The Empowerment of Deaf Cochlear Implant Users Through Social Media in the UK, the Netherlands, and Croatia

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Abstract

This qualitative study explored the empowerment through social media of individuals with severe hearing loss from the Netherlands, UK, and Croatia. The participants were users of cochlear implants (CI), a partially surgically inserted electronic device that enables hearing in the patient. Secondly, CI-users' experience of accessibility on social media was investigated to see if this had an effect on their empowerment. The empowerment constructs self-efficacy, self-esteem, and self-determination were used to explore the participants' experience of empowerment on social media through semi structured in-depth interviews. It was found that the participants experienced empowerment on social media. This study also uncovered that the participants experienced accessibility issues on social media. Additionally, it was found that the participants that showed more evidence of empowerment also were more aware of accessibility issues. This research argues that the participants' awareness of accessibility issues on social media could be a sign of empowerment. This study calls for improved accessibility on social media, as well as increased awareness of deaf issues on social media to support individual empowerment of CI users.

Keywords: empowerment, accessibility, d/Deaf, deafness

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The Empowerment of d/Deaf Individuals Through Social Media in the UK, the Netherlands, and Croatia

The definition of deaf and hard-of-hearing individuals is complex, and the issue is still debated among scholars and deaf individuals themselves. In the literature there is a distinction between those who are deaf with a lowercase ‘’d’’ and those who are Deaf with a capital ‘’D’’. Individuals who are ‘’deaf’’ do not see themselves as part of a separate group from the hearing world other than that they have what they see as a medical condition. Those who are ‘’Deaf’’, on the other hand, identify with Deaf identity and Deaf culture in a way that separates them from the hearing community (Dolnick 1993; Tucker 1998; Munoz-Baell & Ruiz, 2000; Skelton & Valentine, 2003). Those who are deaf tend to use speech or lip-reading to communicate, while Deaf people are often users of Sign Language.

Several technologies have been developed in order to help deafened people hear. One such device that is increasing in popularity is cochlear implants (CI). CI is a partially surgically inserted electronic device that enables the patient to hear (National Institute on Deafness and Other Communication Disorders, 2008).

Although some see the development of CI as medical progress, it has also been heavily criticized by parts of the Deaf community as leading to the downfall of Deaf culture. One of the main reasons for this is that CI is considered by some as a threat to Sign Language, since the need to learn or use it diminishes when a patient is able to hear (Sparrow, 2005). Despite the debate, research has shown that early implementation of CI aids the development of spoken language, auditory memory and word recognition (Johnson & Goswami, 2010).

The growth of CI has led to a new generation of deaf people, with some users being able to hear nearly as well as a hearing person. This research will focus specifically on the empowerment of d/Deaf CI-users. In order for d/Deaf CI-users to be empowered it is vital that communication barriers are removed (Munoz-Baell & Ruiz, 2000). Technology is considered to aid communication for those that are d/Deaf. Smartphones have for instance offered new ways of communicating that do not require hearing and speaking abilities. These technologies can be empowering for d/Deaf people, especially for older generations who have not had access to such technologies in their younger years (Tannenbaum-Baruchi & Feder-Bubis, 2017). There is however a gap in the literature when it comes to the empowerment of d/Deaf individuals through social media. There is a growth in the amount of d/Deaf people who use CI, and CIs can change the way someone who is d/Deaf consumes media since they have the ability to hear. This research will therefore focus on the empowerment of d/Deaf CI-users specifically.

Internet technologies such as social media are changing the way that we communicate with each other, and how online content is consumed (Henderson, Edwards, Henderson & Bowley, 2010). While new technology and social media can provide new ways for d/Deaf individuals to access information and communicate with others this group still faces challenges in online environments. Social media specifically presents several challenges in terms of accessibility for the d/Deaf minority. Social Media content often relies heavily on visual elements, such as photographs and videos. Individuals who are d/Deaf can struggle to understand audio and video content on social media, partly due to a lack of subtitles and/or closed captions (Maiorana-Basas and Pagliaro, 2014). This group can also be at a disadvantage when it comes to text comprehension, as well as understanding texts with hyperlinks (Parault & Williams, 2010; Blom, 2020).

