard-of-hearing individuals use Instagram. The general problem to be addressed was deaf and hard of hearing individuals' struggle to communicate with the hearing world, resulting in a lack of independence, isolation, and strained relationships with the hearing world.

Purpose Statement

The purpose of this study was to better understand how deaf and hard of hearing individuals use Instagram to communicate with the hearing world. The researcher aimed to discover how deaf and hard of hearing individuals use Instagram to create and maintain relationships with the hearing world. Relationships were defined as strong connections between two individuals that were developed over time through the use of communication which may take place in person or through FtF conversations. The researcher sought to discover if Instagram could serve as a solution to communication challenges brought forth by FtF communication. This study drew from several theories, including Elihu Katz's uses and gratifications theory (Katz et

al., 1973-1974, pp. 510-511), Joseph B. Walther's SIPT (Walther, 1992), and Sandra Ball-Rokeach and Melvin DeFleur's media dependency theory (Ball-Rokeach & DeFleur, 1976). Uses and gratifications theory suggests that individuals choose which form of media to use or consume based on its ability to fulfill a specific need in their life (Katz et al., 1973-1974). In comparison, SIPT focuses on how computer-mediated communication (CMC) may be used to strengthen relationships between individuals over time (Walther, 1992). Finally, media dependency theory builds off uses and gratifications theory and suggests that individuals become dependent upon media to fulfill specific needs (Ball-Rokeach & DeFleur, 1976).

Significance of Study

Hearing loss has been on the rise, and the people being diagnosed have been getting increasingly younger (*Quick Statistics About Hearing*). According to a report produced by the National Institute on Deafness and Other Communication Disorders, approximately 37.5 million Americans over 18 were living with hearing loss in 2015. Higher degrees of hearing loss make it more difficult for deaf and hard of hearing individuals to speak verbally and interpret other people's speech (Azahari et al., 2021). While some individuals may opt to use sign language, this is still not a perfect solution. While sign language solves the issue of not being able to communicate verbally, it can create a new communication barrier between deaf or hard of hearing individuals and the hearing world since most hearing individuals do not know or are not fluent in sign language (Azahari et al., 2021, p. 302; Kholis et al., 2019).

Previous studies have shown that social media has an overall positive impact on communication for deaf and hard of hearing individuals (Oyewumi et al., 2015; Shpigelman & Gill, 2014). However, there was a lack of research on Instagram. This research was needed since Instagram is the fastest growing social networking site, especially among individuals between the ages of 18-30 (Lee & Borah, 2020). This research may help deaf or hard of hearing individuals understand how Instagram can be used as more than just a form of entertainment; it can be an essential communication tool that will allow them to communicate more effectively and develop stronger relationships with the hearing world.

Previous research has shown that CMC has many positive attributes regarding communication between deaf or hard of hearing individuals and the dominant world. It has been shown to strengthen relationships between family members, especially hearing parents and their

deaf children (Ramadhana & Yusanto, 2020). It also helps deaf and hard of hearing individuals feel more confident and independent, leading them to have a higher quality of life (Oyewumi et al., 2015; Shpigelman & Gill, 2014). For these reasons, this research study is highly beneficial for deaf and hard of hearing individuals and their families and loved ones.

The findings of this research study may help members of the hearing world to be more sensitive to the needs of deaf and hard of hearing individuals. Deaf and hard of hearing individuals often have different communication needs and preferences than their hearing counterparts, given their difficulty hearing spoken language. The results of this study may help hearing individuals understand alternative forms of communication and how they can better leverage tools they are already using, such as Instagram, to form stronger relationships with those that are deaf or hard of hearing. It may help them consider different ways of thinking about and utilizing Instagram for an overall greater purpose.

Lastly, the results of this research study may be beneficial for app and software developers. This includes but is not limited to those who work for Instagram. While Instagram has been a highly beneficial tool for connecting deaf and hard of hearing individuals to the dominant hearing world, it is not perfect. Previous studies have indicated that deaf and hard of hearing individuals do not always have the same level of accessibility to tools like Instagram as their hearing counterparts do (Azahari et al., 2021; Dobransky & Hargittai, 2016; Shpigelman & Gill, 2014). Too often, software and app developers, including those at Instagram, are unaware of the needs of people with disabilities (PWDs), including the deaf and hard of hearing. Since the world is predominantly a hearing world, many individuals do not consider these needs since they are not their own needs to consider. This study brings awareness to the communication challenges faced by those with hearing loss, how Instagram is helping these individuals

overcome those challenges, and what is still needed to make Instagram fully accessible for both deaf and hard of hearing individuals and their hearing counterparts alike.

Nature of the Study

This research study used a qualitative ethnographic approach. This study described how deaf and hard of hearing individuals use Instagram to communicate with the dominant hearing world. It explored if Instagram could be used as a supplement to FtF interactions. Furthermore, this research study considered how Instagram may enhance the personal relationships between deaf or hard of hearing individuals and their hearing counterparts.

Research Questions

Qualitative research questions are always open-ended and often begin with *what* or *how* (Creswell & Poth, 2018). Additionally, ethnographical research questions are largely influenced by previous research (Creswell & Creswell, 2018). They are designed to serve as guidelines for the research (Creswell & Creswell, 2018). This research study answered the following research questions:

RQ1: How are deaf and hard of hearing individuals using Instagram to communicate and build interpersonal relationships with members of the hearing world?

This research question was designed to better understand how deaf and hard of hearing individuals used Instagram as a communication tool to connect with hearing individuals. It was largely influenced by SIPT, which suggests that individuals use CMC to develop relationships with others (Walther, 1992), and media dependency theory, which suggests that individuals become dependent on various forms of media over time to help them to fulfill a specific goal (Ball-Rokeach & DeFleur, 1976). This was an essential question for the researcher to answer since so little was currently known about how deaf and hard of hearing individuals use SNSs to

develop interpersonal relationships, especially with the hearing world. While there have been many studies that focus on how deaf and hard of hearing individuals use SNSs, a majority of these studies were more focused on either a medical perspective or focused on how deaf and hard of hearing individuals communicate with one another, rather than the hearing world at large (Ammari & Schoenebeck, 2015; Choudhury et al., 2017; Crowson et al., 2017). It was also important that this research question focused specifically on deaf and hard of hearing individuals' use of Instagram since there was a lack of research on this specific SNS (Ammari & Schoenebeck, 2015; Kožuh & Debevc, 2019; Kožuh et al., 2016; Ngugi et al., 2018; Shpigelman & Gill, 2014; Stamou et al., 2014).

RQ 2: Does Instagram nurture or hinder deaf and hard of hearing individuals' interpersonal communication with the hearing world?

Research questions must remain both open-ended and unbiased. This research question did not assume that Instagram was beneficial for all deaf or hard of hearing individuals, especially as it related to their ability to connect with the dominant hearing world. Researchers must study and ask questions about technology and its uses to better understand its overall impact on society, both from a positive and a negative perspective. As McLuhan (2010) explained, technology constantly changes, and these changes help to redefine the human experience (McLuhan, 2010). He also emphasized society's need to consider the impact technology has on society, rather than rushing to accept it without understanding its potential risks or negative consequences (McLuhan, 2010). This research question helped the researcher understand Instagram's impact on communication between deaf or hard of hearing individuals and the dominant world. The researcher was also able to consider if Instagram helped deaf or

hard of hearing individuals build positive relationships with the hearing world in a way that could further advance society for the betterment of all.

Definitions

Deaf/deaf

The word “deaf” with a lowercase d refers to an individual with a minimum of 81 dB hearing loss. This is per the National Center for Biotechnology Information (NCBI) ’s guidelines (*Hereditary Hearing Loss and Deafness Overview*, 2017). In contrast, “Deaf” with a capital “D” refers to individuals that belong to the Deaf community and culture (Beckner & Helme, 2018).

Hard of Hearing

The phrase “Hard of Hearing” refers to individuals with a minimum hearing loss of 20 dB and a maximum hearing loss of 80 dB. This is under NCBI’s guidelines that state that normal hearing is anything from a 0-20 dB loss and that anything over an 80 dB loss is considered profound or deaf (Shearer et al., 2017, Table 1).

Social Media

This research study borrows from Trotter & Fuch’s (2015) definition of social media to refer to a website that allows users to create a profile and connect with other users and follow and share content (Trottier & Fuchs, 2015). It was used to refer to popular social media platforms, including but not limited to Facebook, Twitter, Snapchat, Instagram, WhatsApp, and LinkedIn (Trottier & Fuchs, 2015).

Social Network Site (SNS)

See definition for “Social Media.”

Instagram

The term “Instagram” refers to the social media app that allows users to engage with visual content, including photos and videos, by uploading and sharing them, following other users, and liking, commenting, or viewing their posts (*Help Center, 2021*).

Teletypewriter (TTY)

As Roos & Wengelin have explained, the teletypewriter (TTY) refers to a form of technology used by deaf and hard of hearing individuals to make telephone communication more accessible. The TTY consists of a screen and a keyboard that allows communicators to communicate back and forth using text-based messages. For it to work, both communicators need to have the TTY device.

Computer-Mediated Communication (CMC)

Spitzberg (2016) said that computer-mediated communication (CMC) is used to describe all conversations or interactions that take place over technology, including but not limited to text messaging, instant messaging, e-mail, and social media. In other words, it refers to any form of text communication where the sender utilizes a computer or computer-based network to send a message.

Face-to-face (FtF) Communication

This research study draws from Dohen et al.’s (2010) definition of Face-to-face (FtF) communication (Dohen et al., 2010). Dohen et al. (2010) defined FtF communication as communication that takes place in person where all communicators can physically see each other (Dohen et al., 2010). Their definition acknowledges that FtF interactions involve both verbal and nonverbal speech, including gestures (Dohen et al., 2010).

Assumptions

This research study had several assumptions. The central assumption was that all participants answered all questions as truthfully as possible. They truly had hearing loss and were avid users of Instagram. They possessed a desire to connect with the hearing world through Instagram. They were also honest about their age being in the 18-45 range.

Another assumption was that since the researcher is deaf, she had more access to the deaf and hard of hearing community. As a deaf individual, the researcher understood the needs, challenges, and concerns of the deaf and hard of hearing communities. It was assumed that the researcher would have already gained the trust of this population to be researched and would therefore have more access to those belonging to the community than the general hearing population would. The researcher knew many individuals who were deaf or hard of hearing or work for deaf or hard of hearing organizations, including Jefferson University Hospital's Balance and Hearing Center, Advanced Bionics, The Hearing Loss Association of America, Aid the Silent, and Miracle-Ear. She has connected with these organizations many times over the years as both a patient, an advocate, and now a researcher.

Summary

A qualitative ethnographic research study was conducted to describe how deaf and hard of hearing users were using Instagram and to explore whether this platform effectively builds relationships between deaf or hard of hearing individuals and the outside hearing world. This study included the use of interviews with questions about users' use of Instagram, their perceived experiences using Instagram, and how they used the platform to generate and maintain relationships with the outside hearing world. Current literature has shown that social media can be highly beneficial for deaf or hard of hearing individuals (Bannon et al., 2015; Choudhury et

al., 2017; Crowson et al., 2017; Kožuh et al., 2016; Shpigelman & Gill, 2014) because it helps them to gain their independence (Maiorana-Basas & Pagliaro, 2014), make new friends (Blom et al., 2014; Terlektsi et al., 2020; Wong et al., 2016), stay connected, and gain an understanding of what is going on in the world (Azahari et al., 2021; Guimarães & Fenandes, 2018; Huang & Su, 2018; Kholis et al., 2019). However, a majority of the previous research studies have focused on platforms that did not include Instagram (Bannon et al., 2015; Choudhury et al., 2017; Crowson et al., 2017; Kožuh et al., 2016; Shpigelman & Gill, 2014) or included individuals with a wide range of disabilities, not limited specifically to deaf and hard of hearing individuals (Ammari & Schoenebeck, 2015; Bannon et al., 2015; Dobransky & Hargittai, 2016; Shpigelman & Gill, 2014; Sweet et al., 2019). The following research study fulfilled the gap that existed in the previous research and focused exclusively on deaf and hard of hearing individuals between the ages of 18-45 who used Instagram regularly.

Chapter 2: Literature Review

Overview

Throughout society, deaf and hard of hearing individuals have always struggled to communicate. With communication's origins dating back to the time of oral societies, it is no wonder why deaf and hard of hearing individuals were often left out of conversations, especially with their hearing counterparts. Deaf and hard of hearing individuals have been forced to adapt to the dominant hearing world. Some of their coping strategies included the development of sign language, which, even to this day, still faces much scrutiny, and more recently, the heavy use of CMC, including e-mail, text messaging, and social media. The following literature review offers an in-depth view of the history of communication for deaf and hard of hearing individuals and their preferred methods of technology, including the use of SNSs and why Instagram, in particular, is beneficial for deaf and hard of hearing individuals and why further research on this platform as it pertains to deaf and hard of hearing individuals was needed.

Situation to Communication Tradition

This research study was largely inspired and influenced by the sociopsychological tradition. As stated by Craig (1999), the sociopsychological tradition pulls from psychology to explain how communication impacts an individual's thoughts and their ability to process and interpret messages. The sociopsychological tradition in communication borrows many principles from psychology. This tradition is broken up into three components: the behavioral, the cognitive, and the biological. The main focus of the sociopsychological tradition is the impact communication has on the human mind and how an individual's thoughts impact their ability to process and interpret messages. Ochieng (2014) emphasized that the sociopsychological tradition can be broken into two categories: 1. Sociological and 2. Psychological (Ochieng, 2014). From a

sociological perspective, communication is viewed as being more symbolic (Ochieng, 2014). In contrast, the psychological perspective focuses more on the individual's point of view of the social interaction (Ochieng, 2014). The sociopsychological tradition examines how people behave in communication settings, how they process received information, and how their genes or biological makeup may impact their actions or behavior due to specific communication settings (Craig, 1999). It also considers the psychological impact communication has on individuals regarding persuasion, behavior, and attitude change (Craig, 1999).

One of the primary benefits of the sociopsychological tradition is its ability to solve communication problems resulting from the behavior between two or more communicators (Craig, 1999). This tradition has received support from society since it is viewed as a practical way to determine the causes and effects of behavior on communication (Craig, 1999). People readily believe that their personalities, beliefs, judgments, biases, and actions in social interactions impact everyday communication. When communication takes place within a group, these elements can significantly impact group communication. Therefore, the sociopsychological tradition is viewed as being a simple and easy to grasp communication tradition that many individuals can relate to and agree with (Craig, 1999).

Kožuh et al. (2016) said that the sociopsychological tradition could be used to examine online communities. They explained that the sociopsychological tradition was especially beneficial for examining online communities that deaf and hard-of-hearing individuals belong to since it allows researchers to examine how connected members are and the impact the community has on individuals' sense of well-being. It considers both the sense of community and the support received within the online community. In this case, community refers to the sense of

belonging members of the community feel, while social support refers to the community's overall structure and functionality.

However, as Craig (1999) shows, the sociopsychological tradition is not without flaws. Some individuals are uncomfortable with how the psychological tradition can be convicting in its ability to identify weaknesses in human behavior. The sociopsychological tradition makes society aware of the flaws within their communication behaviors and encourages individuals to change their behaviors to achieve more favorable outcomes. This involves a reevaluation of morals for the communicators that can at times become uncomfortable.

Theoretical Framework

As previously mentioned, this research study was grounded in the sociopsychological communication tradition. Several communication theories fall under the umbrella of the sociopsychological tradition. The following research study focused exclusively on uses and gratifications theory, social information processing theory, and media dependency theory. Each theory is described in further detail below.

Uses and Gratifications Theory

Elihu Katz and his colleagues are credited for founding and popularizing uses and gratifications theory in the late 1950s leading up to the 1970s (Katz et al., 1973-1974). The main focus of uses and gratifications theory is how individuals use specific forms of media to achieve a specific goal or to serve a specific purpose. Uses and gratifications theory assumes that individuals have a wide array of choices to make when selecting a form of media to utilize. While these varying forms of media will constantly compete for their attention, individuals will choose the media that is most likely to meet their needs. Individuals will choose the media that best meets their needs based on environmental and social factors. What meets the needs of one individual may be completely different from those of another individual. Therefore, certain forms of media work best with certain audience types or groups. Media is used to bring gratification to a select audience based on their needs. There are many different forms of gratification, including entertainment, information, personal identity, and integration of social interaction (Katz et al., 1973-1974).

The following research study pulled from uses and gratifications theory to help the researcher understand how individuals used media for a specific purpose to achieve a specific

goal. In the case of this research study, the researcher considered why participants used Instagram over other social networking sites. This research study specifically focused on whether the participants used Instagram to receive gratification in the form of social interaction. This aligns with the study's research questions and focus on whether deaf and hard of hearing individuals use Instagram to strengthen or build interpersonal relationships with the hearing world.

Uses and gratifications theory has been experiencing a revival as more and more communication scholars are leaning on this theory to gain a deeper understanding of how modern technology is being used by society to gratify their needs (Ruggiero, 2000). One of its strengths is its ability to help researchers understand that an audience's perception of media or how an audience uses a form of media may not always align with its intended use or purpose (Ruggiero, 2000). Through the use of open-ended interviews, the researcher was able to gain a deeper understanding of how the research participants used Instagram. The researcher was able to collect the participants' personal thoughts and feelings about the platform and learn how the platform met, or failed to meet, their varying needs.

It is also known as being one of the best theories for helping scholars understand society's needs and how media tools and technologies help society fulfill those needs (Ruggiero, 2000). Uses and gratifications theory has become crucial in today's modern age to explain the impact of new technologies, including social media and smartphones, on society (Ruggiero, 2000). In addition to conducting open-ended interviews, the researcher also collected the research participants' Instagram data in the form of private messages, public comments, and newsfeed posts. This allowed the researcher to see first-hand how the research participants used the platform.

When it comes to communication, social media has provided deaf and hard-of-hearing individuals with many benefits. Uses and gratifications theory can be applied to explain how social media is used to fulfill specific communication needs for deaf and hard-of-hearing individuals that provide them with many rewards or gratifications. Abeele et al. (2012) said that the uses and gratifications of PWDs using the internet are often connected to their needs based on both their disability and the environmental implications that exist because of their disability. Oyewumi (2015) found in their research that social media has an overall positive impact on deaf and hard-of-hearing adolescents' mental health and well-being. Many deaf and hard-of-hearing adolescents use social media because it helps them to overcome feelings of loneliness and isolation and boost their sense of confidence (Oyewumi et al., 2015; Shpigelman & Gill, 2014). Similarly, Abeele et al. (2012) found that PWDs tend to use the internet for email communication, searching for information, school or work-related tasks, and receiving information and news (Abeele et al., 2012). These benefits can be viewed as gratifications that motivate adolescents to continue using social networking platforms.

As Ruggiero (2000) demonstrates, some of the biggest weaknesses that come with uses and gratifications theory include its use of self-reports, resulting in possibly inaccurate or flawed data, its vague description of audience needs, and how those needs relate to their media consumption, its failure to examine how media may not meet the needs of a selected audience), and its heavy reliance on the audience and seemingly lack of focus on media. Additional concerns were raised over the years, with the 1970s focusing on the flaws in uses and gratifications theory's framework and major concepts, vague descriptions of explanatory tools, and discussion of audience insight or views on their media consumption. Many of these concerns were addressed by uses and gratifications theorists in the 1980s-1990s, including Sven Windahl,

who aimed to combine multiple approaches to uses and gratifications, including the focus on the communicator and audience in addition to the media content (Levy & Windahl, 1984). James Webster and Jacob J. Washlag also included the integration of media structures, media content preferences, and consumption in their work with uses and gratifications theory. They aimed to demonstrate how uses and gratifications theory could consider how each of these elements worked to bring satisfaction to the individual who chooses to consume a particular form of media (Webster & Washlag, 1983).

Social Information Processing Theory

Joseph B. Walther (1992) founded SIPT to explain how relationships are strengthened over time between communicators using computer-mediated communication (CMC). SIPT requires that individuals exchange a large volume of messages over time in order for the relationship to be strengthened (Pang et al., 2016). They also must be comfortable disclosing personal details about themselves to build trust and intimacy with their communication partner (Pang et al., 2016). Additionally, Walther (1992) suggested that individuals are motivated to communicate because they seek social rewards from others. They want people to like or appreciate them, and they want to make a good impression on others. While it may take longer for individuals to develop strong interpersonal relationships with others using CMC, over time, these conversations can mimic those of face-to-face (FtF) (Pang et al., 2016). CMC may be able to supplement FtF communications (Pang et al., 2016).

The following research study collected Instagram data from all participants in the form of private Instagram messages, public comments, and newsfeed posts. By collecting this data, the researcher was able to examine how the participants engaged with other users on Instagram. They were able to apply the principals of SIPT to understand if the participants used the platform

to develop stronger relationships with other users, or more specifically, the hearing world, over a long period of time. The researcher carefully read and analyzed each message, comment, or post, and was able to determine if more personal information was disclosed through the shared Instagram messages, comments, and content.

Walther (2015) notes that one of the most significant benefits of SIPT is its ability to demonstrate the effectiveness of using CMC to develop interpersonal relationships. Scholars criticized CMC in the past due to its lack of nonverbal cues. Many scholars believed that CMC would never measure up to FtF interactions because they did not think it could be as effective for developing strong relationships between individuals due to the lack of nonverbal cues. They believed that these nonverbal cues were essential for conveying emotion which was needed to develop stronger bonds between communicators. However, SIPT demonstrated that communicators would adjust to the lack of nonverbal cues by developing new communication strategies over time that would allow them to still convey emotion despite the lack of nonverbal cues. Additionally, as technology has evolved, it has become easier for communicators to show emotion through the use of images and videos in CMC (Walther, 2015).

Many deaf and hard-of-hearing individuals use social media as a tool to help them develop stronger interpersonal relationships among other deaf or hard-of-hearing individuals or the dominant hearing world. This is where social information processing theory can come into play. In their research, Blom et al. (2014) found that one of the primary uses of SNSs by deaf and hard-of-hearing individuals was to make new friends. Similarly, Terlektsi et al. (2020) reported that many deaf and hard-of-hearing individuals find it easier to make friends through CMC than FtF interactions alone.

Still, SIPT is not without its challenges. Walther (2015) pointed out flaws with one of the first assumptions that SIPT makes: that individuals communicate with one another (Walther, 2015). While this may seem like an obvious assumption, the issue arises because some individuals do not intend to carry out multiple conversations with another individual (Walther, 2015). SIPT works only when communicators engage in multiple conversations over time since it takes longer than FtF for individuals to disclose information, build trust, and get to know each other on a more personal level (Walther, 2015).

Another potential flaw with SIPT is the fact that some individuals may not be motivated to enter a CMC with the intention of developing strong interpersonal relationships with their communicators; instead, they may simply enter the CMC to accomplish another goal or task such as playing a game that allows for taunting, teasing, or other banter. Since the motivations here are not to develop interpersonal relationships, communicators may be more reserved in what information they disclose, which can, in turn, create a barrier that prevents individuals from getting to know each other on a personal level and forming a stronger bond. This goes hand-in-hand with the Social Identification/De-individuation (SIDE) model of CMC. This model suggests that in many CMC situations, communicators view each other as members of groups, not actual individual beings. As such, they prefer to remain anonymous and to exist within the virtual world in ways that separate them from everyday life in FtF interactions. This can create a barrier when it comes to generating personal relationships between communicators in the CMC environment. This is often viewed as the most significant challenge for SIPT since it suggests that CMC is not designed to generate interpersonal relationships between individuals (Walther, 2015).

Media Dependency Theory

Sandra Ball-Rokeach and Melvin DeFleur (1976) are most often credited for founding media dependency theory. This theory builds upon uses and gratifications theory to explain how an individual's use or consumption of media impacts their views, beliefs, and behaviors. It views media as being a part of a larger information system and suggests that information systems, including those that are political, economic, educational, or religious, depend upon media for information (Ball Rokeach & DeFleur, 1976). Similar to uses and gratifications theory, this theory suggests that individuals depend on the media for information they require to fulfill a specific goal or need. These goals may be further categorized as a form of understanding, orientation, or play. The goal of understanding helps individuals become either more self-aware or become more acclimated with their surroundings. Orientation goals are used to change an individual's behavior. Lastly, goals that center around the category of play are used for entertainment or leisure purposes. The more a media source fulfills an individual's need, the more likely they will depend upon it. Individuals are also more likely to depend on media sources or even develop new dependencies during times of social distress (Ball-Rokeach & DeFleur, 1976).

The following research study predicted that research participants would depend on Instagram as a tool used to effectively communicate with the hearing world. This research study focused exclusively on media dependency theory in light of how deaf and hard of hearing Instagram users would use the platform to fulfill the goal of understanding. It predicted that the research participants would depend on Instagram to overcome communication barriers that exist with FtF interactions with the hearing world. By communicating on Instagram, this study

predicted that deaf and hard of hearing individuals would become better acclimated to the hearing world.

When media dependency theory was first developed in the 1970s, it addressed a significant gap in present media and communication theories (Jung, 2017). Before developing media dependency theory, most theories focused either on media or the individual, but not on how the two elements could work together or impact one another. Media and individuals were seen as either good or bad. Ball-Rokeach and her colleagues developed media dependency theory to better understand the relationship between media and the individuals that consume or come to depend on it. This theory has successfully demonstrated the benefits of media in helping individuals share and receive information and fulfill their personal goals (Jung, 2017).