The internet as a whole has been found to empower those who find themselves on the margins of society (Mehra, Merkel & Bishop, 2004). Social media especially has been demonstrated to be vital for empowering minority groups during times of crisis, such as women in the Middle East during the Arab Spring (Odine, 2013). The concept of empowerment is often found at the center of issues surrounding equality for minority groups, such as the World Health Organization's (WHO) third Millennium Development Goal (MDG) ''to promote gender equality and empower women'' (''Millennium Development Goals (MDGs)'' n.d.). Empowerment is also an important issue relating to the equality of other minority groups, such as d/Deaf individuals, who will be at the center of the present research.

Empowerment is a highly deliberated, but yet not a clearly defined concept (Bohem & Staples, 2004). A broad definition of empowerment is that it strengthens the individual with behaviors that can lead to positive change on a personal level (Zimmerman & Rappaport 1988). This study will focus on individual empowerment. What individual empowerment entails varies in the literature. This research will focus on the constructs self-esteem (Heatherton & Polivy, 1991), self-efficacy (Bandura, 1977), and self-competence (Speer, 2000).

This research aims to add to the existing literature on empowerment of d/Deaf CI-users on social media. Accessibility is a crucial element of empowerment (Rappaport, 1987; Zimmerman & Rappaport, 1988) Therefore, this research also aims to investigate how accessible social media is for d/Deaf CI-users, and if potential challenges hinder feelings of individual empowerment for this particular group It is important to investigate CI-users specifically because they are likely to have different experiences than d/Deaf individuals without CI, because CI-users are, to a varying degree, able to hear. One could assume that a d/Deaf CI-user is equal to their hearing peers in terms of accessibility on social media since they do have the ability to hear. This assumption will be explored in this research, taking into account the possible challenges that CI-users face.

Accessibility for those who are deaf varies greatly between different countries. In an EU directive from 2018, the member states were urged to make audiovisual media services more accessible for deaf individuals through aids such as subtitles and sign language (‘’Directive (EU) 2018/1808 of the European Parliament and of the Council’’, n.d.). Member states shall comply with these provisions by 19 September 2020. With this deadline looming, we want to investigate how deaf CI-users perceive the accessibility of social media in three different European countries: the Netherlands, the United Kingdom, and Croatia. It is hoped that this research will be able to say something about the situation for d/Deaf CI-users in the three countries and how the experiences of d/Deaf CI-users differ between them. This research will also give an indication into how accessible social media is in the three countries. It is hoped that this research can showcase the challenges that are faced by d/Deaf CI-users when it comes to social media use, and how accessible such platforms are to them. Therefore, the first research question of this study will be: In what ways and to what extent do d/Deaf CI-users experience individual empowerment through social media in the UK, the Netherlands, and Croatia?

As accessibility is an important factor when it comes to empowering deaf individuals, this study also aims to answer a second research question: To what extent does accessibility affect d/Deaf CI-users’ experience of individual empowerment through social media in the UK, the Netherlands, and Croatia?

Literature Review

The following section is a review of the existing literature on the concepts that make up the research questions for the present study. The research questions are: (1) in what ways and to what extent do d/Deaf CI-users experience individual empowerment through social media in the UK, the Netherlands, and Croatia? And (2) to what extent does accessibility affect d/Deaf CI-users' experience of individual empowerment through social media in the UK, the Netherlands, and Croatia? The concepts that will be discussed in detail are the following: (1) deafness, Deaf culture, Deaf identity and cochlear implants (CI), (2) social media (3) Individual Empowerment (4) Accessibility, and lastly (5) a section on each of the three countries where the study will be conducted; the UK, the Netherlands, and Croatia.

Deafness

There are many aspects to deafness, and there is no black and white distinction between who is deaf/hard-of-hearing and who is hearing. The identification of deaf and hard-of-hearing individuals is a complex topic, which is still debated among scholars and within the deaf community. According to the National Association of the Deaf (n.d.), a person who has severe hearing loss is classified as deaf, while the term hard-of-hearing can be used about someone who has mild to moderate levels of hearing loss. Hard-of-hearing can also be used about a person that does not feel part of Deaf culture, despite their significant hearing loss (National Association of the Deaf, n.d.). There is also a distinction in the literature between those who are born deaf and those who develop deafness later in life. This is however a category of deafness that will not be deliberated in this research.