The internet and social media have become essential tools for connecting deaf and hard-of-hearing individuals to other people and helping them to become more independent. Referring to the media dependency communication theory, Abeele et al. (2012) noted that many deaf and hard-of-hearing individuals are now dependent on certain forms of media such as the internet and social media. Maiorana-Basas & Pagliaro (2014) found in their research that deaf and hard-of-hearing individuals use tools such as email, instant messenger, and text messaging to achieve a greater sense of independence and to reduce isolation. The internet, in general, also provides deaf and hard-of-hearing individuals with more opportunities that help them achieve a greater sense of equality among their hearing peers. Abeele et al. (2012) noted that deaf individuals specifically depend on media tools to help them connect with other individuals from the comfort and convenience of their homes. These tools help them navigate the world and accomplish daily tasks. However, this is true of most individuals, not specifically PWDs (Abeele et al, 2012).

As Jung (2017) explains, the media and technology have constantly changed, media dependency theory has been a source of much critique and scrutiny. The initial goal of media dependency theory was to examine the impact of mass media on communication. However, this goal was developed when there were limited television channels and little to no other forms of digital media, including the Internet. Individuals no longer depend on just one media source for information needed to fulfill a goal; they often depend on various media sources depending on their specific goals or motivations. Media dependency theory alone may not be enough to determine the impact these new forms of media have on communication within society. This has led to the development of a new theory, communication infrastructure theory, founded by Sandra Ball-Rokeach, Yong-Chan Kim, and Sorin Matei (Ball-Rokeach et al., 2001). While communication infrastructure theory still considers the dependencies individuals develop on specific media channels, it also focuses more on the relationships and networks they build with others who consume the same forms of media (Jung, 2017).

In addition to pulling from the sociopsychological communication tradition, the following research study also drew from elements of Shannon & Weaver's (1964) model of communication, Carey's (2009) cultural approach to communication, and Manchón & Rodero's (2018) Interactive Communication Process (ICP). The following section explains each of these models of communication in more detail.

Shannon & Weaver's Model of Communication

One of the earliest models of communication was Shannon & Weaver's (1964) model, also known as the Mathematical Theory of Communication. This model begins with the information source, which acts as the sender. Shannon & Weaver explained that the information source could be either written, audio, images, or other mediums. The information source then

goes through a transmitter which acts as the encoder. During this process, the transmitter converts the message to a signal with the ultimate goal of having the message delivered to a receiver. However, this is where things can get complicated. There are often sources of noise, which Shannon & Weaver (1949) described as anything that can cause the message to be intercepted or distorted, such as background noise, static, or other transmission errors (Shannon & Weaver, 1949). When the signal successfully reaches the receiver, they will act as a decoder and, if successful, convert the signal back into a message. Here, the message will finally reach its final destination. The receiver will then have the option to respond to the message and repeat the communication process over again ((Shannon & Weaver, 1949).

This research study pulled from Shannon & Weaver's (1949) model of communication. In this case, Instagram acted as the information source. This research study examined how Instagram comments and messages worked as information sources. Users sent the comment or the message to another user. This was the transmission process. There are many ways in which noise could prevent the message from successfully being delivered and interpreted, including weak cellphone signals, Instagram errors including outages or server maintenance, or even typos that could distort the contents of the message. Once the message or comment was viewed by the receiver, it successfully reached its destination, and the receiver had the option of responding and starting the communication process over again.

James Carey's Cultural Approach to Communication

In 1975, James Carey published "A Cultural Approach to Communication," which built off many of the principles introduced in Shannon & Weaver's model of communication (Carey, 2009). Carey (2009) first introduced the mainstream model of communication, which views communication as an act of transmission. In this model, communication takes place through the

transmission of messages over distances for the purpose of sending information to others. Communicators were often looking for ways to improve communication so that messages could be transmitted more rapidly. They developed technologies such as the telegraph, or in more modern times, the cellphone, to allow them to deliver their messages more quickly. Under the lens of the transmission model, communication is most effective when it occurs at a quicker pace (Carey, 2009).

Another model that Carey (2009) introduced was the ritual model. While the ritual model was the second model that Carey brought up in his essay, he described it as being much older or “archaic” compared to the transmission model. Under the ritual model of communication, speed is not as important to communication as it is under the transmission model. Some of the main characteristics of the ritual model include the act of communicating for the purpose of fellowship. Communication is more than a mere exchange of messages for the purpose of sending and receiving information; it is a communal act that brings people together based on shared interests (Carey, 2009).

The following research study applied both Carey’s transmission and ritual models to consider how deaf and hard of hearing individuals used Instagram to develop interpersonal relationships with the hearing world. Instagram is a mobile app that individuals can only access on their cell phones (Meta, 2022). It was assumed that Instagram users, or more specifically, the participants, all possessed their own cellphones, which they often carried in their hands, pockets, or bags, allowing them to constantly stay connected to those they chose to communicate with on Instagram. Messages can be sent in a matter of seconds through Instagram. On the other hand, the research study also applied elements of Carey’s (2009) ritual model in that individuals could choose who to follow and engage with based on shared interests. The research study explored

how deaf and hard of hearing individuals used Instagram to develop interpersonal relationships with the hearing world. It went beyond understanding how Instagram was used for the mere exchange of messages for the purpose of sharing information.

Manchón & Rodero's Interactive Communication Process (ICP)

Shannon and Weaver's (1964) mathematical theory of communication and Carey's (2009) transmission and ritual methods of communications have helped to pave the way for more modern communication models, including Manchón & Rodero's Interactive Communication Process (ICP) (Carey, 2009; Manchón & Rodero, 2018; Shannon & Weaver, 1964). In the ICP model of communication, communication is a two-way process (Manchón & Rodero, 2018). One communicator interacts with another communicator who could be either a human or a system. The message is transmitted through a channel which acts as a processor for the message. The processor is crucial to the ICP model of communication because it allows the interaction to take place. The receiver may choose to respond to the message immediately or at a later time. One of the most important parts of the ICP model of communication is that as an interactive model, it requires that the communicators are both willing to participate in the conversation and exchange information (Manchón & Rodero, 2018).

This research study used the Interactive Communication Process (ICP) model of communication. In the case of this research study, Instagram users interacted with other Instagram users. Instagram served as the channel where the two individuals interacted. It also provided users with a space that fostered communication between two individuals, which in the case of this research study was the deaf or hard of hearing individual and the hearing individual. This research study focused on how deaf or hard of hearing individuals used Instagram to communicate and develop interpersonal relationships with the hearing world. This included both

direct messages and comments left on Instagram posts that set the stage for larger, more personal conversations to come.

Documentation of Literature Search Strategy

Several strategies were used to identify relevant literature for this research study. First, searches were conducted using keywords and phrases including, “Deaf and Social Media,” “Deaf and Instagram,” “Deaf and Hard of Hearing Instagram Users,” “Social Information Processing Theory,” “Social Information Processing Theory and Deaf,” “Instagram,” “Deaf Communication,” “Deaf Communicate With Hearing,” “Challenges With Deaf People Using Sign Language,” and “Computer-Mediated Communication and Deaf.” These keywords were entered into both Google Scholar and Liberty University’s Jerry Falwell Library. After reading the literature reviews included in identified sources, additional sources were also identified. Only peer-reviewed sources were included in this literature search.

Related Literature

History of Communication for Deaf and Hard of Hearing Individuals

Communication has always been a challenge for deaf and hard of hearing individuals. Dating back to the beginning of time with oralism, deaf and hard of hearing individuals were left out of conversations due to their inability to hear verbal language (Ong, 2012). Many deaf and hard of hearing individuals attempted to solve this issue in the late 1750s-early 1800s with the development of a visual language, sign language (Stokoe, 2005; Supalla et al., 2020). However, they struggled to gain recognition of their new language as many hearing individuals failed to accept it as being on the same level as spoken languages (Reagan, 2011). Sign language was banned in many schools (Batterbury et al., 2007) and even today is not fully recognized as an authentic language everywhere (Reagan, 2011). Even in areas that do recognize it as a legitimate

language, many hearing individuals are not fluent in it and, therefore, still cannot speak to deaf or hard of hearing individuals that choose to make it their primary language (Azahari et al., 2021; Kholis et al., 2019).

Beginning in 1876 with the invention of Alexander Graham Bell's telephone, technology began to be developed to improve communication worldwide (Maiorana-Basas & Pagliaro, 2014). However, deaf and hard of hearing individuals were often literally left out of these conversations. The telephone was inaccessible to deaf and hard of hearing individuals since they could not hear on it. In the 1960s, things began to look up for deaf and hard of hearing individuals with the invention of the revolutionary Teletypewriter (TTY), which led to more modern inventions such as text messaging and social media (Maiorana-Basas & Pagliaro, 2014). While these advancements have been crucial for communication between deaf and hard of hearing individuals and the dominant hearing world, it is evident that deaf and hard of hearing individuals still do not have the same levels of accessibility or communication equality as their hearing peers do (Azahari et al., 2021; Bitman & John, 2019; Ngugi et al., 2018). The following section will provide an in-depth view of the history of communication for deaf and hard of hearing individuals and the impact of each communication method, from oralism to SNSs, on the deaf and hard of hearing population.

Oralism

Oralism is believed to be the oldest form of communication, dating back to Biblical times when God repetitively spoke to his people (Ong, 2012). The first instance of God speaking in the Bible was in Genesis 1:3 when He created light (*The King James Study Bible*, 1988/2017, Genesis 1:3). Prior to the invention of writing, oralism dominated communication worldwide. Ong (2012) believed that all individuals were born with the desire to speak verbally and to

understand spoken language. He believed that this was true even of deaf individuals, explaining that even those who opted to use sign language to communicate were doing so only because they needed a substitute for oral communication, which was already built into their consciousness. According to Ong (2012), “speech is inseparable from our consciousness” (Ong, 2012, p. 9).

Ong (2012) claimed that the biggest disadvantage of oral cultures for deaf and hard of hearing individuals was that they depended on the transmission of sound. He stressed that oralism worked to bring people together since they would often gather to hear one another speak (Ong, 2012). However, this was only true of hearing people. For deaf or hard of hearing individuals, oralism created a communication barrier that prevented them from participating in and communicating with many members of society.

Higgins (1979) stressed that we live in an audio-driven world that puts hearing individuals first. Hearing people are given an advantage by being provided with sounds for everything from conversations to alarms and entertainment. This, however, creates a divide between hearing and deaf or hard of hearing individuals. Deaf and hard of hearing individuals cannot participate in the same activities or in the same ways as their hearing counterparts due to their inability to hear. This has caused many deaf individuals to create their own community, the Deaf community. While this may seem like a solution for deaf individuals, it further divides the two groups. Additionally, it is not enough to simply be deaf to be a member of the Deaf community; individuals must also identify with the Deaf world, share the same experiences, and participate in the activities of the communities (Higgins, 1979).

Sign Language: A Language Made for the Deaf

While it is difficult to determine when exactly sign language was developed, Supalla et al. (2020) said that it is a relatively young language, having come into existence only around the

early 1800s. However, Stokoe (2005) said that sign language's origins may have dated back to as early as the 1750s when Abbe' de l'E'pe'e began teaching sign language to two deaf sisters. This led to l'E'pe'e soon opening one of the first schools for the deaf worldwide. His work was groundbreaking and led to others following in his footsteps, including Laurent Clerc and Thomas Gallaudet, who opened the first school for the deaf in America in 1817 (Stokoe, 2005).

Before the opening of l'E'pe'e's school for the deaf, most deaf students were taught to read and write using oralism (Stokoe, 2005). Many individuals dismissed sign language as not being an authentic language since it was not a verbal language (Reagan, 2011). Most of society believed that oral languages were the only authentic languages (Reagan, 2011). Even after creating deaf schools, many educators prohibited the use of sign language and instead promoted oralism and speech therapy (Batterbury et al., 2007).

Things began to change in 1880 when the International Congress of Educators of the Deaf passed a resolution that banned the use of manualist methods, or oralism, to teach deaf students (Goldin-Meadow & Brentari, 2015). However, as Kusters et al. (2020) make clear, spoken word was still prioritized as many individuals failed to separate sign language from gestures. Many individuals in the 19th century did not realize sign language had its own grammatical structure and could be used to express deep thoughts and emotions in much the same way oral languages can. It was not until the 1980s that people began to reconsider sign language as an official language (Kusters et al., 2020).

Visual communication in forms of writing and sign language offered hope and potential solutions to the communication challenges that deaf and hard of hearing individuals faced. Viroja (2019) said that sign language held many similarities to oral communication since they allow communicators to spontaneously engage with one another whenever they are gathered with

another individual that speaks the same language. They can also be easily acquired, even by children, without needing special instruction. However, Ong (2012) explained that in ancient times many individuals did not trust written or visual communication the same way that they did oralism. They believed that the eye could be more easily deceived than the ear (Ong, 2012). However, they failed to consider how this would be the opposite case for someone who has a hearing impairment but no impaired vision.

Even in modern society, sign language is not without its critics. In America, only about 40 out of 50 states recognize American Sign Language (ASL) as an official language (Reagan, 2011). Additionally, Georgia, Hawaii, Illinois, Kentucky, Louisiana, Michigan, South Carolina, Virginia, and Washington only view sign language as an official language when used in the context of education (Reagan, 2011). Sign language may also create a language barrier between deaf or hard of hearing individuals and the dominant hearing world (Sanders & Rodriguez, 2014). When sign language is used to communicate with hearing individuals who are not fluent in sign language, it may cause divergence in the communication (Sanders & Rodriguez, 2014).

Telephone

In 1876 Alexander Graham Bell invented the telephone to improve communication access for deaf and hard of hearing individuals (Maiorana-Basas & Pagliaro, 2014). However, he failed to recognize how his invention would rely on verbal communication and an individual's ability to hear, something deaf and hard of hearing individuals simply cannot do. Furthermore, Rutter (2013) explained that the telephone was a secluded form of communication in that it did not allow communicators to see each other. This was especially detrimental for deaf individuals who relied on sign language to communicate since it prevented them from being able to gesture to one another and to communicate visually (Rutter, 2013).

As previously mentioned, sign language borrowed many elements of oralism in that it required individuals to gather together as a community to engage in conversations (Viroja, 2019,). The telephone was different in that communicators were separated by distance, and telephone calls were viewed as being a more independent form of communication (Balbi, 2015,). Many hearing individuals loved that the telephone connected them to individuals across distances and did not require them to be present in the same place at the same time. The result was that his invention became widely used by the dominant hearing population and often replaced face-to-face (FtF) interactions and letter writing (Maiorana-Basas & Pagliaro, 2014). This further helped to cause a divide in communication between deaf and hard of hearing individuals. It helped the hearing world remain connected while once again leaving the deaf and hard of hearing population out of conversations (Maiorana-Basas & Pagliaro, 2014).

TTY

Several years after the invention of the telephone, a deaf scientist named Robert Weitbrecht developed a tool to help deaf and hard of hearing individuals communicate via telephone (Maiorana-Basas & Pagliaro, 2014). This invention, which was introduced in the 1960s, was known as the Teletypewriter (TTY) (Maiorana-Basas & Pagliaro, 2014). The TTY consisted of both a keyboard and a screen that allowed individuals to type messages to each other, which would be displayed across the screen in real-time (Roos & Wengelin, 2015). One of the primary benefits of the TTY was that it allowed deaf and hard of hearing individuals to speak with other individuals, whether hearing or deaf, across distances in real-time (Pilling & Barrett, 2007). It also made it so that deaf and hard of hearing individuals could communicate on the phone without needing help or assistance from another individual acting as their translator (Roos & Wengelin, 2015). This helped foster a greater sense of independence within deaf and hard of

hearing individuals (Pilling & Barrett, 2007). It also provided them with more privacy during their phone calls and the ability to stay in touch with existing friends and relatives and further develop new relationships (Roos & Wengelin, 2015). While the TTY was revolutionary at the time, it has since been replaced by modern technology, including text messaging, the internet, and social media (Maiorana-Basas & Pagliaro, 2014).

Text Messaging

In their examination of text messaging, Taylor & Vincent (2005) show that text messaging was derived from Groupe Speciale Mobile (GSM) in the 1980s. Initially, text messaging was never the main focus of mobile phones. The early design of text messaging was intended to be used by mobile carriers to communicate with users, such as to alert them of new voicemails. The surprising success of text messaging is often credited to the low rates and ease of use (Taylor & Vincent, 2005).

Text messaging is especially popular with younger generations. Okuyama (2013) said that text messaging is the preferred method of communication between 13-17-year-olds in America (. It is especially popular among deaf adolescents and teens as it can help them overcome feelings of isolation (Okuyama, 2013). Bitman & John (2019) demonstrate that smartphones have features that make text messaging, among other forms of CMC, more accessible to people with disabilities (PWDs), including those with hearing loss. Furthermore, they claim that smartphones were praised by many in the deaf and hard of hearing community since they allowed them to effectively communicate with the hearing world. However, they also pointed out that the smartphone is not fully accessible to deaf and hard of hearing individuals since not all of its features are accessible to deaf and hard of hearing individuals. Deaf and hard of hearing individuals are still left out of some conversations or the ability to fully participate in

all aspects of society which can further the divide between deaf or hard of hearing individuals and the outside hearing world (Bitman & John, 2019).

Text messaging has become an essential way for deaf and hard of hearing individuals to stay connected with others, especially in the hearing world. However, not everyone in the hearing world understands that deaf and hard of hearing individuals may not be able to use audio functions of a smartphone, such as through sending and receiving phone calls or recorded videos and messages (Bitman & John, 2019). Deaf and hard of hearing individuals often still feel pressured to participate in verbal conversations, despite the textual capabilities of the modern smartphone (Bitman & John, 2019). This can further cause a divide between the deaf or hard of hearing individuals and the dominant hearing world.

Social Media

Following the success of mobile phones and text messaging, individuals began developing SNSs. The first SNSs emerged in the early 2000s (Wheen, 2011). In more recent times, SNSs have become so popular that many individuals choose to interact on them rather than through FtF interactions (Lutz Erbring, 2002). Social media has been incredibly beneficial for deaf and hard of hearing individuals who use it to connect with others, find and send information and news, and complete school and work-related tasks (Abeele et al., 2012). Azahari et al. (2021) suggested that social media may level the playing field between deaf or hard of hearing individuals and their hearing counterparts and offer a great sense of communication equality to deaf or hard of hearing individuals. Social media has been shown to have an overall positive impact on communication for deaf and hard of hearing individuals, which has helped them to become more confident and less lonely, and isolated (Oyewumi et al., 2015; Shpigelman & Gill, 2014).

Generating Online Communities for Deaf and Hard of Hearing on Social Media

One of the most significant uses for social media by deaf and hard of hearing individuals is to generate online communities. Support is one of the most important reasons deaf and hard of hearing individuals join online communities (Kožuh et al., 2016). Their family members and loved ones may also join online communities looking for help and support, especially if they are a parent of a deaf or hard of hearing child (Choudhury et al., 2017). Online communities offer a safe space for deaf and hard of hearing individuals to interact in their native sign language (Kožuh et al., 2014) with people they relate to the most (Sweet et al., 2019). The following section will take a closer look into the online communities that deaf and hard of hearing individuals and their families and loved ones frequently join and interact in.

Deaf and Hard of Hearing Individuals Gain Support in Online Communities

Kožuh et al. (2016) collected responses from 245 German deaf and hard of hearing individuals, 199 of which stated they belonged to SNSs. They found in their research that many deaf and hard of hearing individuals turned to Facebook to create or join online communities. Their research showed that most deaf and hard of hearing users join online communities on Facebook to exchange social support. This aligns with Kožuh et al.'s (2014) research that showed that deaf and hard of hearing individuals were motivated to use SNSs based on their Deaf identities and desire to communicate through text.

Using their proposed Social Web for the Deaf (SocWeb4D) model, Kožuh et al.'s (2014) predicted that identification with the Deaf community would have a positive impact on their desire to belong to online communities, that they would prefer to communicate in sign language, and that their reading comprehension skills on SNSs would have a negative impact on how they viewed their hearing loss. Participants in Kožuh et al.'s study were administered a survey that

asked them questions about their demographics, involvement with online Deaf communities, communication preferences, and stigma they felt based on their hearing loss. The results confirmed all of Kožuh et al.'s hypotheses and suggested that SNSs that are most accessible to deaf and hard of hearing users are those that allow them to send messages using videos since these SNSs will provide deaf and hard of hearing users with the tools they need to speak in their native sign language. The results of Kožuh et al.'s (2019) study contradict those of their study conducted in 2014 (Kožuh & Debevc, 2014). In this study, Kožuh & Debevc (2014) conducted a search strategy focused on German deaf and hard of hearing Facebook groups. The results of their study showed that more than 95% of all collected posts used text to communicate rather than videos containing sign language). This could be due to Facebook limiting some users' abilities to communicate through video, especially in the form of comments or responses as revealed in Kožuh et al.'s (2016) content analysis.

In their research, Choudhury et al. (2017) found that Facebook groups, blogs, and forums were used by hearing aid users and their family members looking for tips, advice, support, and answers to questions. Similarly, Kožuh et al. (2016) found that many deaf and hard of hearing individuals used online communities to ask questions or share information about assistive technologies or the challenges of hearing loss. In 2016, they analyzed 12 German Facebook groups and found that the goal with most of the groups was to provide support for deaf and hard of hearing individuals, both personally, educationally, and professionally. Sweet et al. (2019) conducted a systematic review of 573 articles on how persons with disabilities utilize social media. The articles included in their systematic review suggested that PWDs use SNSs to form communities with other individuals with the same or similar conditions that they can relate to. Here, users can support one another, advocate for their needs, and encourage one another.

However, it is worth noting that this study examined all PWDs, not just those that are deaf and hard of hearing.

Stamou et al. (2014) analyzed 13 disability-related Facebook groups and identified categories for medical, social, and affirmative conceptualizations. While their research showed that the way individuals view disability depends on the diagnosis, most of the groups and the content analyzed showed that individuals preferred to view their disability through the social model rather than the medical model. While online communities exist for PWDs and their family members and loved ones, the research showed that not every PWD or their family members belong to the same disability group or category; it depends largely on their view of disability. It is important to note that this research study included a multitude of disabilities, not just hearing loss. However, the researchers did mention that two of the groups focused explicitly on deafness (Stamou et al., 2014).

Deaf and Hard of Hearing Organizations Help Individuals Feel Included Online

Kožuh et al. (2016) explained that many online communities are typically built around a theme of inclusion and belongingness and social support. Choudhury et al. (2017) found that online communities were vital for those who wear hearing aids. Using a systematic survey, Choudhury et al. (2017) conducted searches on Facebook, Twitter, YouTube, and Google to discover online hearing aid user communities. In total, they identified 557 social media sources. Most Twitter accounts were owned by hearing aid-related organizations looking to market their products or generate sales (Choudhury et al., 2017). Similarly, Kožuh et al.'s (2016) content analysis focused on the content posted in 12 German Facebook groups. Their research showed that most groups were owned and operated by institutions, organizations, or associations rather than individuals (Kožuh et al., 2016).

Deaf and Hard of Hearing Individuals Build Communities for Awareness and Advocacy

The results of both of these studies are consistent with the results of Crowson et al.'s (2017) social media network analysis. In this study, they analyzed 49,208 tweets from the 100 most active Twitter accounts using the hearing loss-related hashtags. Of these accounts analyzed, 67% belonged to organizations. However, after analyzing the individual tweets, they found that many were more personalized and focused on advocacy and social justice themes rather than always advertising products (Crowson et al., 2017). This suggests that despite being dominated by organizations, Twitter is still a place for deaf and hard of hearing individuals to engage with one another to generate a solid online community.

Deaf and Hard of Hearing Build and Maintain Friendships Through Social Media

Deaf and hard of hearing individuals possess the same desire to make friends as their hearing peers do (Blom et al., 2014). However, it can be more difficult for them to make friends due to communication barriers. Terlektsi (2020) found that deaf and hard of hearing individuals face more challenges with making friends and often have more conflicts in their friendships than their hearing peers do. Some of these challenges included communication barriers and deaf and hard of hearing individuals not feeling comfortable disclosing their disability (Terlektsi et al., 2020). Blom et al. (2014) found that whether hearing, deaf, or hard of hearing, having a variety of friends both online or offline is crucial for the individual's well-being. Terlektsi et al. (2020)'s research found that many participants reported a desire to connect with and have friends in the hearing world. This supports Shpigelman & Gill's (2014) findings that most PWDs prefer to use Facebook to connect with friends that do not have disabilities. They valued having hearing friends and connecting with the hearing world since it helped them feel included. They believed

that these connections would be crucial for future attainments, especially regarding future employment (Terlektsi et al., 2020).

Social Media Helps Deaf and Hard of Hearing Individuals to Stay Connected With Friends

Blom et al. (2014) administered a questionnaire to 113 deaf and hard of hearing individuals and 109 hearing individuals living in the United States and the Netherlands). The questions focused on demographics, online activities, friendship quality, and personal well-being. Overall, the results showed that deaf and hard of hearing individuals were more likely than their hearing peers to use SNSs to stay in touch with their friends and maintain pre-existing friendships (Blom et al., 2014). Similarly, Wong et al. (2016) found in their research that most deaf and hard of hearing individuals reported using SNSs, namely Facebook, to stay connected with friends that they already knew outside of Facebook. Shpigelman & Gill (2014) also found that most PWDs reported using Facebook to connect with old friends that they may have lost touch with over the years.

Wong et al.'s (2016) study used an online questionnaire administered to 29 Australian deaf and hard of hearing individuals. The questions focused on how often the participants used SNSs or the internet as a whole. It also focused on how SNSs and Internet usage impacted the participants' relationships with friends and other connections and their overall social capital. The results of this study showed that deaf and hard of hearing individuals are more likely than their hearing peers to use the internet and that it has a positive impact on their relationships with others. However, the internet and SNSs should be viewed as a supplement to FtF interactions and not a replacement (Wong et al., 2016).

Blom et al. (2014) also found that deaf and hard of hearing individuals are more likely to use the internet to communicate, study, or play games with their in-person friends, rather than

seeing them face-to-face. This is believed to be due to communication challenges that the internet can help resolve. Whether deaf, hard of hearing, or hearing, they found that the more individuals used the internet to stay connected to their offline friends, the stronger the quality of the friendship was said to be (Blom et al., 2014.). Wong et al.'s (2016) study confirmed this theory, as their participants also reported feeling more closely connected to friends when they were able to interact with them on Facebook in addition to FtF interactions (Wong et al., 2016).

Social Media Helps Deaf and Hard of Hearing Individuals to Make New Friends

In their research, Blom et al. (2014) found that meeting new people or making new friends was a primary motivation behind why deaf and hard of hearing individuals chose to use SNSs. Terleksi et al. (2020) conducted qualitative semi-structured interviews with 30 deaf and hard of hearing individuals. The results of their study showed that most deaf and hard of hearing individuals reported no difficulty in making new friends. They reported that the school environment was helpful for them to make friends, although they expressed fear and doubt in their abilities to make new friends outside of school (Terleksi et al., 2020).

While Terleksi et al.'s (2020) research had a younger demographic of individuals who were mostly still in school, many of the results can be applied to the lives of adult deaf and hard of hearing individuals. For example, the results of their study showed that many deaf and hard of hearing individuals found it easier to make new friends on social media than in face-to-face (FtF) environments. Although many of the participants expressed anxiety about making friends outside of school, they believed social media could be used as a tool to help them make friends outside of school (Terleksi et al., 2020).

How Deaf and Hard of Hearing Individuals Use Technology

Technology is essential for deaf and hard of hearing individuals to connect with society (Maiorana-Basas & Pagliaro, 2014). However, for PWDs, especially the deaf and hard of hearing, technology can either be positive or negative, inclusive or exclusive (Pilling & Barrett, 2007). As technology continues to evolve, the technological preferences of deaf and hard of hearing individuals have also changed dramatically over the years (Maiorana-Basas & Pagliaro, 2014). Many deaf and hard of hearing individuals have shown a preference for e-mail and text messaging (Pilling & Barrett, 2007). They are also more likely to use the internet than their hearing peers (Wong et al., 2016). These modern forms of technology have been shown to replace older technologies that were once considered revolutionary for deaf and hard of hearing individuals' communication abilities, including the TTY (Maiorana-Basas & Pagliaro, 2014; Pilling & Barrett, 2007).

Deaf and Hard of Hearing Individuals Prefer E-mail and Texting

Using a questionnaire that was administered to 381 deaf and hard of hearing individuals in the United Kingdom, Pilling & Barrett (2007) sought to discover which forms of technology were most widely used and beneficial to deaf and hard of hearing individuals. The results of their study showed that text messaging and e-mail were the most preferred communicative technologies by deaf and hard of hearing individuals. Younger generations preferred texting since it was easy to use and could be used anywhere, at any time. In contrast, those over the age of 29 preferred e-mail since it was cheap and easier to use by most individuals than texting. The TTY, once a revolutionary form of communication for deaf and hard of hearing individuals, was rarely if ever used and only popular with those over the age of 70 due to its familiarity. It is important to note that one limitation with their study is that it did not include the use of SNSs.

This may be because the study was conducted in 2007 when social media was not as widely used as it is today. Additionally, smartphones were still relatively new and not as advanced, which may be why many individuals over the age of 29 reported difficulties with using text messaging (Pilling & Barrett, 2007).

Maiorana-Basas & Pagliaro's (2014) research confirmed many of Pilling & Barret's (2007) findings. For their study, they used snowball sampling to conduct a nationwide survey with 278 deaf and hard of hearing individuals to ask them about their technology preferences. The results of their study showed that both smartphones and personal computers are used regularly for e-mail, text messaging, and surfing the internet). In contrast, older forms of technology, including the TTY, are rarely used by deaf and hard of hearing individuals these days (Maiorana-Basas & Pagliaro, 2014).

Deaf and Hard of Hearing Individuals Use the Internet to Combat Loneliness

Bannon et al. (2015) found in their research that people with additional support needs (ASN) use the internet in much the same way as those without ASNs. In their research, Wong et al. (2016) found that deaf and hard of hearing individuals spend more time online than their hearing peers. This has been beneficial for them, as higher internet use positively correlates to stronger friendships (Wong et al., 2016). Ghiamatyoony et al. (2016) found in their research that most deaf and hard of hearing individuals use the internet for entertainment purposes and to connect with their friends. The internet was seldom used for educational purposes (Ghiamatyoony et al., 2016).

Bishop et al. (2000) found that the internet could help to reduce feelings of loneliness and isolation in deaf and hard of hearing individuals by improving communication and removing barriers from the communication between deaf or hard of hearing individuals and the hearing

world at large. Ghiamatyoon et al. (2016) 's study also showed that technology use might positively impact the loneliness experienced by deaf and hard of hearing individuals. In their research, a correlational cross-sectional study was conducted using a questionnaire administered to 85 hard of hearing students between the ages of 12-23 in Tehran city. While most students did not report using the internet or technology to combat loneliness in most cases, there was one exception; deaf and hard of hearing individuals were more likely to use technology to communicate with their hearing friends when they felt lonely. This suggests that personal relationships, such as those from friends, are crucial for combatting loneliness between deaf and hard of hearing individuals, and technology, including the internet, can help to facilitate communication and have an overall positive impact on the deaf or hard of hearing individuals' overall emotional health and well-being (Ghiamatyoon et al., 2016).

Computer-Mediated Communication As a Substitute for Face-to-Face Interactions

A study by Bishop et al. (2000) argues that computer-mediated communication (CMC) may help remove communication barriers between deaf and hard of hearing individuals. Deaf and hard of hearing individuals face many communication challenges since many of these individuals do not know how to lip-read or sign. They sent a questionnaire to 50 individuals aged 18-40, 25 of which identified as having some form of hearing loss. One limitation with this study was that only half of the participants had hearing loss. This study showed that most participants preferred to use CMC to communicate since it was easier for them than FtF communication. CMC was positively connected to reducing isolation and feelings of loneliness among deaf and hard of hearing individuals since it allowed them to connect with and communicate with a wide array of individuals without the fear of miscommunication (Bishop et al., 2000).

Advantages of Communicative Technology for Deaf and Hard of Hearing Individuals

Garberoglio et al. (2015) examined CMCs, and found that one of the biggest advantages of CMC is its ability to remove communication barriers for deaf and hard of hearing individuals. They predicted that this would lead to future positive attainments for deaf and hard of hearing individuals in their lives, education, careers, and overall well-being. Using a dataset from the U.S. Office of Special Education Programs (OESP) and the Institute of Education Sciences (IES)'s Second National Longitudinal Transition Study (NLTS2), they examined data collected from deaf and hard of hearing individuals. This data was first collected in 2001 when the individuals were between the ages of 13-16 and focused on how often the individuals used CMC in the form of e-mail and online chatrooms. The second wave of data was collected in 2009 and examined the individuals' attainments regarding living arrangements, independence, self-beliefs, education, and careers (Garberoglio et al., 2015).

Contrary to the researchers' beliefs, the results of this study showed no connection between the use of CMC and attainments for deaf and hard of hearing individuals (Garberoglio et al., 2015). These results are inconsistent with previous research. However, many limitations exist within this study. For instance, this study focused on how adolescents used CMC, but it did not consider how it was later used by adults. Additionally, a lot had changed in the world of CMC between 2001-2009 when this data was collected. The researchers mentioned asking participants as adolescents about their communication activities through e-mail and chatrooms (Garberoglio et al., 2015). In 2001, SNSs were not yet widely used. This began to change in 2003 with the launch of MySpace, followed by the launch of Facebook in 2004 and several other SNSs including Reddit, Twitter, Instagram, Pinterest, Snapchat, and TikTok (*The Evolution of Social Media: How Did It Begin and Where Could It Go Next?*, 2020). The data used in this

study can now be considered outdated. An update to the data is needed, as it may provide different results and a more accurate portrayal of the impact CMC has on future attainments of deaf and hard of hearing individuals.

Bannon et al. (2015) conducted six focus groups with 36 individuals with additional support needs (ASN) between the ages of 13-18. Their research aimed to understand how individuals with ASN use the internet. One limitation of this study is that it included all individuals with ASNs, not just deaf and hard of hearing individuals. The results of their study showed that individuals with ASN use the internet to stay connected with and chat with their friends, most of whom they know in real life. They enjoy talking with their friends over the internet since it gives them more privacy which helps them discuss more sensitive or intimate topics without the fear of someone else hearing them (Bannon et al., 2015).

Challenges With Accessibility of Communicative Technology for Deaf and Hard of Hearing Individuals

Dobransky & Hargittai (2016) used data from the U.S. Federal Communication Commission's 2009 National Capability survey, which included 5,005 American adults. The survey asked participants questions regarding their Internet access, skills uses, and disability status. The results of their study showed that how PWDs use the internet depends largely on what type of disability they have. For example, while PWDs generally use the internet less than people without a disability, this is not true for the deaf and hard of hearing population (Dobransky & Hargittai, 2016).

Similarly, in Ghiamatyoon et al.'s (2016) study, most deaf and hard of hearing individuals reported that they felt the internet was easy to access. This may be because they do not require as much technological assistance as other PWDs (Dobransky & Hargittai, 2016).

However, with the increased usage of video and audio media on the internet, deaf and hard of hearing individuals still face accessibility issues. The biggest challenge for deaf and hard of hearing individuals have been a lack of closed-captioning on online videos (Dobransky & Hargittai, 2016).

How Deaf and Hard of Hearing Individuals Use Social Media

The activities of deaf and hard of hearing individuals on SNSs mirror those of their hearing counterparts. Like the dominant hearing world, most deaf and hard of hearing individuals prefer to play the role of consumer rather than creator on SNSs (Shpigelman & Gill, 2014). They prefer to like content rather than posting or commenting, likely because it requires less effort (Kožuh et al., 2015). Deaf and hard of hearing individuals are also more likely to exercise caution over which activities they participate in on SNSs for fear of disclosing their hearing loss status and facing discrimination because of it (Shpigelman & Gill, 2014).

Preferred Social Media Networks and Activities

Kožuh et al. (2015) surveyed 199 deaf and hard of hearing German individuals to discover which activities deaf and hard of hearing individuals participated in most frequently on SNSs. A secondary goal of their research was to identify predicting factors that influenced the frequency of these activities. The questionnaire included questions about participants' demographics, educational backgrounds, and social media activities. The results showed that most deaf and hard of hearing individuals prefer to like content on SNSs. The least common activity was posting videos, suggesting that most deaf and hard of hearing individuals do not prefer to use sign language on SNSs (Kožuh et al., 2015). This theory was confirmed in Kožuh & Debevc's (2019) study, which showed that text is the preferred method of communication on SNSs by deaf and hard of hearing individuals.

Shpigelman & Gill (2014) conducted online surveys with 172 PWDs aged 18 and up to determine how they use Facebook. Their research showed that most PWDs use Facebook at least once a day, and about half belong to at least one disability-related group on Facebook. The number of participants belonging to disability-related groups was surprisingly low. Many participants hinted not wanting to disclose their disability on social media for fear of discrimination, which may explain why they were reluctant to join disability groups. However, one limitation in their study is that it included individuals with a wide array of disabilities, not limited to just hearing loss. Those with hearing loss reported using Facebook less frequently than those with other disabilities, namely mobile disabilities (Shpigelman & Gill, 2014).

As a whole, PWDs use Facebook much the same way as those without disabilities do (Shpigelman & Gill, 2014). Like their non-disabled peers, PWDs are more likely to consume content than post it. Some of them, especially those with vision impairments, faced accessibility challenges. While no specific challenge was mentioned, the researchers also suggested that accessibility challenges could explain why deaf and hard of hearing individuals used Facebook less frequently than some of their other disabled peers. Despite these accessibility challenges, Facebook was also reported as being a helpful tool in maintaining relationships with others and communicating on a more personal level by exchanging messages with friends (Shpigelman & Gill, 2014).

Social Media Empowers Parents of Deaf and Hard of Hearing Children

Social media can be used as a tool to bring people together. This is especially important for parents of children with special needs, including deaf and hard of hearing children. In Ammari & Schoenebeck's (2015) research, they conducted 43 semi-structured interviews with parents of children with special needs and found that social media could be used as a tool for

empowerment. One of the main limitations of their study was that only one set of parents identified with having a deaf child. Most of the parents had a child with autism. Parents of children with special needs reported using Facebook to connect with other parents of children with special needs shortly after receiving their child's diagnosis to learn about services and become advocates for their child. It is interesting to note that while Ammari & Schoenebeck's (2015) study showed that parents of children with disabilities use social media for advocacy, Spigelman & Gill's (2014) study showed that actual PWDs did not use social media for advocacy. This suggests that advocacy efforts may be primarily conducted by parents and not the actual individuals with disabilities. Social media helped parents overcome feelings of anxiety, gain support, and learn how to cope with their child's diagnosis (Ammari & Schoenebeck, 2015).

Social Media Improves Quality of Life for Deaf and Hard of Hearing

Social media provides users with the ability to be or become anyone that they want to be. This can be especially advantageous to deaf and hard of hearing individuals since they can easily disclose their hearing loss status through social media, should they choose to, and remove the stigma attached to hearing loss (Blom et al., 2014). Dasgupta (2018) interviewed 30 hard of hearing individuals between the ages of 18-30 that were attending a school in Secunderabad. The results of his research showed that social media has an overall positive impact on the quality of life of hard of hearing individuals (Dasgupta, 2018).

Similarly, Oyewumi et al. (2015) administered a structured questionnaire to 126 deaf and hard of hearing individuals between the ages of 13-23 living in Oyo State, Nigeria, to determine the impact SNSs had on the participants' psychological well-being. The results of their study showed that social media had an overall positive impact on emotional intelligence and self-esteem. It was also found to foster deaf and hard of hearing individuals' abilities to make and

maintain friendships, reducing their overall feelings of loneliness. Therefore, it can be concluded that social media has an overall positive impact on deaf and hard of hearing individuals' psychological well-being (Oyewumi et al., 2015).

Social Media Makes Sign Language More Accessible

As Guimarães & Fenandes (2018) have shown, sign language has been proven to be a beneficial and, at times, crucial language for deaf and hard of hearing individuals (Guimarães & Fenandes, 2018). However, it has historically been criticized and not viewed in the same light as oralism. For more than 100 years, sign language was banned, making it difficult even today for many deaf and hard of hearing individuals to learn. Guimarães & Fenandes (2018) conducted an exploratory study by administering a questionnaire to 50 Deaf linguistic/sign language students. A majority of the participants reported growing up without access to sign language. However, many participants mentioned using SNSs that support the use of videos, such as Facebook, Snapchat, YouTube, and WhatsApp, to utilize sign language and learn new signs and dialects of sign language. Sign language was determined to positively impact deaf and hard of hearing individuals' abilities to learn more about their culture and sign language (Guimarães & Fenandes, 2018).

How Deaf and Hard of Hearing Individuals Use Instagram

Instagram is the fastest-growing SNS worldwide (Lee & Borah, 2020). Huang & Su (2018) show that it was inspired by past methods of communication, including the telegraph, and prides itself on being a form of instant visual. They claim that 60% of Instagram users are between 18-28 (Huang & Su, 2018). However, Lai Lee et al. (2019) suggested that the number was even higher when they stated that 71% of individuals between 18-24 use Instagram. Huang &

Su (2018) suggested that Instagram was popular among younger generations since it capitalized on their preferred method of communication; visual communication (Huang & Su, 2018, p. 1).

There have not been many research studies that focus exclusively on deaf and hard of hearing individuals' use of Instagram. However, Lai Lee & Borah (2020) found in their research that Instagram is very high in media richness. Since this platform is high in media richness, many users perceive it as being highly functional. Lai Lee & Borah (2020) administered a survey to 814 undergraduate students that are regular Instagram users. The results of their study showed that Instagram had an overall positive impact on individuals' social interaction and could even be used to help individuals maintain and create new friendships. They also found that Instagram could strengthen ties between individuals who were not close friends in real life (Lai Lee & Borah, 2020). While this study did not focus explicitly on deaf and hard of hearing individuals, the researcher believes that these benefits may apply to all Instagram users, hearing or not.

Motives for Deaf and Hard of hearing Individuals to Use Instagram

There are many reasons why individuals choose to use Instagram. Huang & Su (2018) administered a survey to 307 individuals to determine their motivations for using Instagram. The results of their study showed that most Instagram users use the platform to look at posts to engage in social interactions and past time. While this study was not focused specifically on deaf and hard of hearing individuals, it is similar to Wong et al.'s (2016) findings that deaf and hard of hearing adolescents are most likely to use Instagram to post photos and videos and comment on their friends' posts. In this case, too, individuals are primarily concerned with using Instagram to seek out social interactions.

Some individuals are cautious about how they use Instagram or what they post. Purmiasa et al. (2019) administered an online questionnaire to 400 Instagram users between the ages of 18-

24 from Jakarta, Surabaya, Bandung, Medan, and Semarang. In their study, Purmiasa et al. (2019) asked participants to discuss how often they disclosed personal information about themselves via Instagram stories. They found that many users were especially concerned about their privacy, although they did not fear issues related to invasion of privacy. However, since they were concerned about their privacy, they were often reluctant to share personal information through Instagram stories (Purmiasa et al., 2019).

Using Instagram for Advocacy and Awareness

One way that deaf and hard of hearing individuals differ from the hearing majority on Instagram is that they tend to use the platform for advocacy and awareness purposes. Cahyadi (2020) used a phenomenological approach to study how PWDs use Instagram for advocacy purposes. While their research focused on all disabilities and not exclusively on hearing loss, they still found that deaf and hard of hearing individuals frequently post topics connected to their hearing loss diagnosis. The most common topics that deaf and hard of hearing individuals and their advocates posted about were sign language, deafness, Deaf culture, and inclusiveness. Some posts also suggested that individuals were using Instagram as a tool to learn sign language (Cahyadi & Setiawan, 2020).

Using Instagram to Learn About the Deaf and Hard of Hearing

In addition to using Instagram to learn sign language (Cahyadi & Setiawan, 2020), Newton & Williams (2021) demonstrated that some individuals use the platform to learn about deaf history and deaf and hard of hearing individuals in a more general sense. In their research, Newton & Williams (2021) found that many teachers use Instagram as an educational tool for personal development. Teachers who work with special needs students, especially those with vision or hearing loss, often lack resources and support from their school administration. Due to

this lack of administrative support, teachers have begun looking elsewhere for support, including on Instagram, a practice they refer to as “teachergram,” Instagram has helped these teachers learn about deaf history and connect with deaf and hard of hearing, giving them a glimpse into what it is like to be deaf and live within the Deaf community and culture (Newton & Williams, 2021).

Communication Challenges Between Deaf and Hard of Hearing

Communication between deaf and hard of hearing individuals has always been a challenge. Azahari et al. (2021) credit this to deaf and hard of hearing individuals’ struggles to speak verbally and interpret other people’s speech. Additionally, some individuals prefer to communicate through sign language. Azahari (2021) explained that when deaf or hard of hearing individuals try to communicate via sign language to hearing individuals, it sometimes creates a communication barrier since they speak two different languages. Sign language often serves as a communication barrier for deaf and hard of hearing individuals since so few hearing individuals are fluent in it (Azahari et al., 2021, p. 302; Kholis et al., 2019, p. 482).

Social Media as a Solution for Communication Challenges

Social media may provide a solution to the challenges that exist when it comes to communication between deaf or hard of hearing individuals and the hearing majority (Azahari et al., 2021). Kholis et al. (2019) said that social media’s use of pictures and text could help deaf children improve their language and communication skills (Kholis et al., 2019). Additionally, Azahari et al. (2021) explained that social media helps deaf or hard of hearing individuals overcome feelings of social isolation since it allows them to communicate in much easier ways than FtF interactions. Similarly, Dasgupta (2018) found in his research that social media helped hard of hearing individuals overcome communication barriers that often prevented them from interacting with their hearing peers. When it comes to interacting with the hearing world, social

media was determined to be an easier and more efficient means of communication than FtF interactions (Dasgupta, 2018).

Ramadhana & Yusanto (2020) found this beneficial for communication between deaf teenagers and their parents. They administered a survey to 100 deaf adolescents asking about their experience with using CMC to communicate with their parents. The results of their study showed that parents that used CMC to communicate with their deaf children were more likely to share knowledge with their children and give them adequate levels of attention. This led to feelings of peace between the parents and their deaf children and further showed that CMC has an overall positive impact on communication between hearing parents and their deaf children (Ramadhana & Yusanto, 2020).

Communication Accessibility on SNSs for Deaf and Hard of Hearing Individuals

While social media has an overall positive impact on communication between the deaf or hard of hearing and the dominant hearing world, it is still not a perfect solution. Azahari et al. (2021) interviewed five deaf activists known to be active on social media. Their interviews showed that most participants found social media unequal in terms of communication accessibility for deaf or hard of hearing individuals and their hearing counterparts. They mentioned that social media would be much more accessible if it allowed for the use of both text and sign language. Furthermore, many participants stressed the need for closed captioning on videos posted on SNSs (Azahari et al., 2021).

Similarly, Ngugi et al. (2018) conducted a mixed-methods study to better understand social media's influence on businesses owners in Kenya. Initially, many individuals expressed feeling that they have been discriminated against due to their hearing disabilities. They believed that social media was beneficial in bridging the communication gap between themselves and the

dominant hearing world. They said that social media was an especially beneficial communication tool since it allowed them to use photos and videos to communicate in their native sign language. However, similar to Azahari et al. (2021), participants in Ngugi et al.'s (2018) study mentioned needing access to closed captions on video or audio content posted to SNSs (Azahari et al., 2021; Ngugi et al., 2018).

Summary

Communication has come a long way for deaf and hard of hearing individuals. From the beginning of time, deaf and hard of hearing individuals have been left out of conversations due to their inability to hear. Technologies including the telephone were invented to provide more communication accessibility to deaf and hard of hearing individuals, but in the end, it only made communication more difficult for them, which led to an even wider divide between deaf and hard of hearing individuals and the dominant hearing world. The current literature shows that as technology advances, it shows hope for communication between deaf and hard of hearing. E-mail, text messaging, and especially social media have shown to be especially beneficial. Instagram especially has potential since it is highly visual and will allow for deaf and hard of hearing individuals to use either text, images, video, or even sign language. However, there was a significant lack of research on Instagram's impact on deaf and hard of hearing individuals. Further research was needed in this area.

Chapter 3: Methodology

Overview

The purpose of this research study was to better understand how deaf or hard of hearing individuals with mild-profound hearing loss use Instagram to develop interpersonal relationships with the hearing world. A survey was used as a preliminary screening tool to screen potential research candidates. It is important to note that while this survey helped with recruiting eligible participants, it was not used to analyze data. Those who were determined to be eligible to participate in this study were contacted and invited to participate in qualitative ethnographic open-ended interviews. A total of 16 interviews were conducted. 14 interviews were performed through Zoom and recorded. Each interview lasted approximately 1 hour. Two interviews were conducted over e-mail. Additionally, Instagram data files were downloaded from 10 participants and their Instagram comments and messages were coded and analyzed. Six participants declined to provide their Instagram data files, so they had their Instagram newsfeed posts collected, coded, and analyzed instead. This chapter provides a thorough explanation of the qualitative ethnographical research design, theoretical construct, setting, procedures, researcher's role, data collection processes, data analysis process, validation and reliability processes, and the ethical considerations. All elements of the research method connected back to the research questions, which focused on how deaf and hard of hearing individuals use Instagram to build relationships and connect with members of the hearing world and determined whether the use of Instagram nurtures or hinders interpersonal relationships between deaf or hard of hearing individuals and the dominant hearing world.

Research Method and Design

The study used a qualitative research design. Unlike quantitative research, qualitative research focuses primarily on text and image data (Creswell & Creswell, 2018). Qualitative research designs are more often used when the researcher wants to gain a thorough understanding of an issue that can only truly be understood once the researcher has had a chance to engage directly with the impacted group(s) and allowed them to share their stories (Creswell & Poth, 2018). Qualitative research is context-dependent, meaning that the impact the problem or phenomena has on the participants depends on the context in which it is experienced. Therefore, researchers must understand the contextual factors impacting the studied group to understand how the circumstances or unique experiences of the participants may impact their interpretation of the phenomena. Qualitative research is especially beneficial for studying populations that are difficult to research or often silenced (Creswell & Poth, 2018). It helps the researcher understand how the participants or chosen population experiences the phenomena and interprets its meaning (Creswell & Creswell, 2018).

For this research study, the researcher had an advantage in that she is a member of the researched group. The researcher was born with progressive hearing loss that quickly became profound. She grew up in the hearing world, communicating primarily with hearing individuals. However, her experience with hearing loss has helped her develop relationships with members of the deaf and hard of hearing community and deaf and hard of hearing organizations. This allowed her to access this population for her research study that otherwise may have been off-limits or difficult to reach.