While some view deafness only as a medical issue that concerns a person's ability or inability to hear, many also see Deafness as a question of culture and identity (Tucker, 1998; Skelton & Valentine, 2003). One way this distinction between a medical view and a cultural view is made in the literature is differentiating between those who are deaf with a lowercase ''d'', and those who are Deaf with a capital ''D'' (Tucker, 1998). There is broad agreement that being ''Deaf'' refers to the social model of Deafness, involvement in the Deaf community, and Deaf culture, in a way that separates Deaf people from the hearing world, in addition to knowledge and use of sign language (Woodward, 1972; Dolnick 1993; Tucker 1998; Munoz-Baell & Ruiz, 2000; Skelton & Valentine, 2003).

Being part of Deaf culture can be of crucial importance to Deaf people, who see this community as an arena for support and information, as well as a place for activism for the rights of d/Deaf and hard-of-hearing people (Skelton & Valentine, 2003). Interestingly, Deaf individuals do not necessarily have a loss of hearing but could be children of d/Deaf parents, known in the literature as KODAs or CODAS (kids/children of d/Deaf adults), who have grown up with sign language as their first language (Fox, 2018).

The term 'deaf', with a lowercase 'd', is generally used when referring to deafness as a medical issue. Individuals who are 'deaf' do not see themselves as part of a separate group from the hearing world, other than that they have what they see as a medical condition (Tucker, 1998). Since the participants in the present research can identify as either deaf or Deaf, we will in this research refer to them as being d/Deaf. It is also important to note that many d/Deaf individuals, usually those who see themselves as Deaf, do not consider themselves as disabled. Rather, they feel they are a linguistic minority that shares a culture (Munoz-Baell & Ruiz, 2000). Due to the debate surrounding the disability in the d/Deaf community, this study will not compare studies concerning disabled individuals with d/Deaf individuals, or in any way group these two together. Instead, we will consider d/Deaf people as a minority group. It should however be noted that legislations both on the EU level and for individual countries tend to classify the d/Deaf demographic as part of the disabled minority.

In addition to culture, identity can also play an important role in the wellbeing of d/Deaf people (Chapman and Dammeyer, 2016). There are several factors that can impact how a d/Deaf person identifies, such as their level of hearing loss, and whether their family members are d/Deaf or hearing (Häfele, 2001; Nikolaraizi & Hadjikakou, 2006; Maxwell-McCaw, 2001). Deaf identity has been found to be significantly more prominent in d/Deaf individuals who have attended d/Deaf schools (Chapman & Dammeyer, 2016).

The literature surrounding Deaf identity often refers to Glickman's (1996) four identities seen in d/Deaf individuals: (1) Identifying only with hearing culture, (2) Neither identifying with hearing or Deaf culture (3) Identifying with Deaf culture and (4) Bicultural identity, which means identifying with both hearing and Deaf culture. Chapman and Dammeyer (2016) found that those who identified neither with hearing or Deaf culture had notably lower levels of physiological well-being compared to those with a Deaf, hearing, or bicultural identity. It has also been found that d/Deaf people that identify with neither hearing or Deaf culture have lower self-esteem and life satisfaction (Maxwell-McCaw, 2001). Additionally, it has been found that those who relate strongly to Deaf identity have higher levels of self-esteem (Bat-Chava, 1993; 1994; 2000).

There are several forms of hearing aids and other types of technology that are used to enable or improve the hearing of d/Deaf and hard-of-hearing individuals. One form of this technology that has become increasingly popular in recent years is cochlear implants (CI) (Raine, 2013). CI is a partially surgically inserted electronic device that enables the patient to hear (National Institute on Deafness and Other Communication Disorders, 2008). A CI is different from a hearing aid. A hearing aid simply amplifies sounds so that they can be heard by someone with impaired hearing. CIs, on the other hand, stimulate the auditory nerve, which sends signals to the brain that are perceived as sound (National Institute on Deafness and Other Communication Disorders, 2008). Research has shown that early implementation of CI aids the development of spoken language, auditory memory, and word recognition (Johnson & Goswami, 2010).

There is, however, a division of the Deaf community that opposes the use of CI, seeing the device as a threat to Deaf culture (Tucker, 1998). Some state that the use of CI plays into the idea that deafness is solely a medical condition that should be cured (Skelton & Valentine, 2003; Sparrow, 2005; Saunders, 2016). It has also been argued that implanting a child that is born deaf is intrusive to the child's own right to decide over their own body (Tucker, 1998; Skelton & Valentine, 2003).

Another reason why some say CI's are detrimental to Deaf culture is that their use lessens the need for sign language. Sign language is a vital part of d/Deaf culture and identity. There is no one global sign language, but rather just like every country has its own spoken language, each country also has a different sign language. In fact, one country can have several sign languages, such as Belgium being home to both Flemish Sign Language (VGT) and French Belgian Sign Language (LSFB) (Sáfár, Meurant, Haesenne, Nauta, Weerdt & Ormel, 2015). There is also no one English version of Sign language. For example, the US and the UK have different sign languages known as American Sign Language (ASL) and British Sign Language (BSL).

Around 95% of d/Deaf children are born to hearing parents (Mitchell & Karchmer, 2004). While d/Deaf parents are likely to teach their d/Deaf children Sign language, hearing parents are more inclined to focus on their child's development of oral speech, sometimes aided by a CI (Lederberg, Schick & Spencer, 2013).

In addition to the aforementioned criticisms of CI, there are also misconceptions about their capabilities. Saunders (2016) writes that the media portrays CI as having the ability to enable perfect hearing in all implanted patients. The author gives the example of television series including “Law and Order’’ and ‘’House’’ that have depicted characters on the show receiving a CI and obtaining perfect hearing instantly after the procedure. This portrayal is, however, in many cases unrealistic, as CI-implementation is not always successful. Additionally, the results a patient can get from a CI varies.

Despite the criticisms of CI, there are also members of the Deaf community that support the development of such technology and praise the opportunities they can grant to d/Deaf and hard-of-hearing people. As the Deaf author Tucker (1998) writes: ‘’We’d like to be able to hear music; to hear our children and grandchildren laugh and cry; (...) to be able to get any job we want without having to consider how our deafness will interfere with the job duties. We’d particularly like to hear our own voices and to be able to control the tone and pitch and loudness of our voices. The list is endless. Why would any human being want to deny such pleasures to herself or her children?’’

CIs are only one form of technology that can be of help to d/Deaf individuals. There are also other forms of technology that are said to be of great help to this specific group. The next section will detail how the rise of social media has affected the Deaf community.

Social Media

Social media can be defined as Internet applications that allow users to create and share content with each other (Kaplan & Haenlein, 2010). Social media is changing the way that people communicate on a day-to-day basis, allowing for global communication and connectivity (van Dam & van de Velden, 2015). It is estimated that around 45 percent of the world’s population used social media in 2019 (Clement, 2019). There are several forms of social media, with one form being Social Networking Sites (SNS). Commonly known SNS are Facebook and Instagram. SNS have become an integral part of people’s lives in a short amount of time (van

Dam & van de Velden, 2015). Facebook is the most popular form of SNS globally as of January 2020, with around 2.5 billion users each month (Clement, 2019). Instagram follows closely, with more than a billion users (Ortiz-Ospina, 2019).

Tuten and Solomon (2018) divided social media into four zones: Social Community, Social Publishing, Social Entertainment, and Social Commerce. Social Entertainment entails aspects such as games, art, and music, whilst Social Commerce implies the commercial side of social media, including aspects such as retailing and sales. Social Community relates to socializing and communicating with others, whilst Social Publishing covers aspects such as content creation and sharing.

People engage with and consume content on social media in different ways. Social media use can be both passive and active (Li, 2016). Li (2016) explains that active users tend to create content and start and join discussions. Passive users, also known as lurkers, tend to observe and consume content on social media, without actively taking part in discussions or content-sharing (Li, 2016). Active participation in social media has been found to be more related to feelings of empowerment compared to passive social media use (Mo & Coulson, 2010). Additionally, active use of social media has been found to positively influence self-concept and ideas about one's own influence on others (Li, 2016). The same effect has not been found for passive social media users (Petrovčič & Petrič, 2014)

The growth in social media use has led to a change in how we communicate with each other. Interpersonal communication, a social exchange between at least two people, now increasingly occurs on social media instead of face-to-face (Gjylbegaj and Osama, 2018). This major change in how we communicate with each other has consequences in our lives. The internet as a whole has been found to empower those on the margins of society, such as those with low income, LGBTQI individuals, and people of color (Mehra, Merkel & Bishop, 2004). Social media specifically has been found to empower minority groups, with an example being women in the Middle East during the Arab Spring (Odine, 2013). Additionally, a study by Miller (2017) on LGBTQI students with disabilities showed that online communities were of significant importance when it came to identity building and voicing opinions. Miller found that these students used online communities to engage in activism and to seek validation, as well as for relationship-building. Social Media has also been found to empower its users because it can enable them to push for social change (Shirky, 2011).