The qualitative research design often begins by addressing the researcher's assumptions about the phenomenon as it pertains to the participants (Creswell & Poth, 2018). From there, the

researcher explains which interpretive framework was applied to the study to help them understand the selected sample or studied population and how they relate to the studied phenomena. Qualitative research often involves the use of a literature review. The literature review helps the researcher to understand the problem or phenomena and see what has been discovered through previous studies. Once the research has been reviewed, the researcher will craft open-ended, exploratory research questions to guide the study (Creswell & Poth, 2018).

A defining feature of qualitative research is that the researcher acts as the sole data collector, making them a key instrument in the research design and process (Creswell & Creswell, 2018). The data is often collected in a natural setting, allowing the researcher to observe the participants in the area where they experience the problem or phenomena (Creswell & Poth, 2018). After the research was collected, the researcher used inductive data analysis to code the data and identify patterns or themes that told a holistic story of the phenomena or problem and its impact on the studied population (Creswell & Creswell, 2018; Creswell & Poth, 2018). She then applied deductive data analysis to the research to help her dive into what was missing in the data and what research still needs to be conducted to draw a conclusion (Creswell & Creswell, 2018).

Qualitative researchers use a high level of reflexivity when they process and analyze their collected data (Creswell & Creswell, 2018; Creswell & Poth, 2018). The reflexivity involves the researcher's disclosure of their relationship to the study (Creswell & Creswell, 2018). The researcher considers their role in the study and discloses important details about their background and cultural experiences (Creswell & Creswell, 2018). Reflexivity is also included in the final written report, which highlights the participants' voices and the researcher's interpretation of the data (Creswell & Poth, 2018).

As previously mentioned, the researcher had a personal connection to the research study. She was born with progressive hearing loss that quickly became profound. Today, she wears bilateral cochlear implants and lives and communicates in the hearing world. One of the ways in which the researcher communicates is through the use of social media, including Instagram. The researcher was aware of the ways in which her personal experiences impacted the research study. Therefore, she used reflexivity to disclose her personal connections and avoid researcher bias.

This research study also used an ethnographic design. The key defining feature of the ethnographic researcher is the researcher's role in the study. In an ethnographic research study, the researcher becomes an active participant of the cultural group being studied (Allen, 2017, p. 2). This allowed the researcher to understand the group's inner workings and afforded the researcher the ability to observe the participants in their natural and everyday environments (Allen, 2017). In this case, the researcher studied deaf and hard of hearing Instagram users. The researcher had an advantage since she is already a member of the research group. The researcher was diagnosed with progressive hearing loss when she was two that quickly became profound. She is also an active Instagram user.

The best ethnographic research studies are the ones that demonstrate the researcher's command of their chosen research subjects (Creswell & Poth, 2018). In other words, their participation within the selected group has allowed them to provide a detailed and accurate report on how the group lives, interacts, and participates in society. The story of the chosen group must be told from the native's point of view (Creswell & Poth, 2018). Since the researcher was already a member of this group, she already possessed a strong understanding of the selected group and was granted access to individuals that belonged to the group that may have been off-limits or more difficult for outsiders to access.

Furthermore, the researcher has lived with hearing loss her entire life, making her a lifelong member of the group. One of the biggest challenges that most ethnographers face is the time commitment that ethnographic research requires (Creswell & Poth, 2018). It can take several months or years for the researcher to observe the chosen cultural group well enough to gain a deep understanding of their behavior, communication, and lifestyles (Creswell & Poth, 2018). In this research study, the researcher had an advantage since she was already a member of the selected group.

The researcher was born with progressive hearing that was diagnosed at the age of two. All her life, she has been mainstreamed and struggled to fit in with the hearing world and adapt to their communication preferences. The researcher has never learned sign language, therefore, she has become dependent on emerging technologies, including social media and text messaging, to help her communicate with the hearing world. In other words, she was a native member of the group and, therefore, already has a strong background knowledge and understanding of the group's behaviors, communication styles and preferences, and lifestyles.

Allen (2017) explained that ethnography is primarily used in the field of communication to help researchers understand a specific group's verbal and non-verbal communication patterns and how they use these various communication methods to develop relationships with others. Ethnographers aim to understand the selected group to be researched. This is completed by collecting multiple forms of data, including field notes gathered through direct participant observation, transcripts from interviews, and other documents or artifacts. Field notes are essential as they may contain the researcher's notes on observed events and their personal experience within the group (Allen, 2017). In this case, since the researcher was a member of the selected group, she shared some of her first-hand experience with the phenomenon.

Interviews were also a crucial element for this ethnographical study. In an ethnography, the researcher must decide whether to interview all members of the group or select key individuals (Allen, 2017). Since the target population for this research study was estimated to be 2 million, it was not possible to interview every member of the selected group. Therefore, the researcher interviewed 16 members of the group that were determined to be eligible participants after preliminary screening was conducted. Each participant was assigned a number from 1-16 to ensure that their identity remained anonymous. Ethnographical interviews are typically informal, with questions derived from the researcher's previous observations and experience in the field. The interviews often become a part of the researcher's field notes and may be recorded with participant permission. If the researcher cannot obtain permission from the participants to record the interview, they may supplement the recordings by taking scratch notes during the interview (Allen, 2017). In this research study, only participants that consented to having their interview recorded were invited to participate in this study. Those who did not agree to being recorded were deemed ineligible to participate.

Documents may also serve an essential purpose in an ethnographical research study. Documents can consist of many different materials, including minutes from meetings, photos, e-mails, websites, blogs, or social media posts (Allen, 2017). In the case of this study, the researcher asked all participants to download a file containing all of their Instagram data. From these files, the researcher read, reviewed, coded, and analyzed all the comments and messages contained in each participants' data file. Additionally, notes were written both during the interview and Instagram data analysis processes. Allen (2017) said that ethnographers should strive to collect as many documents or artifacts as possible. These documents or artifacts helped

the researcher gain a deeper understanding of the research group and how they interact and engage with society on a regular basis (Allen, 2017).

This study used an ethnographical research design. It focused on deaf and hard of hearing individuals aged 18-45 and their experiences using Instagram to create and maintain interpersonal relationships with the dominant hearing world. The social construct was the belief that most people in the world can hear, and therefore we should live in an audio-driven world that embraces sound. This research study also grounded in theory. It pulled from uses and gratification theory, media dependency theory, and social information processing (SIPT) to understand how relationships between deaf or hard of hearing individuals and the dominant hearing world are developed over time on Instagram.

Research Questions

The goal of this study was to answer the following research questions:

RQ1: How are deaf and hard of hearing individuals using Instagram to communicate and build interpersonal relationships with members of the hearing world?

RQ2: Does Instagram nurture or hinder deaf and hard of hearing individuals' interpersonal communication with the hearing world?

Setting

Since this research study involved interviews conducted over Zoom, participants had the freedom and flexibility to complete the interview wherever they wanted. This level of flexibility was fundamental given the qualitative ethnographical design of the study (Allen, 2017).

Participants could participate in the interviews in the same natural environment where they used Instagram to engage in conversations with the dominant hearing world. This provided them with

a setting or atmosphere where they felt the most comfortable and relaxed were the least likely to be negatively impacted by their environment while responding to the interview questions.

Participants

This research study was open to deaf or hard of hearing individuals between the ages of 18-45 that were diagnosed with mild-profound hearing loss and were frequent users of Instagram. In America, individuals between the ages of 18-29 are most likely to use Instagram (*Social Media Use in 2021*, 2021). There are many different degrees of hearing loss. Hearing loss is measured in units of decibels (dB) and can range from normal to profound. Normal hearing includes individuals with a 0-15 dB hearing loss, slight hearing loss includes individuals with a 16-25 dB hearing loss, mild hearing loss includes individuals with a 26-40 dB hearing loss, moderate hearing loss includes individuals with a 41-55 dB hearing loss, moderately severe hearing loss includes individuals with a 56-70 dB hearing loss, severe hearing loss includes individuals with a 71-90 dB hearing loss, and profound hearing loss includes individuals with a 91+ dB hearing loss (*Degree of Hearing Loss*, 2021). This study only included individuals with mild-profound hearing loss or a hearing loss of at least 40 dB (*Degree of Hearing Loss*, 2021). It was the researcher's belief that these individuals were most likely to depend on CMC, including Instagram, to communicate since they were on the higher end of the hearing loss spectrum. Additionally, only individuals who could speak in English and did not solely speak in sign language were invited to participate since the researcher was not fluent in sign language and did not have access to an interpreter.

There is a distinct difference between those with hearing loss and those who belong to the deaf community and embrace deaf culture. From a medical perspective, anyone with a hearing loss of at least 81+ dB is considered deaf (*Hereditary Hearing Loss and Deafness Overview*,

2017). This is often clarified by using a lowercase “d” (Beckner & Helme, 2018). However, those who belong to the Deaf culture identify themselves by using a capital “D”. These individuals participate in a unique community and adopt their values and traditions including the use of sign language. This group is not often welcoming to individuals with hearing loss that speak orally or use assistive listening devices, especially including cochlear implants (Beckner & Helme, 2018). They are happy living within their own Deaf community and do not desire to live in the hearing world. Since the following research study aimed to discover how deaf and hard of hearing individuals use Instagram to develop interpersonal relationships with the hearing world, those belonging to Deaf culture and the Deaf community were discluded from this study on the grounds that they had little to no desire to develop interpersonal relationships with the hearing world.

Participants were also only selected if they stated that they were frequent users of Instagram. According to research conducted by the Pew Research Center, most Instagram users aged 18-29 reported using Instagram multiple times a day (Schaeffer, 2021). In 2017, Instagram reported that those under the age of 25 spent more than 32 minutes a day on Instagram, whereas those older than 25 still spent at least 24 minutes a day on Instagram (Instagram, 2017).

People use Instagram in a variety of ways. Active Instagram users cannot be judged by how often they post content or send comments or messages since many Instagram users are passive users that prefer to consume content rather than create it (Pittman, 2015). Prior to being invited to participate in the study, potential candidates were asked questions regarding how often they logged into Instagram. Only those determined to use the platform on a daily basis and to have a great understanding and appreciation of the platform were deemed eligible to continue participating in the study.

Snowball sampling was used for the recruitment of participants. Snowball sampling is a form of convenience sampling and is most often recommended when the researcher intends to target a population that can be difficult to reach (Naderifar et al., 2017). Although the population size was estimated to be as much as 2 million for this study, finding a sample of individuals from this population was difficult. Snowball sampling is also effective for qualitative studies since it helps researchers understand how the chosen phenomenon impacts the selected group of participants rather than a more general population (Naderifar et al., 2017).

Since the researcher is a deaf woman herself, she used snowball sampling to connect with several deaf and hard of hearing related organizations to recruit participants. These organizations included Jefferson University Hospital's Balance and Hearing Center, Advanced Bionics, The Hearing Loss Association of America, Aid the Silent, and Miracle-Ear. The researcher had an advantage that allowed her access to these groups due to her status as a deaf woman. She was a current patient at Jefferson University's Balance and Hearing Center, and she wore bilateral cochlear implants manufactured by Advanced Bionics. Furthermore, the researcher was a member of The Hearing Loss Association of America and acquaintances with several members of the organization. She was a strong supporter of the organization Aid the Silent and has been in touch with the founder, Emma Faye. Lastly, the researcher is a former patient of Miracle-Ear and still kept in touch with some of the hearing aid specialists that worked for this organization.

These organizations all worked with a variety of deaf or hard of hearing individuals both in and outside of Deaf culture, some of which used hearing devices including hearing aids or cochlear implants, and others that lived entirely in the Deaf world and chose to communicate using sign language. Links and information to the study were also be shared on the researcher's personal social media accounts as well as in several Facebook groups, including Deaf and Hard

of Hearing, NJ/PA Cochlear Implant Recipients, Advanced Bionics Cochlear Implant Users, Family, and Friends Group, Hearing Loss Association of America – Official Community & Support, Advanced Bionics Cochlear Implant Users Group, Inclusive Deaf Community, Cochlear Implants R Us :), Cochlear Implant Experiences, Cochlear implant users, and Penn In Hand. The researcher was already a member of all these Facebook groups and actively participated in discussions and threads in these groups. Individuals were encouraged to share the link to information about the study on social media and amongst their peers as well.

Procedures

Immediately following a successful proposal defense, the researcher submitted an application to the Institutional Review Board (IRB) for approval to conduct the proposed research study. Receiving IRB approval was a crucial step in the research process since the IRB ensured that the study was ethical and followed regulations to protect the rights of the participants (Creswell & Creswell, 2018). Once the IRB granted permission to conduct this proposed study, the researcher contacted several deaf and hard of hearing institutions asking for help with recruiting participants. These institutions included Jefferson University Hospital's Balance and Hearing Center, Advanced Bionics, The Hearing Loss Association of America, Aid the Silent, and Miracle-Ear. The researcher was able to easily connect with these organizations due to her status as a deaf woman. She was a current patient of Jefferson University Hospital's Balance and Hearing Center, and she wore bilateral Advanced Bionics cochlear implants. She was also a member of The Hearing Loss Association of America and a supporter of Aid the Silent. She was a former patient of Miracle-Ear and kept in touch with many of their hearing aid specialists. A copy of the recruitment letter was included in Appendix A.

Participants were also recruited through social media. The researcher shared information about the study on her personal SNSs as well as through Facebook groups including Deaf and Hard of Hearing, NJ/PA Cochlear Implant Recipients, Advanced Bionics Cochlear Implant Users, Family, and Friends Group, Hearing Loss Association of America – Official Community & Support, Advanced Bionics Cochlear Implant Users Group, Inclusive Deaf Community, Cochlear Implants R Us :), Cochlear Implant Experiences, Cochlear implant users, and Penn In Hand. The researcher did not have any trouble with sharing the proposed research study to these Facebook groups since she was already an active member in all of these groups, given her identity as a deaf woman and her personal connections to these groups. Individuals were also encouraged to share the link to information about the study on social media and amongst their peers. A copy of the text used in the social media posts for recruitment was included in Appendix C. For both the e-mail and social media recruitment, templates provided by Liberty University's IRB were used to craft the content of the e-mails and social media posts (Institutional Review Board, 2021).

Participants that desired to participate in the research study were initially screened using a preliminary screening survey created by Qualtrics. This survey was used to recruit eligible participants but not to analyze data. The first page of the screening survey included a consent form that participants were required to read, acknowledge, and sign before participating. Creswell & Creswell (2018) said that consent forms were necessary for all research studies since it acknowledged the protection of human rights and also informed participants about what would be asked of them and precisely what they agreed to by participating in the study). A copy of the consent form was included in Appendix D. The preliminary screening survey included questions

about potential research candidates' personal information and a total of six screening questions included in Appendix E.

Once the preliminary screening surveys were collected, and participants were screened, eligible participants were sent an e-mail inviting them to participate in an interview. A copy of that e-mail was included in Appendix F. Interviews were scheduled with those who opted to continue participating in the study. A total of 16 interviews were conducted. All of the questions asked in these interviews were open-ended, as is a common expectation with qualitative research (Creswell & Creswell, 2018). A copy of the questions asked were included in Appendix G. Interviews were conducted through Zoom and recorded, and notes were jotted down throughout the interviews.

As a condition of eligibility, participants were required to consent to having their Instagram data downloaded and analyzed by the researcher. Prior to being interviewed, participants were asked to download a .html file of their Instagram data and submit it to a secure database for the researcher to access. The researcher did not open the data files until after the interviews took place. After the interviews took place and were fully analyzed and coded, the researcher began the second phase of the study. This second phase involved the researcher reading through only the comments and messages contained in each participant's data file. Instagram automatically grouped the messages and comments together by conversation. Each conversation was hand-coded to identify common themes or patterns that arose in the conversations and determined if Instagram was being used as a tool for deaf and hard of hearing individuals to develop or maintain interpersonal relationships with the hearing world.

Researcher's Role

Since this research study was qualitative, one of the primary roles of the researcher was to be the sole instrument used in the study (Creswell & Creswell, 2018; Creswell & Poth, 2018). The researcher was diagnosed with progressive hearing loss at the age of two. She was fitted with her first pair of hearing aids by the age of three. The researcher grew up in a hearing world and was mainstreamed while attending public school. She was never taught sign language.

The researcher has experienced first-hand the communication challenges that deaf or hard of hearing individuals face when communicating with the dominant hearing world. For 24 years, the researcher relied on lip-reading, written text, and CMC as tools that enabled her to communicate with the hearing world and generate and maintain relationships. For her, social media has been a crucial tool for staying connected and in the loop with the hearing world and society at large until she received her first cochlear implant in 2014, followed by the second one a year later. While her cochlear implants have enabled her to hear and have corrected many of the communication challenges she previously experienced, she believed that it was her God-given calling to use her experiences in a way that can help others. It was the researcher's hope and goal that this study would shed light on CMC tools, namely Instagram, and help to understand how these tools could be used to solve some of the communication issues deaf and hard of hearing individuals still face today when attempting to communicate with the dominant hearing world.

Given the researcher's personal experience, this study had a high risk of researcher bias. Reflexivity was used to disclose the researcher's bias and discuss how her personal experience influenced the study (Creswell & Creswell, 2018). Pink et al. (2015) explained that reflexivity is a crucial element of ethnographic research since it provides researchers with a way to disclose

how their personal experiences have shaped their knowledge and understanding of the group or phenomenon in a way that is ethical and unbiased. Although the researcher was a member of the cultural group she studied, she separated herself from the research by focusing on her research subjects and reporting on the cultural group and observed behaviors from the perspective of the participants and not her own perspectives (Creswell & Poth, 2018).

The researcher was responsible for recruiting participants, preliminary screenings of potential participants, selecting final participants, interviewing all participants, coding the data, and further processing and analyzing the data. The researcher worked with the administration at Liberty University and sought approval from the Liberty University IRB to conduct this study. She also obtained consent from all participants. Lastly, the researcher ensured that all collected data remained confidential, and she took measures to protect participants' rights and privacy by storing the data in a safe and secure location.

Data Collection

In ethnographic research studies, it is common for research to be collected in multiple ways. Some of these ways include observation, the researcher's experience participating in the group, interviews, and analysis of collected documents and artifacts (Allen, 2017). This research study collected data through the use of a preliminary survey intended to screen potential research candidates, the researcher's personal experience as a member of the cultural group, qualitative interviews with eligible participants, and the collection and analysis of relevant documents and artifacts. Participants were eligible if they were between the ages of 18-45, had mild-profound hearing loss, spoke English, and were regular users of Instagram. The study was open for individuals who used assistive listening devices, including hearing aids or cochlear implants, and those who chose not to amplify their hearing, allowing for a wide range of participants with varying experiences and perspectives. Only individuals who consented to having their interview

recorded were deemed eligible to participate in this research study. Individuals who identified as members of the Deaf community, spoke solely using sign language and did not desire to have a relationship with the hearing world were omitted from this study. While this may be a potential limitation, the researcher disclosed this population since this study primarily focused on how deaf or hard of hearing individuals used Instagram to foster stronger relationships with the dominant hearing world. Therefore, a desire to connect with the hearing world was required.

Preliminary Screening Survey

The first wave of data collection involved using an online survey for preliminary screening of potential candidates. While this survey collected data from the participants, it was used strictly to determine if the participants met the study's eligibility criteria. It was not used for data analysis. Van Selm & Jankowski (2006) said that one of the primary benefits of using online surveys is to recruit participants. Online surveys make it easier for researchers to identify potential participants in hard-to-reach populations. It also makes it easier to reach individuals with conditions such as hearing loss that they may be afraid of disclosing since it allows them to do so in a safe and private environment (Van Selm & Jankowski, 2006). Shpigelman & Gill (2014) found in their research that persons with disabilities (PWDs), including hearing loss, sometimes shy away from making public disclosures about their disabilities and avoid public-facing online behaviors like joining disability-related Facebook groups. While the survey asked for the participants' names, it also took added measures to ensure that the data remained confidential and that participants' rights and privacy were protected at all times.

The preliminary screening survey was created through Qualtrics and shared through a series of e-mails to deaf and hard of hearing organizations, including Jefferson University Hospital's Balance and Hearing Center, Advanced Bionics, The Hearing Loss Association of

America, Aid the Silent, and Miracle-Ear. Since the researcher is a deaf woman herself, she already had connections to each of these groups. The pre-screening survey was shared on social media on the researcher's personal social media accounts along with in Facebook groups that she already belongs to, including Deaf and Hard of Hearing, NJ/PA Cochlear Implant Recipients, Advanced Bionics Cochlear Implant Users, Family, and Friends Group, Hearing Loss Association of America – Official Community & Support, Advanced Bionics Cochlear Implant Users Group, Inclusive Deaf Community, Cochlear Implants R Us :), Cochlear Implant Experiences, Cochlear implant users, and Penn In Hand. The preliminary screening survey began by asking for potential participants' consent to participate. Once consent was received, the survey asked basic demographic questions followed by questions about potential participants' degree of hearing loss and use of Instagram. A copy of the consent form shown to potential participants is included in Appendix D, and the survey questions used are included in Appendix E.

Interviews

Eligible participants were contacted and invited to participate in the second stage of the study, the interview stage. Interviews are an important component of qualitative research since they may help the researcher learn about the participants' personal experiences (Roberts, 2020). This is especially important for an ethnographic study that aims to gain a deeper understanding of a specific culture (Allen, 2017). A total of 16 participants were selected to complete interviews for this research study. A copy of the proposed e-mail that eligible participants received inviting them to participate in the second stage of the research process is included in Appendix F.

The interviews contained open-ended questions focusing on participants' experiences using Instagram and their experiences engaging in conversations with the dominant hearing

population both in FtF environments and through Instagram. These questions served as an interview guide, although some were re-phrased throughout the interviews to provide the participants with a deeper level of clarity. Some follow-up questions were also asked to ensure the researcher understood the participant's response. Interviews were conducted through Zoom and lasted approximately 1 hour. All interviews were recorded after receiving consent from the participants.

Open-Ended Interview Questions:

1. Tell me your thoughts on Instagram.
2. How would you describe the time you spend using Instagram?
3. Walk me through your day on Instagram. What is the first thing you do when you log in to your account? And then what happens?
4. How would you describe your activities on Instagram and how you participate on the platform?
5. How would you describe the content that you post on Instagram?
6. What would I see if I were to look at your Instagram feed right now?
7. How would you describe the content you see or engage with on Instagram?
8. What type of Instagram content are you most interested in? Would you say that your account has a “theme” or follows a particular pattern regarding the types of content you enjoy viewing and engaging with the most?
9. How would you describe the people you follow on Instagram? Can you tell me about the top 5 people you interact with the most frequently?
10. What type of content do the people you follow on Instagram post the most? What topics are they most likely to post about?

11. How would you describe the people you interact with the most on Instagram?
12. What makes you want to engage with someone on Instagram? What topics or types of content do you find the most interesting?
13. How would you describe your interactions on Instagram?
14. How would you describe your relationships with other users on Instagram compared with your real-life or in-person relationships?
15. How would you describe your interactions with hearing individuals?
16. What kind of impact has Instagram had on your interactions with hearing individuals?
17. How would you describe your face-to-face interactions with hearing individuals?
18. How do your face-to-face interactions with hearing individuals compare to those with other deaf or hard of hearing individuals?
19. How do your Instagram interactions with hearing individuals compare to those with other deaf or hard of hearing individuals?

Roberts (2020) recommended breaking the interview questions into sections to focus on each of the topic's general components. She recommended asking one question for each component. The interview guide for this study followed a similar structure. Questions 1-8 were designed so that the researcher would understand the participants' experience using Instagram. By starting with general questions about the individuals' use of Instagram, the researcher helped the participants' ease into the flow of the interview and talk about something they were presumably passionate about – Instagram. Roberts (2020) recommended beginning the qualitative interview with broad questions that will allow the researcher to obtain general knowledge and then build upon the participants' answers to ask more focused questions later on

in the interview. The goal of these questions was to help the researcher to understand how the participants use Instagram on a regular basis and what the bulk of their interactions on Instagram looked like, regardless of whether those interactions were with hearing or other deaf or hard of hearing individuals.

Questions 9-13 represented a shift in the interview as the researcher dove into how the participants used Instagram to develop their interpersonal relationships with others. It aimed to discover how their interactions on Instagram compared to those they had in FtF scenarios. By using words like “how,” these questions encouraged the participant to describe their experience without the pressure of feeling like they needed to apologize for their Instagram usage or search for the “right” response. Roberts (2020) said that qualitative interviews should ask “how?” so that researchers could learn about the participants’ experiences in an interactive, reflective, and reconstructive manner. These questions sought to solicit an answer from the participants to help the researcher understand if there were differences in how an individual communicated on Instagram versus in FtF interactions.

The remaining questions, questions 14-19, focused on the participants’ experiences with hearing individuals. Question 14 offered a more general introduction to questions related to the individual’s experience with the hearing world. It sought to gain a general understanding of how often the participant engaged with hearing individuals and what those conversations looked like. It is important to note that these questions were included in the latter portion of the interview once trust has been established with the participant. Roberts (2020) said that the order in which interview questions are asked is crucial in developing rapport, trust, and respect for the participants. She recommended beginning with easier questions before transitioning into more serious or difficult ones.

Roberts (2020) emphasized the importance of asking questions that relate to both the study's research questions and overall purpose. Questions 14-19 focused specifically on asking RQ 1: How are deaf and hard of hearing individuals using Instagram to build relationships with members of the hearing world? These questions aimed to answer the study's research questions and provide answers and context for the study's overall purpose of identifying communication challenges between deaf and hard of hearing individuals and the hearing world and seeking solutions to these challenges.