Social media has grown substantially in recent years and therefore it is important to investigate its influence and impact. It is also worth investigating how social media impacts separate groups differently. The present research will focus on the empowerment of the specific group of d/Deaf CI-users through social media.

Empowerment

Empowerment is not a concept that is easily defined. It is, however, an important concept that has been debated in a multitude of different areas, from politics to health (Hur, 2006). A broad definition of empowerment is that it strengthens the individual with behaviors that can lead to positive change on a personal level, as well as advocating for a specific group (Zimmerman & Rappaport 1988). There are two major distinctions of the empowerment concept in the literature; individual empowerment and collective empowerment (Hur, 2006; Bohem & Staples, 2004). Empowerment on the collective level can be divided into an organizational level and community level (Rappaport, 1987). Individual empowerment is strongly linked with Zimmerman's (1995) concept of psychological empowerment (PE). PE relates to how an individual understands their own personal control over their life, active engagement in the community as well as an understanding of one’s own socio-political environment (Zimmerman, 1995). Zimmerman highlights that PE is not the same as individualism, but rather ‘’includes beliefs that goals can be achieved, awareness about resources and factors that hinder or enhance one's efforts to achieve those goals, and efforts to fulfill the goals.’’ Zimmerman divides PE into three components, (1) Intrapersonal Component, how people think about themselves (2) Interactional Component, the understanding a person has of their community, and (3) Behavioral Component, which covers the actions taken to become empowered. Additionally, Zimmerman presents three underlying assumptions when it comes to PE. Firstly, it takes different forms for different people, meaning that factors such as age, gender, and education level will impact how empowered an individual is. Secondly, it takes different forms in different contexts, meaning that some forms of empowerment can be more relevant than others in a specific situation. Thirdly, it may fluctuate over time, meaning that empowerment is not static and that someone can become more or less empowered over time. These assumptions make empowerment a different concept to pin down, and there is no universal method to measure empowerment: ’’the development of a universal and global measure of empowerment is not an appropriate goal because it may not mean the same thing for every person, organization, or community everywhere.’’ (Zimmerman 1995).

There is also a distinction in the literature between empowering processes and empowering outcomes (Perkins & Zimmerman, 1995; Mo & Coulson, 2010). Perkins and Zimmerman (1995) explain that empowering processes is how someone becomes empowered, while the outcomes involve the consequences of the empowering processes. One example of an empowerment process at the individual level presented by Perkins and Zimmerman is when an adult mentor a younger person in order to prepare them for adult life. The empowerment outcome would then be the consequences of such a mentorship.

This research aims to investigate the individual empowerment in d/Deaf CI-users and not the empowerment of d/Deaf CI-users as a group and will therefore focus on individual empowerment. While there are many debates regarding what concepts make up individual empowerment, this research will focus on the ones most related to social media use, which have been highlighted by Hur (2006). These concepts are (1) self-esteem, (2) self-efficacy, and (3) self-determination. Self-esteem can be defined as an individual's beliefs about their own self-worth (Rosenberg, 1979; Larson, Walker & Pearce, 2005). Self-efficacy can be described as an individual’s beliefs of control and influence over their own life, and their ability to make a difference (Tafarodi & Swann, 1995; Bandura, 2010). Self-efficacy has been found to be connected to motivation and performance, as well as to general mental health (Schunk, 2011; Bandura, Freeman & Lightsey, 1999). The third and final concept that will make up the individual empowerment construct for the present research is self-determination. Self-determination can be explained as a person’s ability to make decisions and regulate their actions (Deci, Connell, & Ryan, 1989; Boehm & Staples, 2004; Sprague & Hayes, 2000; Hur, 2006). To summarize, the three concepts that this research bases individual empowerment on are self-esteem, self-efficacy, and self-determination.

This research will focus on the individual empowerment of d/Deaf-CI users. One factor that could impact the empowerment of d/Deaf CI-users through social media is accessibility. While social media is fully accessible to the majority of users, individuals with atypical communication preferences such as d/Deaf CI-users who rely on i.e. reading text, lip-reading, or Sign language interpretation to retain information could be at a disadvantage. The following section will deliberate the concept of accessibility, and why it is important in relation to empowerment.