Question 16 sought to discover if Instagram helped or hindered communication between deaf or hard of hearing individuals and their hearing counterparts. This was directly connected to RQ 2: Does Instagram nurture or hinder deaf and hard of hearing individuals' interpersonal communication with the hearing world? It was followed by question 17, which was supplemental and aimed to help the researcher understand or identify any potential problems that existed with FtF interactions between deaf or hard of hearing individuals and the hearing world that Instagram could potentially help solve. Lastly, questions 18 and 19 aimed to compare deaf and hard of hearing individuals' interactions with other deaf and hard of hearing individuals to those of their hearing peers to understand the differences or similarities and how interactions with the hearing world could be strengthened in the future.

While these 19 questions were asked of all participants, additional questions or follow-up questions were also asked for clarification purposes. Roberts (2020) recommended asking follow-up questions to receive more details about participants' experiences with the phenomenon. She said that these follow-up questions should focus on behavioral, cognitive, and emotional aspects of the lived experience and that by providing the researcher with this

information, participants can help the researcher to paint a holistic picture of how the participants experience the phenomenon. These follow-up questions included:

1. Describe what that was like for you.
2. Describe that in more detail.
3. How and when did this occur?
4. Who was involved?
5. Does this remind you of anything or another memory?
6. Walk me through this.
7. Give me additional background on what happened.
8. Is there anything else that you think is important to know? (Roberts, 2020, p. 3194).

The goal of these follow-up questions was to help the researcher highlight key aspects of the interview and encourage the participant to provide more details and context to help the researcher better understand their experiences. It helped the researcher encourage the participants to open up more about their lived experiences (Roberts, 2020).

Document Analysis

Field Notes

Another form of data that was collected for this ethnographical study was document analysis. Allen (2017) said that these documents may include minutes from meetings, photos, e-mails, text from websites, blogs, etc. In this case, documents referred to field notes and data collected from participants' Instagram accounts. Field notes were also used during interviews with participants. Allen (2017) said that it is common for ethnographers to supplement observations with formal interviews. In the case of this research study, much of the observations were supplemented by formal interviews. During these interviews, the researcher wrote down

scratch notes about the participants' responses to the questions asked from the interview guide (Allen, 2017).

Instagram Accounts

Document analysis included the collection of participants' Instagram data. Each participant was asked to download a copy of their Instagram data from their account. This information was made available to all Instagram users as part of the General Data Protection Regulation (GDPR) (Proton Technologies AG, 2018b). The GDPR was put into law in 2018 to protect the privacy and security of users' data on platforms, including Instagram (Proton Technologies AG, 2018a). Through this law, users had the right to download their personal data from SNSs, including Instagram (Proton Technologies AG, 2018b).

When participants requested to download their data from Instagram, they received an e-mail with a zip file within 48 hours of the request (Meta, 2022). Users had the option of downloading the data either as a .html file or a .JSON file (Instagram from Meta, 2022). The researcher requested that users download their data as an .html file to allow for easier viewing and analysis. Participants were then asked to upload their files to a secure server where the researcher could access and download the data. Other than the researcher, no one else was granted access to the data; the data will remain protected and confidential.

The zip file included several photos of clearly labeled data. The researcher only viewed data included in the "comments" and "messages" folders. Messages and comments were grouped together by conversation. The researcher read through each conversation and separate all conversations into categories representing specific themes (Allen, 2017). This is the same coding process that was used for the interview responses. However, it is important to note that this does

not necessarily mean that all themes, categories, or codes were the same. Codes were created after the data was collected and analyzed; codes were not created ahead of time.

After all of the conversations have been read, categorized, and coded, they underwent a final review where duplicate or redundant themes were eliminated (Creswell & Creswell, 2018). Similar to the interview data analysis process, textual and structural descriptions were also applied to the collected Instagram conversations. These descriptions allowed the researcher to understand what kind of conversations deaf and hard of hearing individuals had on Instagram and how those conversations helped them develop stronger interpersonal relationships with the hearing world. This method did have a limitation in that it was not always possible to determine if the users that deaf and hard of hearing individuals were communicating with were hearing or not.

By requesting Instagram data exports from participants, the researcher gained access to the participants' private and public conversations on Instagram both through private direct messages (DMs) and public comments made on Instagram posts. This research study mirrored some of the methods used by Ali et al. (2022) in their study on the safe and unsafe messages youth receive on Instagram. Analyzing DMs and public comments made on Instagram was important because, as Jang et al. (2016) 's study showed, many younger Instagram users prefer to comment and engage with content rather than posting it). Their research also revealed that younger users preferred to use Instagram primarily for social interaction and direct communication with other users. With that being said, it was essential that the researcher collected and analyzed Instagram data in the form of private messages and public Instagram comments for this research study. Doing so helped the researcher answer the research questions

and gain a better understanding of how deaf and hard of hearing individuals used Instagram to develop and maintain interpersonal relationships with the hearing world.

Observations

In ethnographic research studies, observations help the researcher become one with the participants (Allen, 2017). Ethnographers should enter the field to observe participants and the phenomenon first-hand. Kirner & Mills (2020) said that participant observation is a critical element of ethnographic research since it allows the researcher to work alongside participants and gain more access to data. Participant observation allows researchers to share the lived experiences of those they are studying. Kirner & Mills (2020) recommended a series of activities that ethnographic researchers can partake in during the observation process. The first activity includes a self-evaluation that provides the researcher with time for personal reflection. This activity allows the researcher time to consider how they feel in unfamiliar environments and will help them to better relate to the observed participants (Kirner & Mills, 2020).

This activity is followed by another activity that will help the researcher show readers what happened in terms of the phenomenon experienced (Kirner & Mills, 2020). It encourages the researcher to jot down notes about what happened without focusing on the interpretation or meaning of those experiences (Kirner & Mills, 2020). For this activity, the researcher observed participants' Instagram messages and comments and jotted down notes about these interactions and detailed specifically what happened without considering the meaning or purpose behind the interaction. The interpretation of what the interaction meant occurred later during the data analysis process.

The third activity recommended by Kirner & Mills (2020) is reflexivity. This activity is perhaps the most important given the researcher's personal experience as a member of the

researched group. Reflexivity helped the researcher separate herself from other participants and limit researcher bias. In this activity, the researcher jotted down notes about an event or occurrence that took place. Then, in a separate column, the researcher wrote down notes about how the event made them feel. This helped the researcher separate the facts of the events from their views or feelings, therefore limiting researcher bias (Kirner & Mills, 2020).

Maharaj (2016) emphasized the importance of using both reflection and critical reflection when conducting ethnographic research. She defined reflection as the act of considering specific experiences or practices. In contrast, she noted that critical reflection goes deeper in that it forces researchers to consider their values, beliefs, and ideas about the phenomenon and how that influences their actions. Critical reflection, according to Maharaj (2016), is especially crucial when conducting ethnographic research since it helps researchers to understand how an individual's values, beliefs, and ideas shape their actions which can, in turn, have a direct impact on their social lives and society as a whole.

Similar to Kirner & Mills' (2020) exercises, Maharaj (2016) provides ethnographic researchers with a list of questions to ask to ensure that they are incorporating critical reflection into their field notes. These questions include:

1. What do these notes suggest regarding my beliefs and values about myself, my relationships with others, and my assumptions about knowledge, power, and privilege?
2. How do I understand my role in this setting (observer/participant, insider/outsider)?
3. How well does my account align with my beliefs and values?
4. Where in my notes do I seem hesitant or uncertain about my observations? What was guiding me in these instances?

5. What kinds of words (emotions) and language (formal/informal) did I use?
6. What did I leave out of my notes and why?
7. How did the fact that I was taking notes impact my understanding of the situation?
8. Would my understanding be any different had I been using video or audio recording instead of field notes?
9. How did my presence as an observer influence others around me? (Maharaj, 2016, p. 116).

By asking these questions, the researcher was able to understand her own thoughts, views, values, beliefs, and ideas as they pertain to the phenomenon. This was especially important given the researcher's personal experience and connection as a member of the research group. The researcher identified as a member of the proposed research population since she herself was deaf and an active Instagram user. These questions helped the researcher separate herself from the other participants and limit researcher bias. Question 7, in particular, served as a reminder to the researcher to use field notes as a tool during the interviews but to place more focus on the participant, not the notes.

The researcher in this research study played the role of a research observer. The researcher observed participants through ethnographic interviews, which were scheduled. These interviews took place as part of the fulfillment for the PhD in Communication program at Liberty University. There was a total of 16 participants, and the interviews took place over the course of 3 months. Scheduling of the interviews depended largely on participants' availability and were as few as one a week and as many as three a week.

Data Analysis

In qualitative research, the researcher is the primary research instrument (Creswell &

Creswell, 2018). It is up to the researcher to collect the data, analyze it, and derive meaning from it (Creswell & Creswell, 2018; Creswell & Poth, 2018). Collecting the data was the first step in the process. First, the researcher collected and exported the responses from research candidates that completed the preliminary screening survey on Qualtrics.

The researcher measured the responses based on the pre-determined criteria for the research study. Responses were separated based on the participants' age, degree of hearing loss, language, and use of Instagram. Only those who answered that they were between the ages of 18-45, had mild-profound hearing loss, spoke English, and used Instagram regularly were invited to participate in the interview stage of the research process.

A total of 16 interview responses were collected. The researcher wrote down notes throughout each interview. This was a process that Creswell & Creswell (2018) referred to as memoing that was completed simultaneously as the data was still being collected). Memoing encouraged the researcher to ask high-level questions regarding what the phenomenon was; why, when, how, and from whom it was produced; and its overall meaning (Creswell & Poth, 2018).

Additionally, after receiving consent from the participants, each interview was recorded and transcribed to ensure the accuracy of participant responses and subsequent interpretations made by the researcher. The recordings of each interview were replayed, and each transcript was read and analyzed. Creswell & Creswell (2018) said that all interviews should be transcribed, notes typed, and data read as a way for the researcher to begin to analyze the data and derive meaning from it. This was an effective way for the researcher to organize the data and prepare it for analysis (Creswell & Creswell, 2018).

The next step in the data analysis process involved the collection of Instagram data from all participants. Participants were asked to download their data and upload it to a secure location

that was only accessible to the researcher. The researcher then downloaded the files and opened only the messages and comment files. The researcher read all of the messages and comments made by each participant and wrote down notes, similar to the memoing strategies used for the interviews.

Three main forms of data analysis occur in ethnographic research studies, including data reduction, coding, and representing the group (Allen, 2017). The first step of the data analysis process involved having the researcher read through their field notes, interview transcripts, and other documents multiple times). Once this was completed, the researcher then considered which elements of the data were not relevant to the research study's research questions, goals, or cultural group and omitted that data accordingly in a process known as data reduction (Allen, 2017). Creswell & Creswell (2018) referred to this process as "winnowing.")

The researcher then began to analyze the relevant data by first separating it into multiple categories that represented common themes or patterns that arose in the data (Allen, 2017). This process was known as coding. Creswell & Creswell (2018) defined coding as a process of organizing the data by breaking it down into chunks and writing down words that can represent a specific category that the data falls under. All of the data was hand-coded. Once the categories were created, the researcher wrote descriptions of each category and generated common themes that arose in the collected data. All codes were then reviewed, and duplicates or redundant themes were eliminated (Creswell & Creswell, 2018).

After coding all of the data, textual description was applied to the codes and themes. The researcher used textual description to explain what the participants experienced (Creswell & Poth, 2018). From there, structural description was also applied to explain how the participants experienced the phenomena in the specified context (Creswell & Poth, 2018). In other words, the

researcher first used textual description to describe how the participants used Instagram and then used structural description to explain how the participants used Instagram to communicate with the dominant hearing world and maintain and formulate relationships with them. Textual and structural descriptions were also combined to allow the researcher to interpret and report on the participants' experiences and responses as a whole.

Ethnographic research requires that the researcher analyzes the data in a way that will best represent the researched group (Allen, 2017). Creswell & Creswell (2018) said that it should include detailed descriptions of the settings or individuals included in the research study as well as an analysis of the identified themes, patterns, or issues. In the case of this research study, the researcher included detailed descriptions of the deaf and hard of hearing participants and their use of Instagram. The researcher also provided details into the communication challenges they faced both in general and while communicating with hearing individuals.

Trustworthiness

In qualitative research, the data must be checked for accuracy to ensure its credibility and trustworthiness (Creswell & Creswell, 2018). One of the most important procedures that the researcher can carry out to ensure the data remains trustworthy is consistency. In this study, the researcher used the same preliminary screening survey on all potential participants to screen them for eligibility. Those who were chosen to participate in the interview stage of the study were asked the same core questions. The only exception was when questions need to be re-phrased for the participants for clarification purposes and when follow-up questions also needed to be asked to ensure the researcher fully understood the participant's experience with the phenomena.

Dependability

The terms “dependability” and “reliability” are often used interchangeably in qualitative research (Sinkovics et al., 2008). Protocols are often developed in the research proposal to ensure that the data remains dependable or reliable (Sinkovics et al., 2008). In this ethnographic research study, a protocol was developed and followed accordingly. All collected data, including interview transcripts, were reviewed multiple times (Creswell & Creswell, 2018). Codes were reviewed to ensure that the definitions of each code remained consistent and that there were no errors). Every step of the proposed study was documented so that it was easy for the researcher to keep track of all methods and procedures and to ensure that there were no missteps along the way or inconsistencies in the data collection, review, and analysis processes). Lastly, the study was reviewed by the researcher's dissertation chair and committee before being launched and prior to having the study's results published (Creswell & Creswell).

Transferability

Transferability refers to a study's ability to be replicated and also the generalizability of the study's results (Sinkovics et al., 2008). The more transferable a study is, the more valid it is said to be. Thick description was used to increase the validity of the research study. Thick description involves the use of detailed descriptions of the research findings (Creswell & Creswell, 2018). These descriptions help readers visualize the setting where the phenomena are experienced by the participants. It helps them to better understand how all of the participants experienced the phenomena, and it offers them multiple perspectives to consider (Creswell & Creswell, 2018). Thick description also helps to ensure that the research results remain transferable (Creswell & Poth, 2018). In other words, by providing readers with in-depth details about the codes, themes, and other forms of collected and analyzed data, other researchers may be able to duplicate or build upon this study in the future (Creswell & Poth, 2018).

Confirmability

Confirmability and validity are often used interchangeably in qualitative research studies (Sinkovics et al., 2008). Creswell & Poth (2018) prefer to use the term confirmability since qualitative research differs from quantitative research and goes far beyond the concepts of true or false or right or wrong. Rather than looking for the right answers, qualitative researchers should focus more on accurately telling the stories or accounts of their participants and their experiences with the researched phenomenon (Creswell & Poth, 2018). Confirmability helps researchers to remain objective in their analysis and ensure that their data and interpretations remain accurate and unbiased (Sinkovic, 2008). Researchers must be transparent and open about both their research methods and the strategies they use to analyze and interpret their data (Sinkovics, 2008).

Data triangulation or the collection of multiple data sources can help to increase a study's overall confirmability (Creswell & Poth, 2018). Qualitative researchers must collect as much necessary and relevant data as possible to serve as evidence that can help them to best understand the researched cultural group and their experiences). Qualitative research becomes the most credible or valid when it seeks the opinions of others (Creswell & Poth, 2018). This research study used triangulation by collecting data from ethnographical observations, interviews, and data collection.

Researchers have a moral responsibility to tell the truth to ensure that their data and research results remain credible and valid (Creswell & Poth, 2018). Researchers must separate themselves from their research to tell the stories and accurately share the views and experiences of their participants. Creswell & Poth (2018) recommend that researchers use reflexivity to consider their own thoughts, values, beliefs, and experiences and separate them from their participants. It was a challenge for the researcher to separate herself from her research subjects since she was a member of the researched population. However, by reflecting on her own experience as a member of the researched group while at the same time separating herself from the other participants, she was more aware of her values, beliefs, feelings, and experiences and cautious not to let her experiences influence or bias her research results.

In addition to using the researcher's lens to triangulate data, the researcher also used the participant's lens (Creswell & Poth, 2018). The researcher sought feedback from participants regarding her interpretations of their experiences with interacting with others in FtF environments and through Instagram. This ensured that the researcher accurately represented the participants and their values, beliefs, thoughts, and feelings. The researcher also looked for ways to collaborate with the participants. Participants were viewed as research partners, and the

researcher sought their help for interpreting collected data and analyzing it (Creswell & Poth, 2018).

Ethical Considerations

Before launching this research study, the researcher sought approval from Liberty University's IRB. This research study was completed per the guidelines set forth by Liberty University's dissertation handbook. The handbook stated that IRB approval must be sought within 10 days of successfully completing the research proposal defense or at the start of the COMS 988 course (Mott, 2019). This approval was received before any participants were recruited or data was collected, as required by the guidelines outlined in the dissertation handbook (Mott, 2019).

After the researcher received IRB approval to conduct her study, she immediately began to recruit participants. All participants were required to submit consent forms before participating in this study. The consent form explained that the purpose of the study was to gain a deeper understanding of how deaf or hard of hearing individuals used Instagram to connect with the hearing world and develop stronger relationships with them (Creswell & Poth, 2018). It also explained that participation in this research study was voluntary, and participants were permitted to exit the research process at any time for any reason. Participants were also ensured on the consent form that they would not be exposed to any undue risk for participating in this study (Creswell & Poth, 2018). A copy of the consent form is included in Appendix D.

Deaf and hard of hearing individuals may be considered a vulnerable population. O'Brien et al. (2021) said that vulnerable populations are those that are at a higher risk of harm than other populations. Researching vulnerable populations is crucial because the findings can help

researchers better understand the populations and seek ways to help them and protect them from harm. However, these populations can, at times, be difficult to reach (O'Brien et al., 2021).

When working with vulnerable populations, researchers must carefully approach the population and ensure participants will not be harmed (O'Brien et al., 2021). The researcher's experience as a deaf Instagram user meant that she related to this vulnerable population since she was one of their members. The researcher was born with progressive hearing loss that quickly became profound. She understood the challenges that deaf and hard of hearing individuals faced when trying to communicate with the hearing world since she has also experienced them. This placed the researcher in a unique position since she was able to understand the groups' needs on a personal level, which O'Brien et al. (2021) identified as being a crucial element for collecting qualitative data from vulnerable populations.

Researchers have been criticized in the past for the way they have conducted research with deaf participants. Singleton et al. (2014) explained that many previous research studies had applied a disability lens to research involving deaf participants. They have attempted to compare them to the hearing population in a way that creates an Us vs. Them narrative, suggesting that the Deaf population is broken and the hearing population is the only "normal" one. This view can be highly toxic to the deaf population because it suggests that their culture is wrong and that they need medical intervention (Singleton et al., 2014). This research study remained mindful of this ethical concern by focusing less on comparing and contrasting deaf and hearing populations and instead considering how the two unique groups of individuals used Instagram to enhance communication and build relationships so that they could be united as one. Additionally, this research study did not include members of the Deaf community who did not wish to develop relationships with the outside hearing world.

As previously stated, the researcher was at an advantage since she was a deaf Instagram user. Deaf individuals have previously expressed concerns with research studies on their population, noting that most studies are not conducted by deaf researchers (Singleton et al., 2014,). This has resulted in many deaf participants feeling exploited and misunderstood (Singleton et al., 2014). However, the researcher had a slight disadvantage since she did not know sign language or belong to the capital-d Deaf community. The researcher decided not to include individuals whose primary language was sign language or those who belonged to the Deaf community in the research study to avoid exploitation, bias, or harm to this vulnerable subgroup.

Summary

A qualitative ethnographical study using open-ended interviews conducted over Zoom, participant observation, document analysis, and field and scratch notes was conducted. This study used snowball sampling to recruit deaf or hard of hearing individuals who regularly used Instagram and were between the ages of 18-45. This study did not include individuals who primarily spoke through sign language or identified as members of the Deaf community and did not desire to connect with the hearing world. While this may have posed some limitations to the study, it also helped it remain ethical as it did not put the Deaf community at risk or cause them to be exploited or misunderstood. Potential research candidates were screened using a preliminary screening tool through Qualtrics to collect their basic information, including demographics and frequency of Instagram use. Those determined to qualify for the study were contacted for interviews using open-ended questions to further explore their experience using Instagram to connect with the hearing world. Each interview was recorded and transcribed, and finally analyzed to look for common themes, trends, or patterns within the collected interviews.

Since the researcher was a deaf Instagram user, she identified as a member of the researched population. This gave her an advantage from an ethical standpoint since she was able to understand the needs of this vulnerable population. She was also able to participate in this study as a participant observer. However, she was still cautious of researcher bias. Reflexivity, including the use of both reflection and critical reflection, was used to disclose the researcher's personal experience and bias. The study results will be presented in Chapter Four, followed by the discussion of the results and suggestions for future research in Chapter Five, respectively.

Chapter 4: Results

Overview

Chapter four begins with a description of the recruiting process, a brief overview of how the participants were recruited, and basic information about the selected participants. From there, the chapter explains what kind of data was collected, how it was collected, and, most importantly, how it was coded. It includes a thorough analysis of the collected data, including the participants' interview responses and their coded Instagram data. Chapter four includes a summary of the research results, including an analysis of the three themes that emerged from the study.

Participants

This ethnographic research study included deaf and hard of hearing Instagram users from the United States, Belgium, and Brazil. Participants were recruited using the snowball sampling method. A preliminary screening tool was used to screen all potential participants to ensure that all participants met the necessary criteria. This tool was created through Qualtrics and administered via social media and e-mail. A total of 467 responses were collected.

Participants were eligible to participate in the study if they were between the ages of 18-45, had mild-profound hearing loss, spoke English, and were a regular user of Instagram. 64 (14%) individuals met the research criteria and were invited to participate in the interview phase. Of these 64 invited, 16 participants (25%) agreed to participate in the interview process. 14 (87.5%) of interviews were recorded and conducted over Zoom. Two interviews (12.5%) were conducted over e-mail due to conflicts with the participants' schedule or being in a drastically different time zone from the researcher. One participant was disqualified before the interview was completed due to their lack of use and familiarity with Instagram.

In addition to conducting interviews, the researcher also collected Instagram data from each participant. Participants were initially asked to provide the researcher with exports of their Instagram data. The researcher then looked exclusively at the files containing Instagram private messages and comments. However, six (37.5%) of the participants declined to provide their private Instagram data files. Privacy was cited as one of the main reasons why these participants declined to provide their Instagram data. This was especially true for participants that used their Instagram accounts for professional enrichment, including engaging with patients, customers, or clients for whom they wanted to protect their private data. For these participants, data were collected in the form of either their public Instagram posts or for those with private accounts, permission was granted for the researcher to follow their accounts and use their newsfeed posts. All comments, messages, and posts made by the user were carefully read through and coded.

The Coding Process

The first step in the coding process was to transcribe all recorded interviews. After all of the interviews were transcribed, they were coded based on topics that arose throughout the interview. The researcher also coded all e-mailed transcripts. Once all recorded and e-mailed interviews were transcribed, the researcher coded all collected data, including Instagram comments, messages, and posts. A total of 46,743 pieces of data were coded across all 16 participants.

After all of the data was coded initially, the researcher cleaned up the data and eliminated or combined duplicate codes to further condense the data. The researcher came up with a final number of 29 codes with 50 different sub-codes. The 29 codes included: entertainment, bullying, hearing loss, reactions, compliments, food/drinks, education, events, relationships, beauty, travel, animals, Instagram, sympathy, politics, religion, technology, glasses, holiday, career,

immigration, family, racism, disability, COVID, fashion, mental health, news, posts about different hobbies/interests, and exercise/fitness.

The entertainment code had three sub-codes: music, sports, and memes. The code for hearing loss had several sub-codes, which included: living in hearing world, people in real life are accepting of hearing loss, I talk about hearing loss with those who have hearing loss, cochlear implant, CODA, speech, sign language, listening fatigue, I need context/visual cues, advocacy, hearing aids, captions, phone, sometimes I need a break from my cochlear implant, accessibility, BAHA, audiology, lip reading, audism, ableism, FM, tinnitus, TTY, and Facebook is better for the deaf/hard of hearing community. The code for events had the sub-category of weddings. The code for Instagram had several sub-codes, which included: I like that Instagram's a visual platform, Instagram reels, Instagram stories, Instagram used to connect with family and friends, passive user, connecting with the deaf community on Instagram, Instagram makes me feel less lonely, be careful who you follow/what you consume, posts about self/life, and Instagram is good for communities. The sub-code for Instagram used to connect with family, and friends had an additional sub-code of lives far from family and friends. The code for family had a couple of sub-codes, including children and parenting. The code for posts about different hobbies/interests had several sub-codes, including crafts, shopping, games, magic, writing, books, gardening, dance, and art/photography.

Textual description was applied to each code to explain what the participants experienced. These descriptions were more general and used to identify precisely what the participants experienced on Instagram regarding how they used the platform. Similarly, structural descriptions were also applied to each code to explain how the participants used Instagram to help them develop stronger interpersonal relationships with the hearing world. By

using both textual and structural descriptions, the researcher was able to determine how each code connects back to the original research questions and the overall goals of the study.

Participant Demographics

Table 1

Participant Grid

Participant Grid							
Participant	Age Range	Gender	Location	Degree of Hearing Loss	How Often Do They Use Instagram?	Which assistive listening device do they use?	Public or Private Account?
Participant 1	18-30	Female	NC, USA	Profound (91+ dB)	45+ minutes a day	1 cochlear implant and 1 hearing aid	Public
Participant 2	30-40	Female	PA, USA	Severe (71-90 dB)	30-45 minutes a day	Hearing aids	Private
Participant 3	30-40	Female	Belgium	Profound (91+ dB)	0-15 minutes a day	Hearing aids	Private
Participant 4	18-30	Female	NY, USA	Mild (26-40 dB)	30-45 minutes a day	None	Public professional account and private personal account
Participant 5	30-40	Female	CO, USA	Moderate (41-55 dB)	15-30 minutes a day	Hearing aids	Private
Participant 6	18-30	Female	IL, USA	Moderate (41-55 dB)	45+ minutes a day	Hearing aids	Public
Participant 7	30-40	Female	CA, USA	Profound (91+ dB)	45+ minutes a day	Cochlear implants	Public professional account and private personal account
Participant 8	30-40	Female	FL, USA	Moderately severe (56-70 dB)	30-45 minutes a day	None	Private
Participant 9	30-40	Female	OH, USA	Severe (71-90 dB)	45+ minutes a day	1 cochlear implant and 1 hearing aid	Public
Participant 10	18-30	Male	NY, USA	Moderate (41-55 dB)	45+ minutes a day	Hearing aids	Public
Participant 11	30-40	Female	CA, USA	Profound (91+ dB)	30-45 minutes a day	Hearing aids	Private
Participant 12	18-30	Female	OH, USA	Moderate (41-55 dB)	45+ minutes a day	None	Private
Participant 13	18-30	Female	CT, USA	Moderate (41-55 dB)	30-45 minutes a day	None	Private
Participant 14	40-45	Female	Brazil	Profound (91+ dB)	45+ minutes a day	Cochlear implants	Public
Participant 15	30-40	Female	TN, USA	Moderate (41-55 dB)	0-15 minutes a day	Hearing aids	Public
Participant 16	30-40	Female	NC, USA	Profound (91+ dB)	45+ minutes a day	Hearing aids	Public

Most of the participants (56%) were between the ages of 30-40. 37.5% of the participants were between the ages of 18-30. One participant was between the ages of 40-45. 15 out of 16 participants (93.75%) were female. 87.5% of participants were from the United States. North Carolina, New York, California, and Ohio were the only states with more than one participant. Collectively, they made up 37.5% of the participants. Individually, each of these states accounted for 12.5% of the participants. Participants were also from Pennsylvania, Colorado, Illinois, Florida, Connecticut, and Tennessee. Two participants were from outside the United States. Internationally, one participant was from Belgium, and the other was from Brazil.

Most participants had either profound (37.5%) or moderate (37.5%) hearing loss. Profound hearing loss is defined as having at least a 91 dB hearing loss (Degree of Hearing Loss, n.d.). These individuals cannot hear sounds lower than 91 dB, which may include a tractor, leaf or snow blower, rock concert, or chainsaw (Loud Noise Dangers, n.d.) Moderate hearing loss is defined as being in the 40-69 dB hearing loss range (Degree of Hearing Loss, n.d.). These individuals can hear sounds that are as loud as a vacuum cleaner or alarm clock (Degree of Hearing Loss, n.d.).

12.5% of participants had severe hearing loss. Those with severe hearing loss can hear a little more, so long as it is in the 70-94 dB noise range (Degree of Hearing Loss, n.d.). These individuals can typically hear sounds as quiet as a hair dryer, kitchen blender, or food processor best (Loud Noise Dangers, n.d.). One participant had mild hearing loss, and one had moderately severe hearing loss. Those with mild hearing loss have hearing loss in the 30-40 dB range (Degree of Hearing Loss, n.d.). They can usually hear pretty well but may struggle with quiet speech such as a whisper (Loud Noise Dangers, n.d.) Moderately severe hearing loss is defined

as being in the 60-70 dB range (Degree of Hearing Loss, n.d.). These individuals can hear sounds that are as soft as a dishwasher or clothes dryer (Loud Noise Dangers, n.d.).

Most (50%) participants wore hearing aids. 25% of participants did not report using any type of hearing device. 12.5% of participants used cochlear implants, and 12.5% were bimodal, meaning they wore one hearing aid and one cochlear implant. It is important to note that in the United States, Brazil, and Belgium, only those who have at least severe hearing loss are eligible for cochlear implants (Cochlear Implants, 2021; Daher & Bahmad, 2021; De Raeve & Wouters, 2013). Therefore, the participants who reported having mild or moderate hearing loss do not qualify for cochlear implants.

Half of all participants reported using Instagram for 45+ minutes a day. 31.25% reported using Instagram for 30-45 minutes per day. This corresponds to the Instagram study that mentioned that most users tend to use the platform for at least 24-32 minutes per day. 12.5% of all participants used Instagram for 0-15 minutes per day. One participant used Instagram for 15-30 minutes each day. 44% of participants had public accounts, and another 44% had private accounts. 12% of participants reported having multiple accounts with a private personal account and a public business account.

Careers

Many participants used Instagram to post about their careers, consume content related to their careers, or connect with coworkers or others working in the field. Some of the most common career fields were those in the medical field, photography, and other careers, including educational, technological, and food-related careers. Many of the participants chose to work in fields that are connected to their hearing loss. Several participants mentioned wanting to use their experience with hearing loss to give back to the community that has helped them so much

already. This is why they chose to work in professions that allowed them to connect with those with hearing loss or bring awareness to hearing loss-related conditions and challenges.

Medical Careers.

The most common career participants had overall and in the medical field was that of an audiologist. Three participants (18.75%) reported that they were audiologists. These participants were participant 4, participant 7, and participant 13. Many of these participants mentioned following many Instagram accounts that post speech and audiology-related content. Participant 4 said, “I follow audiologists for audiology and speech-related content to look for facts that can help my patients.” They also noted that “there is a good community of audiologists on Instagram. It is a really positive space.” Instagram serves as a search engine for participant 4. Participant 4 uses Instagram to discover new information about audiology to share with their patients. The benefit of using Instagram in this way is that it allows the participant to quickly identify content that comes directly from audiologists. This means that the content is personal and credible. It is also beneficial since it helps the participant to network with other audiologists and to further engage with the community. The audiology community on Instagram is helpful and eager to give and receive resources for the benefit of audiology patients.

The decision to become an audiologist was largely influenced by the participants' own experience with hearing loss. Participant 7 said, “I can relate to this. I can relate to patients well.” Deaf and hard of hearing audiologists have more personal experience with their subject matter than hearing audiologists do. Participant 13 said:

In the clinic, when I’m doing the professional side of things, there’s been issues with communicating with people who don’t have hearing loss, even if they’re

audiologists. Like, them not realizing they can't talk to me when they're walking away or with me with my back turned, that kind of thing.

Since deaf and hard of hearing audiologists live with hearing loss, they may be better able to relate to and understand their patients' challenges and better accommodate or prevent communication breakdowns. The main and most obvious difference between hearing audiologists and deaf or hard of hearing audiologists is that deaf and hard of hearing audiologists experience hearing loss first-hand. This experience is invaluable and allows deaf and hard of hearing audiologists to relate to their patients in a way that hearing audiologists simply cannot. While hearing audiologists can gain experience from their education and experience, they will never know what it is like to have hearing loss unless they themselves experience hearing loss first-hand one day.

As participant 4 mentioned, Instagram is filled with a supportive community of audiologists. Participant 13 added, "I post a lot of audiology stuff, and I follow a lot of deaf and hard-of-hearing audiologists, so we all share each other's posts as well." Participant 7 also mentioned using Instagram to connect with their patients online and provide additional help and support. They mentioned that their account is a resource account, which they explained by saying, "It's like I'm a resource or I'm a deaf or hard of hearing friend, whereas they'll ask questions that they really need an answer to, or they'll look for guidance." Participant 7 uses their expertise as an audiologist to give back to the community, educate the community, and spread awareness about hearing loss. They use their experience as an audiologist with hearing loss to connect with patients outside of their scheduled appointments. This allows them to provide additional support and to give answers to their urgent questions at any time of the day, relieving their patients from much stress and anxiety. It takes the relationship between the

audiologist and the patient one step further, allowing the audiologist to become a trusted friend of the patient.

Outside of audiology, participants chose other medical professions. Participant 11 worked as an optometrist. Like the audiologists, participant 11 also used Instagram to connect with a unique community of individuals in their chosen profession. They mentioned following the professional accounts of several of their optometry school classmates. Participant 11 said:

They're actually pretty helpful. Because if I have a question about like a certain medication that came out, I can go back to their post, and I'll still message them like, 'Hey, what do you think about this medication? What's the dosing, or what experience have you had with that?' Also, they'll put all of this information in there, too, so it's a good reference point to go back to.

Like the audiologists, participant 11 also uses Instagram as a search engine to further educate themselves about their chosen field. Instagram allows for answers about specific topics in real-time. It also provides optometrists with a supportive community of professionals who are always available and willing to help answer any questions they might have related to their chosen profession. Direct messages (DMs) allow optometrists to share their opinions on different medical treatments in a private, safe place while allowing individuals on the receiving end to refer to previous messages and review the information for future reference.

Participant 11 also mentioned that their hearing loss plays a role in their career and how they choose to disclose their disability. They admitted, "With patient care, I try to just pass. Unless I'm having issues, then I will be very comfortable with telling patients." Participant 11 fears that their patients, especially newer ones, might perceive them differently if they disclose

their hearing loss status. They do not want their patients to think that their hearing loss will interfere with their ability to offer a thorough and accurate exam or to treat their medical condition(s). Once they have developed a good rapport with their patient or gotten to know them over an extended time, they are more comfortable sharing with them about their hearing loss. However, if they notice they are having trouble hearing or understanding a new patient, they will be more upfront about their hearing loss and ask for help. This might include asking the patient to repeat themselves or speak more loudly and clearly. Participant 11 never wants to be in a position where their hearing loss has a negative impact on their work, whether that impact is real or perceived.

However, participant 11 did mention that following accounts from other deaf and hard of hearing advocates helped them to feel more comfortable with their hearing loss. They said, “They’ll talk about different accommodations or different things they found that will help them. Because every tool you find out about just makes it slightly less scary to go out in the world.” Instagram has helped participant 11 to connect with more people that experience hearing loss like they do and has helped them to become more comfortable working in the medical field around hearing patients. Through Instagram, participant 11 has learned they are not alone in their hearing loss struggles. They have also benefitted from using Instagram to connect with the hearing loss community and educate themselves about tools, technologies, and accommodations they can ask for in the workplace to ensure that their hearing loss does not negatively impact their work. Instagram is helping participant 11 not to feel ashamed of their hearing loss and not to be afraid to ask for help when needed.

The final participant to disclose that they work in the medical field was participant 16. Participant 16 worked as a dental hygienist. Participant 16 noted that they have multiple

Instagram accounts, including one they “use as a resource to help other deaf and hard of hearing dental hygienists students achieve their goals of becoming a dental hygienist using financial resources and community support.” Participant 16’s business account allows them to connect with a more specific audience of those with hearing loss that are interested in careers in the dental industry. This content is more focused and targeted at a specific audience within this niche community. In contrast, their personal account allows them to cover a broader range of topics that are relevant to a more generalized audience of both hearing individuals and non-hearing individuals. Here, participant 16 is best able to amplify their voice and reach a large audience to educate, inform, and advocate about hearing loss and the needs and rights for those who experience hearing loss.

Similar to the audiologists and optometrists, research participant 16 also mentioned using Instagram to connect with a unique community of users that work in their chosen profession.

They said:

I’m most interested in other hygienists creating content because I’m also a speaker, and I advocate for the hearing loss community in dentistry. I get inspired by other hygienists and other speakers out there that are creating reels to educate people from their platforms.

Dentistry is not a common profession for deaf and hard of hearing individuals. Many deaf and hard of hearing individuals fear that they cannot work in the dental industry due to their hearing loss. These individuals face challenges in the field such as excessive background noise, the inability to read lips when colleagues are wearing masks, and discrimination. Using Instagram, participant 16 is advocating for deaf and hard of hearing individuals and spreading awareness to let them know that this profession is open to everyone, whether hearing or not.

Photography.

Two (12.5%) of the participants noted that they were photographers and used their Instagram accounts to promote their work or grow their businesses. These participants were participant 10 and participant 15. Participant 10 noted having more than one account. One of their accounts was specific to their photography career. The same was true for participant 15, who also noted having both a personal Instagram account and a business account used strictly for their photography work. Having multiple Instagram accounts for both personal and professional work is a common theme that was identified in multiple participants.

Participant 15 noted that 10% of their total time on Instagram was spent on their business endeavors. Most of their time spent on their business involved creating content and sharing their work to connect with clients and also interacting with client posts and the posts of other industry professionals. They also spent a significant amount of time networking with others who worked in the same industry and researching locations, venues, and potential couples for weddings. While the industry is very different, this aligns with how medical professionals and audiologists also use Instagram to connect with a community related to their profession.

Disability-related careers.

Two participants (12.5%) had careers that were somehow connected to their disability, although different from those of the audiologists. Participant 3 noted that they work in the social and psychological departments at a university. They said, “I very specifically work with students with disabilities.” This has helped the participant work in an accommodating and understanding environment. They further explained:

Everyone around me, the five people in my team, are very understanding towards me with my hearing loss and that makes my life a lot easier. We have a great

relationship. I would even say it's a friendship that I have with them. I don't have a huge friend group, but the friends that I have are very close friends. I have lost friends because of the hearing loss, unfortunately. But the friends that have stuck around, and I stuck with them, has really been this group.

Participants have turned to their work for a sense of community and belonging, whether online or offline. Working with individuals with disabilities has helped participant 3 to work in a safe environment where individuals are aware of and constantly educating themselves on the needs of individuals with disabilities. Participant 3 has bonded with their colleagues because they feel respected and valued. They are in an environment where they are surrounded by individuals that understand their needs and are willing to offer support and accommodations, no questions asked. This is different from the relationships participant 3 has with those outside of work who are not as accepting or understanding of their hearing loss.

Participant 5 also mentioned working in a career that helped people with disabilities, although in a different context. They said, "I'm a software engineer, and I do a lot of accessibility work professionally, and I'm learning more about it." They noted that Instagram has been helpful for them as a person with hearing loss due to the automatic captioning, but they also said that it "is not the best captioning" and that since it's an image-heavy platform, it is "not great if you're blind." Participant 5's career has helped them to be more in tune with how they use Instagram and how accessible it is for them and others with disabilities like them. While they can appreciate the visual nature of Instagram as an individual with hearing loss, they acknowledge the difficulties the platform presents for those with vision loss. Additionally, they are more attuned to both the benefits and limitations of features including automatic captioning on Instagram for those with hearing loss.

Other Careers.

Other careers mentioned by the participants were that of a food scientist and an educator. Participant 6 was the food scientist, and they mentioned that they liked to use Instagram to connect with other food scientists and chefs working in the same or similar industries. They also noted that most of their posts involved food or experiments they were working on in the lab. Again, while the profession was drastically different, participant 6 used Instagram similarly to connect with their community and grow professionally as the audiologists, medical professionals, and photographers did.

Participant 8 worked as a teacher. Similar to the other participants, participant 8 noted that they use Instagram for networking purposes and to connect with their students, or more specifically, their students' parents. They said, "It's a good way to communicate with the parents who might not feel comfortable communicating with me, maybe directly in person. But they can also see [my Instagram posts] and see their child participating and learning." Instagram has helped to open a door between participant 6 and the parents of their students. Instagram is beneficial in that it is always available, so parents can use it to check on their students, ask questions, and engage with their child's teacher at all hours of the day. It also allows them to interact in a less invasive or personal way than FtF interactions require, allowing those who are shy to feel more comfortable interacting with their child's teacher.

Participant 8 also noted using Instagram to connect and learn from a community of like-minded professionals. They mentioned using Instagram to get new ideas for how to teach their class effectively. They said:

If I just hit #1stgradeteacher or something like that, I can find a ton of resources that have links and information I can use. I like it because I have almost complete

hearing loss in my left ear, so I'm not really comfortable communicating with a lot of people, so I like to do a lot of extra research on the side where I can just hit some links and save it to my computer.

Instagram has helped participant 8 by providing helpful information that is easy for them to access and accommodates their hearing loss. Instagram has provided multiple uses as an educational tool for them. First, they used Instagram as an educator to engage with the parents of their students, faculty, and staff at their place of employment. Secondly, they used Instagram to further their education and discover new ideas about how to best manage their classroom and teach their students.

Participant 8 also admitted to being self-conscious about their hearing loss and how it might impact their career. They said:

I always look at it as, 'Is that going to hurt me being a teacher because I don't have perfect hearing? You know? Do I really know what's going on around the classroom? I think it's made me more observant and just making sure I'm always moving around the classroom, and if I see lips moving, I'll be like, 'What are they saying over there?' You know, I will address whatever conversations, especially if someone's looking at me and whispering in and out of the classroom. I'll be like, 'Do you have something to say? I'm an open book. Come talk to me.' You know?

Similar to participant 11, participant 8 also felt insecure about their hearing loss and work life. They worried that people would think less of them as a teacher if they admitted to having hearing loss. At times, participant 8 admitted to feeling inadequate and as though their hearing had a negative impact on their ability to manage their classroom. They were drenched in feelings of

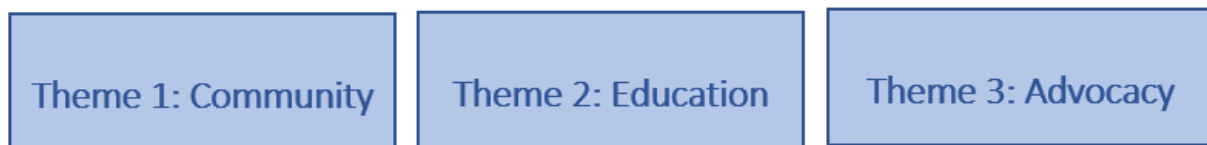
doubt about their teaching abilities, despite their teaching experience and credentials. At the same time, they acknowledged that their hearing loss has some benefits in that it provoked them to be more observant and conscientious of their surroundings and what is happening in their classroom.

Summary of Findings

The major findings of this study include the emergence of three core themes. These themes include 1. Community, 2. Education, and 3. Advocacy. These themes are included in the table below. Each theme is also further described in the sub-sections below. These themes were developed because they were mentioned the most often throughout the participants' interviews and in their collected data. While similar to the codes, the themes differ in that several of the codes that emerged in the data can be applied to one or more of these five core themes.

Figure 2

Themes



Theme 1: Community

The first theme identified through the coding process was community. Preece (2001) acknowledged that there is no one specific definition for community since its definition can vary depending on an individual's perception. Her definition of an online community was an online space of any size with people from any location where they could meet to share information and educational resources, learn, or provide support. Similarly, Zhou (2011) defined a community as

individuals sharing a common interest. He mentioned that these individuals converse with one another to share different ideas and gain and receive support.

Many participants used Instagram to connect with a community. Some participants were joining new communities, and others were looking to engage with communities they already belonged to offline. Participant 2 mentioned, “You can find lots of communities and lots of things that you’re interested in.” Participant 16 added, “I think it’s [Instagram] a great way to meet people within your community.” The most common communities that users joined were connected to either their hearing loss, careers, or a hobby or interest. Instagram was especially beneficial for allowing participants to find a network of individuals that shared the same interests, traits, and passions as them. Offline, it can sometimes be hard to find people with the same experiences, interests, and passions. Instagram makes it easy to find these individuals with search features, hashtags, and keywords.

Kožuh & Debevc (2016) drew from social psychology and sociology to define community. From a social psychology perspective, they said that community involves the connectedness of group members looking to receive social support. They referred to this social support as “social integration.” From the sociology perspective, they said that community with stronger ties might be made up of a network of like-minded individuals that would either meet face-to-face to interact or if they had a weaker tie, they might meet based on rational choices, and these individuals might meet in a virtual world, rather than relying on FtF interactions (Kožuh & Debevc, 2016).

Preece (2001) also mentioned that people in a community could have either strong-tie relationships or weak-tie relationships. Those with strong-tie relationships depend on one another for essential or life-supporting needs, similar to those belonging to the same family. In contrast,

those with weak-tie relationships tend to focus more on sharing and exchanging information and resources with each other. People who belong to a support group are often part of a weak-tie community (Preece, 2001).

The participants in this study can be said to belong to weak-tie communities. They primarily engage in the communities to give and receive information, support, or advice. As previously mentioned, the way that participants interact with community members is often different than how they interact with people they know offline. Their conversations are not as intimate as conversations with the family.

Kožuh & Debevc (2016) also found in their research that deaf and hard of hearing individuals frequently turn to online communities to gain support for their hearing loss. Sweet et al. (2019) referred to these types of communities where members are focused on sharing information and concerns to learn about a common topic as a “community of practice” or CoP. These communities are often very positive, compassionate, and understanding of the members’ needs and concerns (Kožuh & Debevc, 2016). Participant 7 said, “I use it [Instagram] now for business, obviously, and creating a community. I appreciate what it can do. I can reach my audience, they can find me, and we can give and receive information much more comfortably and casually. Similar to Sweet et al.’s (2009) findings, Participant 7 can be said to foster a CoP. They use Instagram to share and receive information from their followers and those that they follow. Instagram helps them to easily connect and engage with their audience to offer support. They are compassionate, positive, and understanding of the needs of their followers and members of the community.

Participants belonged to communities based on their hearing loss, chosen professions, or a hobby or interest. However, out of all of these communities, the one that emerged most frequently in the data was that of the hearing loss community. Participant 16 said:

I think it's [Instagram] a great way to meet people within your community – the deaf and hard of hearing community. I think that growing up, we didn't have that kind of outlet to reach out to people, and nowadays, we do. It's been interesting to see how we can bond with like-minded people within our community. Since the pandemic, the deaf community has come together, and it's blown up a lot. Before, I thought there wasn't a whole lot of people out there who were like me because they can be hard to find, and then Instagram is there to connect with other people.

I think that's great.

Most of the participants do not know other deaf and hard of hearing individuals in real life. This can cause the participants to feel alone in their hearing loss and often misunderstood. It can also be overwhelming for them to navigate their hearing loss independently. Instagram helps these individuals identify, connect, and engage with others who experience hearing loss.

Hearing loss related topics emerged in the data a total of 1,628 times, accounting for approximately 3.48% of all posts. The sub-codes included living in a hearing world, people in real life are accepting of hearing loss, cochlear implant, CODA, Speech, Sign Language, Listening Fatigue, I Need Context/Visual Cues, Advocacy, Hearing Aids, Captions, Phone Challenges, Sometimes I Need a Break from My Cochlear Implant, Accessibility, BAHA, Audiology, Lip Reading, Audism, Ableism, FM, Tinnitus, TTY, And Facebook is Better for Deaf/HOH Community.

The sub-code for cochlear implants emerged the most frequently, showing up 945 times. Similarly, the sub-code for hearing aids came up in the data 778 times. The sub-code for audiology emerged 520 times, due mostly to three participants working as audiologists. The sub-code for sign language appeared 318 times. The sub-code for speech emerged 240 times. As seen in the top five sub-codes, each sub-code centered around the idea of the participant looking to either give or receive support, information, and resources based on assistive technology and communication options. This goes hand-in-hand with the findings of Kožuh & Debevc's (2016) research study and Sweet et al.'s (2019) study.

Theme 2: Education

The second theme identified through the coding process was education. Lawrence Cremin (1976) offers one of the most thorough yet simplistic definitions of education. He defined education as the intentional acquisition and exchange of information, knowledge, and general learning. In his definition, he tied in values, attitudes, skills, and sensibilities as all providing an equal role in making up one's education (Cremin, 1976).

Chazan (2022) was a big supporter of Cremin's (1976) definition of education. He further added to Cremin's definition by explaining that there are three different ways to view education, including the socialization view, the acculturation model, and the liberal/person-centered model (Chazan, 2022). In the socialization view, education is seen as an attempt to provide the younger generations with facts, knowledge, and skills to help them to grow into knowledgeable adults. The acculturation model sees education as providing individuals with the skills they need to function within a specific culture. Lastly, the liberal/person-centered model of education teaches individuals to use reflective thinking and to rely on their feelings to help them decide how to live their lives (Chazan, 2022).

The participants in this study best fit the acculturation model. These individuals were looking for information related to their hearing loss. They were seeking information about how to live in the hearing world, cochlear implants, CODAs, speech therapy, sign language, listening fatigue, advocacy, hearing aids, captions, navigating the challenges that came with using the phone, taking a break from their cochlear implant(s), accessibility challenges, BAHA(s), audiology, lip-reading, audism, ableism, FM systems, tinnitus, TTYs, and how to choose the best online or social media platform for the deaf/hard of hearing community. This was all information they were seeking to help them to live within the deaf/hard of hearing community and culture.

One of the most popular educational accounts that participants learned from was @Mama.Hu.Hears. Participant 11 said, “There’s been so many things that I’ve learned at @Mama.Hu.Hear’s account that I didn’t know before. I think my audiologist’s great, but of course, they can only do so much in 30-minute appointments.” Participant 3 also mentioned that @Mama.Hu.Hears was one of their favorite accounts to follow. @Mama.Hu.Hears is beneficial because a pediatric audiologist owns this account, which is always accessible through the Instagram app. Users, including participant 11, trust the content since it is from an audiologist and therefore perceived to be credible. Participant 11 also knows they can contact @Mama.Hu.Hears whenever they have a question or need help; no appointment is necessary.

Participants also used Instagram to learn more about hearing devices. Participant 9 recalled using Instagram to research cochlear implants and cochlear implant brands before receiving their first one. They said, “I was able to find people with each of the three brands and talk to them. I knew what brand I wanted to go with, but I wasn’t 100% sure, so I still wanted to reach out to different individuals and see how they felt about their cochlear implant before I made a decision.” Instagram connected participant 9 with real cochlear implant users. Using

Instagram, participant 9 contacted these users directly to ask them about their experience with each of the three cochlear implant brands. This allowed participant 9 to learn about each brand based on the individuals' personal experience, a form of research that is often more beneficial and enlightening than medical or academic research alone.

Theme 3: Advocacy

The final theme identified in this research study was advocacy. One of the clearest definitions of advocacy comes from Royea & Appl's (2009) definition, which draws from both Mitchell & Philibert (2002) and also Zeitler (2007) (Mitchell & Philibert, 2002; Royea & Appl, 2009; Zeitler, 2007). Their definition describes advocacy as educating a population on an issue that can help them improve the overall well-being of a specific group (Mitchell & Philibert, 2002; Royea & Appl, 2009; Zeitler, 2007). Royea & Appl (2009) further described advocates as being risk-takers who are quick to take action on behalf of the rights of others. They constantly fight for all people's equality and refuse to be silenced (Royea & Appl, 2009).

Four of the participants (25%) considered themselves advocates for those with hearing loss. The three advocates were participant 7, participant 13, participant 14, and participant 16. Participant 7 mentioned having a business account and wanting to create a community on Instagram. This community includes parents with kids with hearing loss. Participant 7 said, "My whole mission is to help the community feel more empowered and confident and to feel that they're not alone." While participant 13 admitted to being more of a "casual advocate," they did acknowledge that they frequently post about deaf and hard of hearing-related content. They said, "It's not something that I am shy about, but it's not something I specifically themed that way." Instagram allows those with hearing loss to unite and amplify their voices to educate and inform others about hearing loss and to also fight for their rights as deaf and hard of hearing individuals.

They can make their needs known to the hearing world and they can also join forces to fight against stigma, ableism, audism, and general discrimination that they face as deaf and hard of hearing individuals.

Participant 13 typically posts content related to hearing loss advocacy in their stories, while the in-feed posts or what appears on their grid is reserved for more personal content or significant life events. They said:

I posted when I graduated college, and I posted for like a white coat ceremony in grad school. But other than that, I do tend to not post as much about my professional life on the actual like main Instagram. I feel like it bleeds into the professional life on my stories a lot because of when a lot of people share things that are important to them or news that goes away over time. So it's just kind of the nature of post versus stories where in stories, I post more about my professional life or like passion projects rather than in the main grid.

News changes by the day, making it more appropriate content for the stories which are only available for 24 hours on Instagram. The newsfeed or the grid, however, is viewed as being more permanent and therefore reserved for content that is more impactful or significant.

Participant 14 is a published author with seven books published on hearing loss. This participant is also a well-known public speaker that frequently attends events to speak about and spread awareness about hearing loss-related topics. They primarily use Instagram to shed light on issues related to ableism, audism, and general discrimination against those with hearing loss.

Participant 14 said:

When I found out what ableism means in 2019, it changed a lot of things for me.

It opened my eyes to many situations I used to live in my everyday life because I

have a disability. I decided to share my knowledge and thoughts about this theme with my community to raise awareness about it.

Participant 14 is open-minded and always learning and evolving. Ableism is a topic that they did not have much prior knowledge of. Now that they have learned about ableism and witnessed its impact on their life as an individual with hearing loss, they are eager to share their knowledge with others using their Instagram network and the community they have created. This is a topic they are passionate about, and they want to educate and inform others on it so that they, too, can be educated, informed, and enlightened.

Participant 16 said that they use Instagram primarily to engage with the deaf and hard of hearing community. A majority of their Instagram posts were related to self-advocacy. They also acknowledged that they consider themselves hearing loss advocates on Instagram. Their goal with their self-advocacy-related posts was to help them “empower themselves to be who they want to be.” Some of their advocacy work also bled into their career as they used their self-advocacy-related content to inspire their deaf and hard of hearing followers to follow their dreams and career ambitions.

Cahyadi & Setiawan (2020) found that Instagram is a beneficial advocacy tool for people with disabilities. Instagram was especially important for deaf and hard of hearing individuals who used the platform to advocate for accessibility needs. One example of this that Cahyadi & Setiawan (2020) provided was when users advocated for subtitles or closed captions to be featured on television or video content.

The sub-code for captions came up 228 times in this research study, accounting for 14% of all posts within the hearing loss code. Participant 2 mentioned several times throughout their interview that there was a greater need for captioning on all video content. They said:

I feel like it should be the standard that we should have open captions everywhere instead of having to ask creators or the mediator for a closed captioning device. I mean sure, Instagram has their caption feature that you can turn on, but sometimes it works, and sometimes it doesn't. I just feel that Instagram has a long way to go for accessibility.

Participant 2 does not feel they should have to ask for captions on video content. They view open captions as being a right for deaf and hard of hearing individuals and not something that should have to be requested. While they acknowledged the benefits of automatic captioning on Instagram, they also noted its inconsistencies and suggested that Instagram has significant room for improvement in terms of accessibility. Several of participant 2's private messages also showed them reaching out directly to content creators, asking them to caption their video content. This was a prime example of how participant 2 took action to advocate for their rights and needs as a deaf Instagram user.

In contrast, while acknowledging that the automatic captions were not a perfect solution, participant 6 quickly showed their appreciation for the feature.

They said:

When they added captioning for people to choose to use, I was so excited because that – sometimes even when I don't have headphones in – that allows me to understand what people are saying in videos. Sometimes it's not accurate, but it's pretty good for the most part. I think it brings some visibility to hearing loss, and it sort of offers the opportunity to share things with others who wouldn't normally encounter it in a way that only you have. You can share something, and someone

can choose to look at it or not. Even if they only see it for a few seconds, they might only need a second to say, ‘Oh, I didn’t actually consider that that is important.’ Sometimes I think that some people who do have full hearing don’t realize that they can benefit from things like captions as well, so when we make things accessible to everyone, it’s not just for one audience.

Participant 6 viewed Instagram’s captioning capabilities as a win for the deaf and hard of hearing community because it allowed them to share their accessibility needs with the hearing community and to be more vocal about advocating for their needs and rights as deaf or hard of hearing individuals. While they acknowledged that automatic captioning is not a perfect solution, they were more forgiving of the issues than participant 2 was. They accepted that the hearing world still has a lot to learn about hearing loss and the challenges those with hearing loss face. Participant 6 is excited to see the deaf and hard of hearing community gain more visibility on Instagram. They are also eager to contribute to further educating the hearing world on the needs of those with hearing loss.

Summary

16 individuals participated in this research study. Each individual was interviewed either through Zoom or over e-mail. Additionally, Instagram data in the form of public and private messages, comments, and posts were also collected. Deaf and hard of hearing individuals do not use Instagram to strengthen their interpersonal relationships with the hearing world. Therefore, Instagram has no significant impact on their relationships with the hearing world. Instead, deaf and hard of hearing individuals use Instagram to engage with the deaf and hard of hearing community to educate themselves or their loved ones about their hearing loss and to advocate for their rights and needs as deaf individuals. The findings of this research study are similar to those

in previous research studies mentioned in the literature review included in chapter two. Chapter five will discuss the results, including methodological and practical implications, delimitations and limitations, and recommendations for future research.

Chapter 5: Discussion

Overview

Chapter five will open with the research question findings and the study's results. It will include a discussion of the results from an empirical and theoretical point of view. The methodological and practical implications will be reviewed. It will also highlight the study's delimitations and limitations. Chapter five will conclude with recommendations for future research, followed by a summary of the chapter.

Research Questions Findings

The purpose of this qualitative research study was to gain a deeper understanding of how deaf and hard of hearing people used Instagram to connect with the hearing world. It sought to discover if Instagram was beneficial or a hindrance to the interpersonal relationships of deaf and hard of hearing individuals and their hearing counterparts. This research study collected the experiences of 16 deaf and hard of hearing Instagram users through interviews and the analysis of Instagram comments, messages, and posts. It sought to answer two research questions focused on how deaf and hard of hearing individuals use Instagram to connect with the hearing world and it considered the impact Instagram had on deaf and hard of hearing users' relationships to the hearing world. The answers to these two research questions, along with general findings, are included in the sections below.

RQ 1: How are Deaf and Hard of Hearing Individuals Using Instagram to Communicate and Build Relationships with Members of the Hearing World?

The first research question this study sought to answer was how deaf and hard of hearing individuals use Instagram to communicate and build interpersonal relationships with the hearing world. The results of this study showed that while Instagram was used to support communication

with hearing individuals that deaf and hard of hearing users already know in-person, it is not used to build new relationships or communicate with the hearing world on a personal level. Many participants reported using Instagram primarily to engage with friends, family, and those they know in real life. They also noted that they do not know many deaf and hard of hearing individuals other than themselves, so interacting with the hearing world is something that they are used to and already do regularly.

Users do not interact on Instagram in the same manner with people they do not personally know. Participant 1 mentioned:

I only private message people who I know in real life. I never have the courage to just randomly message someone I do not know because I do not want to be seen as impolite or broaching on their privacy. So, unless they message me first, I would not message someone I do not know.

Similarly, participant 6 mentioned, “With direct messages, if I don’t know the person, I think, ‘Oh, they probably get a lot of direct messages, so they’re probably not going to respond or acknowledge [my message]. But my message or comment doesn’t necessarily need an answer; it’s more of a thumbs up.”

Six out of sixteen (37.5%) of participants mentioned that they never really knew any other deaf people growing up. Similarly, four (25%) of participants mentioned that they were very mainstreamed growing up, meaning that they attended public schools with hearing individuals and interacted primarily with the hearing world. Six (37.5%) of participants also reported feeling very in between since they did not fit in with the hearing world or the Deaf community in real life or on Instagram. Participant 2 mentioned:

Even now, I do not have a friend group or a community of deaf and hard of hearing individuals. All of my friends are hearing. My family, too, besides my brother. I don't sign. I speak and wear hearing aids, so I feel very in between. I think that applies to Instagram, too. You know, while you're trying to find the community and you follow deaf and hard of hearing creators. They're not your friends, really, you know? And then, because you're following these folks, Instagram starts showing you more things related to that community, right? So, I get videos in ASL, but I don't know ASL. So, I feel very in between. Two places. In between meaning I don't fit in the hearing world, and I don't feel that I fit in the deaf world.

Many participants lived primarily in the hearing world but were separated by their hearing loss. They did not quite fit in with the Deaf community, however, since many did not know any sign language or did not consider themselves to be fluent.

While the results showed that most participants use Instagram to interact with friends and family and people they know in real life, it is important to note that this applies primarily in terms of direct interactions, including the sending of private messages, commenting on posts, and other more intimate one-on-one conversations. Participants reported that these types of personal interactions were not common or something they frequently did. Nine (56.25%) of participants reported that they consider themselves passive users. Similarly, five (31.25%) of participants said they only comment if it's meaningful or has a purpose. They did not feel that most posts needed a comment but rather that a "like" was enough. They further added that they do not tend to direct message or comment on larger accounts. Nine (56.25%) of participants explained that

they tend to spend most of their time on Instagram mindlessly scrolling and not posting or engaging as much with posted content.

Users tended to use Instagram to connect with specific communities for less personal interactions. Eight (50%) of the participants reported that they felt Instagram was good for communities. There are three main communities that users look to connect with: 1. Communities centered around a specific hobby or interest, 2. Career-oriented communities based on the user's chosen profession, and 3. The deaf/hard of hearing community. It is important to note that the deaf/hard of hearing community, in this case, refers to those with hearing loss in a more generalized sense, not the capital-D Deaf community.

Ten (62.5%) of participants noted that they like to follow accounts where users share similar hobbies or interests. The same ten participants also like to post about different hobbies and interests. These hobbies and interests include the sub-codes of crafts, shopping, games, magic, writing, books, gardening, and dance. Collectively, the sub-codes appeared 2,218 times.

The sub-code for art/photography appeared 1,147 times. This is mostly due to two participants working as photographers and using their Instagram accounts to promote and grow their photography businesses. The sub-code for books appeared 321 times. Participant 11 mentioned in their interview that they had a separate public account devoted strictly to books. However, it is important to note that the content of this account was not used in the data collection process.

The sub-code for shopping appeared 303 times, with participants frequently discussing different items they either recently purchased or were planning to buy. The sub-code for writing appeared 194 times, with many participants discussing different writing projects they were working on or commenting on the writing projects of others. One participant was previously a

professional dancer and frequently posted about their interest in dance. This topic came up occasionally among other participants and emerged in the data a total of 49 times.

The sub-code for games appeared 43 times. Most participants used this sub-code to discuss video games they liked. However, other participants used it in the context of games they played either with their children or even used in speech and hearing appointments with children. Lastly, the sub-code for magic appeared 11 times. This was primarily due to one participant using their Instagram account to learn magic tricks and to help them to launch a new career as a magician.

The topic of careers came up in interviews and Instagram comments, messages, and posts a total of 1,351 times across twelve (75%) participants. One of the most common career fields among participants was audiology. As previously mentioned, 3 (18.75%) of all participants reported being audiologists. Many participants noted that they wanted to become audiologists to give back to the community that had helped them so much. Discussions about audiology bled into the other most notable Instagram community, that of the deaf and hard of hearing.

Thirteen out of sixteen (81.25%) of all participants mentioned using Instagram to connect with the deaf or hard of hearing community. Three (18.75%) of all participants noted that they did not have access to an online deaf or hard of hearing community as they do now through platforms like Instagram. Four (25%) of all participants also noted that they did not realize that there were other people like them with hearing loss until recently since they had never met other deaf or hard of hearing individuals, especially their age, in person.

The topic of hearing loss emerged in the data 1,628 times. Many participants use Instagram less for developing interpersonal relationships with other deaf and hard of hearing individuals and more for giving and receiving information regarding their hearing loss and

advocating for themselves or spreading awareness about hearing loss. Several hearing-loss-related topics were mentioned in messages and comments on Instagram and Instagram posts. These topics were divided into several sub-codes that included: lives in hearing world, people in real life are accepting of hearing loss, talk about hearing loss with those with hearing loss, cochlear implant, CODA, speech, sign language, listening fatigue, I need context/visual cues, advocacy, hearing aids, captions, phone, sometimes I need a break from my cochlear implant, accessibility, Bone-Anchored Hearing Aid (BAHA), audiology, lip reading, audism, ableism, FM, tinnitus, TTY, and Facebook is better for the deaf/hard of hearing community.

RQ 2: Does Instagram Nurture or Hinder Deaf and Hard of Hearing Individuals' Interpersonal Communication with the Hearing World?

RQ 2 built upon RQ 1 in that it considered if Instagram had a positive or negative impact on deaf and hard of hearing individuals' interpersonal communication with the hearing world. The results showed that Instagram does not have a significant impact on the interpersonal communication between deaf and hard of hearing individuals and the hearing world. 9 out of 16 (56.25%) of participants said that Instagram had no impact on their relationships with the hearing world. Participant 1 said, "I don't think that [Instagram] impacts my relationships with hearing individuals because even before I used Instagram I identified as someone who lived in the hearing world. I was never part of the deaf community."

Most of the participants reported using Instagram as an extension of face-to-face interactions that allow them to continue nurturing their pre-existing relationships with the hearing world. Participant 11 said:

I don't [think Instagram has had an impact on my relationships with the hearing world]. I mean, I feel like we're closer because there's just more points of contact

to share like jokes and things that we think are funny or things we think are interesting. I just feel like it's one more way to connect with people, like hearing or non-hearing or people that are hearing impaired, I guess. And then I feel that's just one more way to connect. I think that's what in general, social media allows for. It's just more points of connection.

Similarly, participant 2 said:

I don't know that it [Instagram] had any impact, because that's – interacting with hearing people – is normal for me. I do that in my relationship – my partner is hearing, my friends are hearing, my family is hearing, my coworkers are hearing. I think it's just an extension to my day. I don't think there's really an impact with hearing people, other than that they need to caption their videos.

While many participants felt that Instagram had no impact on their relationships with the hearing world, 9 out of 16 participants (56.25%) did mention that Instagram was useful in that it allowed them to raise awareness and educate the hearing world about hearing loss. Participant 13 acknowledged that while they did not feel Instagram had a significant impact on their relationships with the hearing world, it could still have an impact on the hearing world's awareness of hearing loss. They said:

I have shared things on Instagram about ways to communicate with hard of hearing people that I've seen other people post. Like, I'll share them from other creators and stuff. So, maybe if anyone's paying attention, maybe someone would see it and that would impact it.

Participant 15 added:

It's given me an opportunity to bring awareness to the need for captions and accessibility-based content. I'm not too shy about suggesting ways that people can communicate better, so it's an easy opportunity to highlight features that can be mutually beneficial.

Similarly, participant 12 said:

When people started using captions more often that made me feel proud or closer to them [hearing individuals] [because] they're kind of doing something that you know is beneficial. Like, they're doing their due diligence and being thoughtful people.

Instagram has also allowed deaf and hard of hearing users to feel more comfortable around hearing individuals, especially in the context of their hearing loss. Many participants stressed the importance of educating and informing their hearing friends, family, and loved ones of their needs. It is important for these individuals to advocate for themselves and their needs and rights as deaf individuals. Participant 3 said:

I'm better at self-advocating now. I think that's the main one. And [I learned] how to word certain things better. I, until fairly recently, I never really properly met anyone who had hearing loss, like in real life, and my environment was entirely, like, I never knew anyone with hearing loss [or] that was deaf until my late teens when it [hearing loss] started happening. So, you just don't have a very good vocabulary to express yourself properly. I think Instagram has helped a lot with that and making me more self-aware and helping me to handle certain things.

Participant 16 felt that Instagram had a "mostly positive" impact on their relationships with the hearing world. They said, "I hope that it's educational and I hope that it shows that you can be

who you want to be with self-advocacy and I hope that impacts people to empower themselves to be who they want to be.” While Instagram may not have had a significant impact on the interpersonal communication between deaf and hard of hearing individuals and the hearing world, there is no denying that it had a strong impact on deaf and hard of hearing individuals as a whole, especially as it relates to the hearing loss community.

This research study predicted that SIPT would emerge from the data. SIPT suggests that individuals use CMC through tools, including social media platforms like Instagram, to send messages over time that strengthen an individual’s relationship with another person (Walther, 1992). As SIPT suggests, over time, the volume of messages between individuals will increase and become more personal or intimate (Pang et al., 2016). However, the results of this study revealed that deaf and hard of hearing Instagram users tend to use the platform to engage with people they already know well outside of Instagram. Therefore, there is no need to use Instagram to strengthen relationships; Instagram is used merely as an extension to continue already established communications and to build upon existing relationships.

A more appropriate theory that can be applied to this research study is new medium theory. This theory was developed by Mark Poster, David Holmes, and Pierre Lévy in an effort to explain how new and emerging technologies, especially including the Internet, has impacted communication (Poster, 1995). Holmes (2005) viewed these newer forms of technology as mere communication tools. He did not believe that they, by themselves, could serve as an effective replacement for FtF communication. Instead, he felt that these newer modes of communication should serve as supplements used to support FtF interactions (Holmes, 2005). This correlates with how a majority of the participants in this research study reported that they used Instagram as an extension for their existing communications with the hearing world.

New medium theory also suggests that rather than using online communication as a replacement for FtF interactions, it can be used for the creation of online communities (Poster, 1995), which are typically used for educational purposes (Lévy, 2001). This is consistent with the study's findings that deaf and hard of hearing Instagram users focus more on connecting with the hearing loss community on Instagram than on strengthening their interpersonal relationships with the hearing world. It also connects back to how the participants reported that they use Instagram to educate themselves and others about their hearing loss.

Discussion

Previous research has shown that deaf and hard of hearing individuals use social media to generate and join online communities for support, to create a sense of advocacy and awareness about their hearing loss, and to connect with and meet new and existing friends. While previous research studies show many similarities with the current study, they also focused almost exclusively on Facebook or Twitter. They also focused more on how deaf and hard of hearing individuals used SNSs to connect with other deaf and hard of hearing individuals. By focusing exclusively on Instagram and how deaf and hard of hearing individuals use Instagram to interact with the hearing world, the present research study addresses a gap in the previous research studies. This study aimed to examine the impact of Instagram on deaf and hard of hearing individuals' interpersonal relationships with the hearing world. It was also unique in that it used participants' private Instagram data. Historically, nearly all previous research studies have used public posts and publicly available data. This section will include a discussion of both empirical and theoretical applications as they relate to the study.

Empirical

Previous research has demonstrated the importance of online communities for deaf and hard of hearing individuals. This was one of the most prevalent themes to emerge from this research study. Kožuh et al. (2016) found in their research that many deaf and hard of hearing individuals turn to online communities seeking support. This research study correlates with Kožuh et al.'s (2016) research study since it found that many Instagram users use Instagram to connect with other deaf and hard of hearing individuals to exchange information and support related to their hearing loss. Several participants mentioned that Instagram was beneficial for connecting them to individuals with hearing loss like them, something that Sweet et al. (2019) also found in their research.

Advocacy was another important theme that emerged from this research study. This theme was first identified in the literature review as many previous research studies also found that deaf and hard of hearing individuals use social media and the Internet for advocacy and awareness. Crowson et al. (2017) found in their research that many deaf and hard of hearing Twitter users used the platform to advocate for themselves and their needs and to seek justice in a predominantly hearing world. Similarly, Cahyadi & Setiawan (2020) found that deaf and hard of hearing individuals used Instagram to advocate and spread awareness about sign language, hearing loss, Deaf culture, and inclusiveness. They used the platform to unite with other deaf and hard of hearing individuals to form a strong online community of individuals looking to spread awareness about hearing loss and hearing loss related topics.

One of the biggest differences between this research study and previous studies is that previous studies suggested deaf and hard of hearing individuals use social media to make new friends. Terlektski et al. (2020)'s research showed that many deaf and hard of hearing individuals

found it to be easier to make new friends online than in-person. Similarly, Lai Lee & Borah (2020) found that Instagram users, whether deaf or hearing, used the platform to make new friends. However, the present research study showed that deaf and hard of hearing Instagram users preferred to engage in personal interactions on Instagram with those whom they already knew offline. While they would consume content posted by others whom they did not know personally, they were far less likely to engage with it on a personal level, including the transmission of DMs or even publicly commenting on their content.

However, this research study confirmed previous research that showed that deaf and hard of hearing individuals would use SNSs to maintain existing friendships. Wong et al.'s (2016) research showed that many deaf and hard of hearing individuals used Facebook to connect with those whom they already had established strong relationships with offline. Shpigelman & Gill (2014) found that Facebook users used the platform to connect with friends they knew offline but may have lost touch with. The present research study confirms these findings.

Shpigelman & Gill (2014) also confirmed previous research findings that showed that deaf and hard of hearing users prefer to like content on social media rather than posting or commenting. They also found that users are more likely to consume content rather than post it, which correlates to the present study's findings (Shpigelman & Gill, 2014). While some participants did mention that they enjoyed posting videos, especially reels, on Instagram, it is important to note that they did not use this feature to sign. Most participants noted that they never learned or were not fluent in sign language. This correlates with Kožuh et al.'s (2015) study.

Theoretical

Many communication theories that can be applied to this research study fall under the sociopsychological tradition. This communication tradition shows the impact that communication has on an individual's thoughts and understanding or interpretation of received messages (Craig, 1999). Uses and Gratifications theory, media dependency theory, and new media theory all fall within the sociopsychological tradition.

Katz's (1973) uses, and gratifications theory can be applied to this research study. Uses and gratifications theory explains how individuals use media to help them to accomplish a specific goal. It also mentions that individuals have a plethora of media options available for them to choose from to best suit their needs depending on what their goal is (Katz et al., 1973–1974). In the case of this research study, participants could have chosen any social networking site to help them to achieve the goal of enhancing their communication skills, particularly with the hearing world, as explored in RQ 1 and RQ 2.

As a requirement for this research study, all participants had to be active Instagram users. While the time spent on Instagram varied by user, most participants spent at least 45 minutes per day on the app. Of all of the available social media platforms, Instagram was the preferred channel for these participants. When it comes to communicating, many deaf and hard of hearing individuals depend on context and visual cues. Participant 3 explained, "If I know the context of something, it's much easier for me to follow along." They further explained that they "like using Instagram because it's primarily a visual medium." This same statement was also made by participant 12. They further elaborated by saying, "You can interact with people via DM, and you get visual access to communicate in a way that's fun and feels just like regular

conversation.” Instagram helped participants to fulfill the need for having access to context and visual cues to best communicate.

Instagram also fulfilled participants’ need to belong. Eight participants reported that they felt that Instagram was good for communities. Using Instagram to connect with the deaf/hard of hearing community exclusively became an important theme. Many participants said that they never knew any deaf or hard of hearing people growing up. This was primarily due to most participants reporting that they were mainstreamed growing up, meaning they did not attend deaf schools or live in a predominantly Deaf world. Therefore, Instagram is a tool that helps participants fulfill a need to connect with others who experience hearing loss like themselves.

Uses and gratifications theory can also be applied to this research study to understand how Instagram fulfilled the need many participants had to learn or educate themselves about their hearing loss and the hearing loss of others, especially their children. The general topic of hearing loss, including all subtopics, came up in the research study 1,628 times. Several participants specifically mentioned following the account for @Mama.Hu.Hears. Participant 11 said:

The one other way Instagram has really been helpful was actually in finding the audiologist, @Mama.Hu.Hears. There’s been so many things that I’ve learned at @Mama.Hu.Hears’ account that I didn’t know of before. Like, I think my audiologist’s great, but of course, they can only do so much in 30-minute appointments, so it was definitely another thing I learned about, and I learned about it through Instagram, so that’s very helpful. It’s just like definitely a different resource. It’s a very targeted resource—Instagram is.

Similarly, participant 9 even mentioned that they used Instagram to research cochlear implants before being implanted. They said, “I was able to find people with each of the three brands and talk to them. I knew what brand I wanted to go with, but I wasn’t 100% sure, so I still wanted to reach out to different individuals to see how they felt about their cochlear implant before I made a decision.” Participants were able to use Instagram to connect with other deaf or hard of hearing individuals who already used cochlear implants to gain a deeper understanding of their real-life experiences with their hearing devices. Instagram has clearly served as an effective platform for allowing deaf and hard of hearing users to fulfill their need to educate themselves on their hearing loss and which resources are available.

Media Dependency Theory

Ball-Rokeach and DeFleur’s (1976) media dependency theory builds upon many of the principles of uses and gratifications theory. As they make clear, one of the main differences between media dependency theory and uses and gratifications theory is that media dependency theory suggests that individuals use a form of media to fulfill a specific need or goal.. The goals are further broken into multiple categories, including understanding, orientation, and play (Jung, 2017). This research study found that most participants depend on Instagram to fulfill both understanding and play-related goals.

Understanding goals are typically used to help individuals achieve a sense of self-awareness or to become better acclimated with their environment. The understanding goals that Instagram helped to fulfill were related to individuals seeking more information about their hearing loss. Through the use of Instagram, participants could connect with others who experienced hearing loss, allowing them to become better acclimated with the environment. From there, participants were also able to educate themselves about their hearing loss, therefore

fulfilling their goal of becoming more self-aware about their own hearing loss. Participant 2 mentioned, “I just learned I was eligible for cochlear implants, so when I was preparing for the test, I started looking at accounts of people. But we didn’t have that before, so I feel that it’s opened up the doors to learn more about those things that I didn’t get growing up.” Deaf and hard of hearing Instagram users have begun to depend on the platform to provide information regarding their hearing loss and to help them connect with others that belong to the same community.

Instagram was also used to help participants fulfill goals connected to play. Play-related goals typically focus on using media for entertainment or leisure (Jung, 2017). The topic of entertainment came up in the research study 683 times, with participants using the platform to discuss or engage with content related to music, sports, and memes.

Additionally, several participants reported using Instagram when they were bored or needed a break. Participant 2 said, “[I use Instagram] a little too much. I think I just tend to do it when I’m bored or need a break from work.” Participant 13 added, “I use it [Instagram] mostly as an absent-minded thing that I’m doing. Not so intentional. It’s more like, ‘I’m bored, let me go through and see Instagram’” and participant 9 said, “A lot of times when I’m scrolling Instagram it’s because I’m taking a break from using my cochlear implant.” Participants depended on Instagram for play-related purposes in that they used the platform for entertainment or to help them to rest, unwind, and take a break.

New Media Theory

Mark Poster, David Holmes, and Pierre Lévy are credited with authoring new media theory. New media theory was created to explain how communication was changing in the midst of what he called the second age of mass media (Poster, 1995). David Holmes (2005) described

the second media age as being more focused on the internet than any other type of media. During this time, Poster (1995) saw digital communication evolving into a more visual form, with messages being transmitted more rapidly than ever before. He used the term “information superhighways” to explain this increased flow of information made available through internet technology. Poster (1995) believed that the combination of the second age of mass media and the creation of information superhighways would have a significant impact on the way that people communicate.

Holmes (2005) believed that the second age of mass media would cause communication to be more interactive than ever before. Poster (1995) predicted that it would result in the creation of cultural spaces or online communities that individuals could join to engage or connect with one another in a virtual space. The results of this research study showed that twenty participants agreed that Instagram was good for communities. Participant 16 said, “Instagram is great for creating communities of people.” Lévy (2001) said these communities would be created based on shared interests, knowledge, projects, demographics, affiliations, or other commonalities. The results of this research study showed that users joined and engaged with communities on Instagram based primarily on hearing loss, secondly around their chosen professions, and then lastly based on their individual hobbies or interests.

Lévy (2001) also suggested that internet technologies could be used as more of an educational tool. He believed that when users came together in online shared communities, they would be able to exchange information with one another, resulting in the gaining of new knowledge between members of the community. The topic of education was mentioned 1,405 times across fifteen participants in this research study.

Holmes (2005) viewed internet communications as a form of social integration rather than social interaction. He meant that while the internet could serve as a solid foundation for connecting individuals to one another, it could never be a permanent replacement for FtF communication. Individuals use the internet to mimic FtF interactions and often hide behind technology when divulging intimate details about these, but it still cannot stand up against FtF as a permanent form of communication. Rather than replacing FtF communication, Holmes viewed internet communications as providing individuals with an outlet that could be used to supplement or extend existing forms of communication, most notably FtF interactions. Participants discussed education in terms of formalized education they were or have received in the past as students, their teaching careers, or, most commonly of all, how they used Instagram as a tool to learn about or teach others about issues related to their hearing loss.

Sociocultural tradition

Another communication tradition that may be relevant to this study, given the results is the sociocultural tradition. The sociocultural communication tradition is largely influenced by sociology and anthropology. This theory is similar to the sociopsychological tradition, except that instead of focusing on the impact that communication has on an individual's thoughts and how they perceive received messages, it focuses more on the communication of a specific group or culture. When individuals belong to a specific community or group, their communication is often influenced by other members of the culture or group. Group members share many similarities in their communication styles since they typically have the same values, goals, personal experiences, and views as it relates to the group or culture.

Mary Jane Collier's (1989) cultural identity theory and Stella Ting-Toomey's (2015) identity negotiation theory are two theories that fall under the sociocultural tradition. Cultural

identity theory is especially relevant for ethnographical studies (Collier, 1989). Collier believed that cultural identity depended on an individual's interactions with others within the community. The current research study showed evidence of this when participants mentioned that Instagram helped them to feel more comfortable with their hearing loss. Participant 11 mentioned that the support of the hearing loss community on Instagram, especially @Mama.Hu.Hear's account, helped them feel more comfortable with their hearing loss. Similarly, participant 8 mentioned feeling inspired and encouraged to be more open with their hearing loss and to seek treatment due to their interactions with others on Instagram that experience hearing loss.

Ting-Toomey (2015) defines identity as one's connection to a specific group, culture, or community. In the case of the present research study, identity can be defined as the participants' connection with the deaf and hard of hearing community, especially on Instagram. Individuals belonging to a group will negotiate their identities as members of the group by exchanging messages that help maintain the group's status quo. These messages can be positive or negative. In the context of the deaf and hard of hearing community on Instagram, the participants engage with the community to gain support (Ting-Toomey, 2015). They turn to Instagram to engage with this community because they do not have access to the community offline since they do not know others with hearing loss in real-life.

Implications

This research study involved interviewing 16 participants and also collecting their Instagram data in the form of private messages, public comments, and public posts. This data was collected to gain a deeper understanding of how deaf and hard of hearing individuals use Instagram to interact with the hearing world and the impact those interactions have on their interpersonal relationships. The results of this research study were examined from both a theoretical and

practical perspective. These implications are beneficial for scholars, especially those working within the field of communication, and also Instagram and others who may work for present SNSs or aim to develop new SNSs in the future as they can understand how deaf and hard of hearing individuals use the platform to communicate, along with the needs, challenges, and preferences of these unique users.

Methodological

One implication of this research study is that it suggests that existing communication theories, such as SIPT, may need to be re-evaluated and updated, given the needs and uses of social media technology and its impact on how people communicate. Going into this study, the researcher initially thought that SIPT would emerge as a relevant theory to apply to the results. SIPT suggests that over time, individuals will exchange messages with each other, their relationships will strengthen, and communicators will receive a reward for their communication (Pang et al., 2016; Walther, 1992). In this case, the expected reward was acceptance by the hearing world. However, the study results showed that individuals did not use Instagram this way. Instead, they either used it to engage with those they already knew and had strong relationships with in real life or, in a much more passive way, where individuals consumed content by other creators whom they did not know in real life without ever engaging with them directly. SIPT may be more appropriate for exploring text messages or Facebook messages, but it may not work in the context of a social platform like Instagram.

Practical

One of the most important findings from this study was that most participants reported using Instagram to join or connect with communities. Many participants reported that they felt Instagram was great for communities. These participants could easily conduct searches using

relevant keywords to find and connect with individuals belonging to their preferred community, which in most cases was connected to their hearing loss, profession, an interest, or hobby.

Members of the community, however, are often siloed on Instagram. Participant 2 mentioned, “I wonder if Instagram could feature disabled creators somehow? I don’t know how they would do that, but I just feel that I really had to dig to find community and didn’t know it existed until I started trying different search terms and things.” Similarly, participant 12 said, “I’m in a deaf and hard of hearing community on Facebook, and sometimes I think that’s more successful because you can have an actual group instead of having to follow a page or like it.” If Instagram was able to roll out new features to highlight creators with disabilities and group features, it could be highly beneficial for meeting the needs of users who are looking to join or engage with online communities.

Delimitations and Limitations

This research study had a few delimitations that may have influenced the results. The first delimitation was that individuals were not eligible to participate if sign language was their primary language. This decision was made since the researcher was not fluent in sign language and did not have access to an interpreter. This could have played a role in why most of the participants were mainstreamed and not fluent in sign language.

Another delimitation of this research study was that the researcher focused on Instagram rather than other social media platforms. When the researcher first began her study, Instagram was the third most popular SNS, behind Facebook and YouTube (Perrin & Anderson, 2019). Since then, TikTok has risen in popularity, especially among a younger demographic (Gelles-Watnick & Massarat, 2022). The results might have differed if this study included other SNSs, including but not limited to TikTok.

One of the biggest limitations of this study was that not every participant consented to share their private Instagram data files. In these cases, the users' newsfeed posts were analyzed instead. The context of the Instagram posts might have been different than the users' private messages and public comments. Additionally, Instagram is not the same in every country. Whereas the Brazilian version of Instagram shared many similarities to the American version, the Belgium version did not include many of the same features. For example, the Belgium participant noted that automatic captions were not available in their version of Instagram. They also did not have the option to download their Instagram files, so only public posts could be collected. This user did not post much publicly, so outside of their interview, the amount of data available for collection and analysis was limited.

Future Research

This study was a qualitative ethnographic study. The main benefit of this being a qualitative ethnographic research study is that it allowed the researcher to use text and image data to gain a better understanding of the deaf and hard of hearing community (Creswell & Creswell, 2018; Creswell & Poth, 2018). Since the researcher is deaf, she was also able to use her own experiences as a deaf Instagram user in a way that did not bias the results but rather allowed her to connect with the deaf and hard of hearing community in ways not accessible to others. However, different research methodologies are recommended for the future, especially for researchers who do not experience hearing loss themselves but may still want to study this unique and often difficult-to-reach population.

The research may benefit from taking a phenomenological approach. Phenomenological research focuses on how an individual's personal experiences impact their communication (Littlejohn et al., 2017). It focuses on both what phenomena individuals experience and how

individuals experience it (Kirner & Mills, 2020). A phenomenological study may help researchers understand the specific experiences that participants have on Instagram. This would be especially beneficial for hearing researchers since phenomenological research studies can help researchers to gain a better understanding of a culture that they do not belong to (Creswell & Poth, 2018).

Additionally, the research could also benefit from taking a mixed-methods approach. Mixed-method research uses both quantitative and qualitative data (Creswell & Creswell, 2018). While this research study collected extensive qualitative data, it could still benefit from collecting numerical data as required in quantitative research. By including elements of each type of research, the study will be able to rely on the strengths of each while compensating for the weaknesses as well. This helps to ensure that the data is as accurate and reliable as possible (Creswell & Creswell, 2018).

This research study also focused exclusively on Instagram. Instagram was the focus of this study since few studies focus on how the deaf and hard of hearing population use Instagram. However, when this study was conducted, TikTok rose to popularity, especially among younger individuals. One individual was also disqualified from the study after taking the preliminary screening survey because they reported that they did not use Instagram frequently. However, this individual did mention using TikTok regularly and noted that they had a very large following on the platform. It is recommended that future studies explore if TikTok might be a better platform for deaf and hard of hearing users and how this unique community is currently using the platform.

This research study also included individuals between the ages of 18-45 that did not belong to the capital D Deaf community. This may have influenced the results since so many

participants reported that they already engaged primarily with the hearing world and did not know many, if any, other deaf and hard of hearing individuals. An additional research study that includes capital-D Deaf Instagram users is recommended to better understand how those who already belong to a strong hearing loss community use the platform. Additionally, it is recommended that future research focuses on a different age demographic.

Future researchers could benefit from studying a younger demographic of individuals aged 13-18 since these individuals would have grown up when cochlear implants were more commonplace. Cochlear implants were mentioned 945 times within this present study. However, all participants that received cochlear implants reported getting them later in life. Additionally, participant 7 mentioned that their parents opted out of having them implanted as a child because they felt that the technology wasn't quite there yet. With the evolution of technology and cochlear implants becoming more commonplace now, this younger demographic may include children who received cochlear implants as a baby or, at a very young age, who may not know the world without cochlear implants. This younger generation also may not know a world without social media, which could significantly impact results. In contrast, researchers could also benefit from studying an audience that is over the age of 45. This audience would have lived more of their life without social media, so their Instagram experiences may also be very different.

Conclusion

This research study was one of the first of its kind to explore how deaf and hard of hearing individuals use Instagram to develop interpersonal relationships with the hearing world. This study included interviews with 16 participants along with an analysis of the participants' Instagram direct messages, comments, and posts. While previous studies examined other SNSs

like Facebook, Twitter, and YouTube, few studies examined Instagram. Therefore, this study provides researchers with new knowledge and a new understanding of how Instagram is used by the deaf and hard of hearing population. This knowledge contributes to a greater understanding of the platform's capabilities, along with recommendations to make it more accessible and beneficial for users in the future.

While the research study aimed to explore the interpersonal relationships between deaf and hard of hearing individuals and the hearing world on Instagram, the results showed that Instagram does not significantly impact these relationships. Instead, Instagram provides this unique group with access to other like-minded individuals and a rich community of people who live with hearing loss like them. It helps these individuals to receive an education, support, and resources on how to best navigate their hearing loss. Although the results of this study show that many individuals do not engage with other users that they do not know in real-life on a personal level, it did still show that Instagram created a bond between members of the deaf and hard of hearing Instagram community that allowed members to advocate for themselves and their needs. Instagram has proven to be a powerful tool for advocacy and spreading a sense of awareness about hearing loss and hearing loss related conditions.

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Appendices

APPENDIX A

ARE YOU A DEAF OR HARD OF HEARING INSTAGRAM USER?

IF YOU ARE...

- ✓ Between 18-45 Years Old
- ✓ Use Instagram Frequently
- ✓ Have a Desire to Interact With the Hearing World
- ✓ Speak English

LET'S TALK! SCAN THE QR CODE TO TAKE A PRELIMINARY SCREENING SURVEY

Need More Details? E-mail [REDACTED]

Compensation includes being entered in a raffle to win 1 \$25 Amazon gift card. There will be no further compensation.



Dear [REDACTED]

As a graduate student in the School of Communication and the Arts at Liberty University, I am conducting research as part of the requirements for a PhD in Communication. The purpose of my research is to determine how deaf and hard of hearing individual use Instagram to build relationships with the hearing world and to consider if Instagram nurtures or hinders interpersonal communication between deaf or hard of hearing individuals and the hearing world. I am writing to invite eligible participants to join my study.

Participants must be between the ages of 18-45 years old, speak English, have mild-profound hearing loss (a minimum hearing loss of 40 dB is required), and be frequent users of Instagram. Participants, if willing, will be asked to participate in a brief interview on Zoom that will take no more than 1 hour to complete. They will also be asked to download their Instagram data and share the file with the researcher where their Instagram messages and comments will be collected and analyzed. Names and other identifying information will be requested as part of this study, but the information will remain confidential.

To participate, please [click here](#) to complete the attached survey.

A consent document is provided as the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click the button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Participants may be entered in a raffle to receive a \$25 Amazon gift card.

Sincerely,
Kimberly Erskine
PhD Candidate

[REDACTED]
[REDACTED]

APPENDIX B

ARE YOU A DEAF OR HARD OF HEARING INSTAGRAM USER?

IF YOU ARE...

- ✓ Between 18-45 Years Old
- ✓ Use Instagram Frequently
- ✓ Have a Desire to Interact With the Hearing World
- ✓ Speak English

LET'S TALK! SCAN THE QR CODE TO TAKE A PRELIMINARY SCREENING SURVEY

Need More Details? E-mail [REDACTED]

Compensation includes being entered in a raffle to win 1 \$25 Amazon gift card. There will be no further compensation.

[REDACTED]

Dear [REDACTED]

As a graduate student in the School of Communication and the Arts at Liberty University, I am conducting research as part of the requirements for a PhD in Communication. Two weeks ago,

an email was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to respond if you would like to participate and have not already done so. The deadline for participation is [Date].

Participants, if willing, will be asked to participate in a brief interview on Zoom that will take no more than 1 hour to complete. They will also be asked to download their Instagram data and share the file with the researcher where their Instagram messages and comments will be collected and analyzed. Names and other identifying information will be requested as part of this study, but the information will remain confidential.

To participate, please [click here](#) to complete the attached survey.

A consent document is provided as the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click the button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Participants may be entered in a raffle to receive a \$25 Amazon gift card.

Sincerely,
Kimberly Erskine
PhD Candidate



APPENDIX C

Facebook

ARE YOU A DEAF OR HARD OF HEARING INSTAGRAM USER?

IF YOU ARE...

- ✓ Between 18-45 Years Old
- ✓ Use Instagram Frequently
- ✓ Have a Desire to Interact With the Hearing World
- ✓ Speak English

LET'S TALK! SCAN THE QR CODE TO TAKE A PRELIMINARY SCREENING SURVEY

Need More Details? E-mail

Compensation includes being entered in a raffle to win 1 \$25 Amazon gift card. There will be no further compensation.

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a PhD in Communication at Liberty University. The purpose of my research is to determine how deaf and hard of hearing individuals use Instagram to build relationships with the hearing world and to consider if Instagram nurtures or hinders interpersonal communication between deaf or hard of hearing individuals and the hearing world. To participate, you must be between the ages of 18-45 years old, speak English, have mild-profound hearing loss (a minimum hearing loss of 40 dB is required), and be a frequent user of Instagram. Participants will be asked to participate in a brief interview on Zoom that will take no more than 1 hour to complete. They will also be asked to download their Instagram data and share the file with the researcher where their Instagram messages and comments will be collected and analyzed. If you would like to participate and meet the study criteria, please [click here](#). A consent document is provided as the first page of the survey. Participants may be entered in a raffle to receive a \$25 Amazon gift card.

Twitter

ARE YOU A DEAF OR HARD OF HEARING INSTAGRAM USER?

IF YOU ARE...

- ✓ Between 18-45 Years Old
- ✓ Use Instagram Frequently
- ✓ Have a Desire to Interact With the Hearing World
- ✓ Speak English

LET'S TALK! SCAN THE QR CODE TO TAKE A PRELIMINARY SCREENING SURVEY

Need More Details? E-mail [REDACTED]

Compensation includes being entered in a raffle to win 1 \$25 Amazon gift card. There will be no further compensation.

Calling all deaf and hard of hearing Instagram users! Click here to participate in a research study focused on interpersonal relationships between deaf or hard of hearing individuals and hearing individuals on Instagram: [LINK](#).

APPENDIX D

Consent

Title of the Project: Research study exploring the use of Instagram to form interpersonal relationships between deaf or hard of hearing individuals and the dominant hearing world

Principal Investigator: Kimberly Erskine, PhD candidate, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be between the ages of 18-45 years old, speak English, have mild-profound hearing loss (a minimum hearing loss of 40 dB is required), **NOT belong to the Deaf culture or community**, and be a frequent user of Instagram. 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 purpose of this study is to determine how deaf and hard of hearing individual use Instagram to build relationships with the hearing world and to consider if Instagram nurtures or hinders interpersonal communication between deaf or hard of hearing individuals and the hearing world.

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. Participate in a Zoom interview lasting no more than 1 hour. This interview will be recorded.
2. Download a .html zip file from Instagram containing all of your Instagram data and submit the file to a secure database to be accessed only by the researcher. The researcher will read all comments and messages included in the file.

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 gaining a better understanding of how Instagram may improve communication between deaf or hard-of-hearing individuals and their hearing counterparts and what types of interactions take place on the platform. Gaining this understanding could also help SNSs to release new features or updates to make them more accessible for deaf and hard of hearing individuals in the future.

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 reports 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 and codes. Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted. Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Instagram data files will also be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings and data files. The researcher will conduct the interviews in a secure location where others will not easily overhear the conversation. However, since the interviews will be conducted over Zoom, the researcher has no control over the location where the participant will choose to participate in the interview and therefore cannot guarantee that other individuals will not overhear the conversation on the participant's end.

Does the researcher have any conflicts of interest?

The researcher is a deaf individual that uses Instagram on a regular basis. In order to avoid researcher bias, bracketing will be used throughout this study to separate the researcher from the research. This disclosure is made so that you can decide if this relationship will affect your willingness to participate in this study. No action will be taken against an individual based on his or her decision to participate or not participate in this study.

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. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

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

If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

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

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

Whom do you contact if you have questions about your rights as a 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, [REDACTED] or email at [REDACTED].

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 video record me as part of my participation in this study.

Printed Subject Name

Signature & Date

APPENDIX E

Qualtrics Initial Screening Survey Questions

1. Please state your name.
2. Please provide your phone number.
3. Please provide your e-mail address.
4. Do you currently use assistive listening devices such as hearing aids or cochlear implants? If so, which one(s)?
5. Is sign language your preferred method of communication?
6. Do you consider yourself to be a member of Deaf culture or the Deaf community?
7. Do you have a desire to connect with or belong to the hearing world?
8. Please state the country and state where you currently reside.
9. How old are you?
6. Are you deaf or hard-of-hearing? If so, what is your degree of hearing loss?
7. Do you use Instagram?
8. If you answered “Yes” to question 7, please share your Instagram handle @.
9. Is your Instagram account public or private?
10. How often do you use Instagram each day?
11. How old is your Instagram account?
12. How many Instagram news feed posts do you currently have?
13. Do you use Instagram to connect or engage with the hearing world?
14. How often do you post content on Instagram or send direct messages (DMs?)

15. How often do you engage with other users' content on Instagram (i.e., "liking" their posts, commenting, responding to messages, watching their videos or stories, etc.)?

APPENDIX F

Dear [Name of Potential Participant]:

You recently completed a survey through Qualtrics which included initial screening to participate in a research study to determine how deaf and hard of hearing individuals use Instagram to build relationships with the hearing world and to consider if Instagram nurtures or hinders interpersonal communication between deaf or hard of hearing individuals and the hearing world. I am writing to you today to inform you that after careful review we have determined that you are eligible to participate in this research study.

Your participation, if willing, will require you to complete a brief interview on Zoom that will take no more than 1 hour to complete. You will also be asked to download your Instagram data and share the file with the researcher where your Instagram messages and comments will be collected and analyzed. Names and other identifying information will be requested as part of this study, but the information will remain confidential.

Interviews will take place between July 11, 2022 – September 12, 2022, on Mondays – Fridays from 5pm – 9pm Eastern time and Saturdays from 10-4pm Eastern time. If you are interested in continuing to participate in this study, please let me know at your earliest convenience which time works the best for you to schedule an interview.

Sincerely,

A large black rectangular redaction box covering the signature area.

APPENDIX G

Ethnographical Research Interview Questions

1. Tell me your thoughts on Instagram.
2. How would you describe the time you spend using Instagram?
3. Walk me through your day on Instagram. What is the first thing you do when you log in to your account? And then what happens?
4. How would you describe your activities on Instagram and how you participate on the platform?
5. How would you describe the content that you post on Instagram?
6. If I were to look at your Instagram feed right now, what would I see?
7. How would you describe the content you see or engage with on Instagram?
8. What type of Instagram content are you most interested in? Would you say that your account has a “theme” or follows a particular pattern regarding the types of content you enjoy viewing and engaging with the most?
9. How would you describe the people you follow on Instagram? Can you tell me about the top 5 people you interact with the most frequently?
10. What type of content do the people you follow on Instagram post the most? What topics are they most likely to post about?
11. How would you describe the people you interact with the most on Instagram?
12. What makes you want to engage with someone on Instagram? What topics or type of content do you find the most interesting?
13. How would you describe your interactions on Instagram?
14. How would you describe your relationships with other users on Instagram compared with your real-life or in-person relationships?

15. How would you describe your interactions with hearing individuals?
16. What kind of impact has Instagram had on your interactions with hearing individuals?
17. How would you describe your face-to-face interactions with hearing individuals?
18. How do your face-to-face interactions with hearing individuals compare to those with other deaf or hard of hearing individuals?
19. How do your Instagram interactions with hearing individuals compare to those with other deaf or hard of hearing individuals?