Accessibility

While social media has been found to empower minorities, it is important that social media is accessible to minority groups in order for empowerment to occur (Munoz-Baell & Ruiz, 2000). Access to information has been shown to be crucial in order for someone to feel empowered (Bowen & Lawler 1992; Ritchie & Blanck, 2003). Individuals within the d/Deaf CI-user minority can have varying degrees of functional hearing. While some CI-users can hear almost perfectly, another CI-user could still have major struggles in understanding speech and sound. There is an assumption that CI implementation can cure deafness (Saunders, 2016). This has however been shown to be untrue, and there will always be people out there who cannot hear well (Tucker, 1998). Therefore, it is important to make social media accessible to those with hearing impairments.

Communication has been found to be one of the most challenging aspects of being d/Deaf (Kožuh & Debevc, 2018). Because of this, the removal of communication barriers has been argued to be vital for empowering d/Deaf individuals (Munoz-Baell & Ruiz, 2000). Technology is considered to aid communication for those that are d/Deaf and can be a tool to remove the aforementioned barriers. Traditional forms of media, such as television and radio, require the recipient to be able to hear in order to understand what is being conveyed. Therefore, d/Deaf individuals have been at a disadvantage in times where most information and news were transmitted audibly. Nowadays, however, modern technology, such as smartphones and social media, can be empowering for d/Deaf individuals as their use does not necessarily require hearing and speaking abilities (Tannenbaum-Baruchi & Feder-Bubis, 2017).

Social media platforms such as Instagram and Facebook are highly visual, with Instagram in particular being largely used to share visual content. Considering the fact that d/Deaf cannot rely on their hearing to obtain information, social media's reliance on visual aspects could be assumed to be especially suited for this group. The aforementioned platforms, together with other social media such as Snapchat and YouTube, are however still widely used to share audio and video content. Audiovisual content can be difficult to comprehend for some d/Deaf individuals, especially if it is not subtitled (Maiorana-Basas & Pagliaro, 2014; Asuncion et al., 2012).

In addition to difficulties in understanding audiovisual content, d/Deaf individuals can also be at a disadvantage when it comes to understanding text posts and captions. Research has shown that text comprehension is lower among individuals that are d/Deaf compared to hearing (Parault & Williams, 2010). Additionally, recent research has found that d/Deaf individuals struggle to comprehend texts that include hyperlinks (Blom, 2020).

Accessibility on social media varies between platforms as well as between different forms of content. Additionally, content that is accessible and easy to understand for one d/Deaf person might not be for another. Since there is an assumption that those with CI have perfect hearing there is also an assumption that CI-users would be able to use and consume social media in the same way as someone who is not deafened. There are however several issues with accessibility that affect CI-user's understanding of social media content. For instance, a CI-user could still have major issues with their hearing, and would, therefore, struggle to understand audiovisual content without subtitles or Sign language interpretation (Munoz-Baell & Ruiz, 2000). Another factor could be the age that someone has had a CI-implanted. If someone has had a CI implanted later in life this could mean that they have Sign language as their first language and could struggle to understand both oral and written communication. These variations in the hearing abilities and communication preferences of CI-users mean that there can be major discrepancies in how accessible social media is to the individual, which again could have an effect on their empowerment. The present study sets out to test the assumption that CI-users have the same access to social media as someone who is hearing.

Online accessibility for those who are d/Deaf varies between different countries. In an EU directive from 2018, the member states were urged to make audiovisual media services more accessible for d/Deaf individuals by enhancing the use of aids like subtitles and sign language interpretation (''Directive (EU) 2018/1808 of the European Parliament and of the Council'', n.d.). Member states are urged to comply with these provisions by 19 September 2020. With this deadline looming this research aims to investigate how d/Deaf CI-users perceive the accessibility of social media in three different European countries: the UK, the Netherlands, and Croatia. We believe that comparing these three countries will add to the literature on how it is to be d/Deaf in different European countries. Additionally, it is hoped that this research can be a first steppingstone in setting out recommendations on how to make social media more accessible to d/Deaf CI-users, as well as increasing awareness of the difficulties that this specific group encounter in online environments.

d/Deaf and hard-of-hearing individuals in the UK

Around 12 million out of the UK population of around 66.5 million have some form of hearing loss (Office for National Statistics, 2019; Action on hearing loss, n.d.). Around 800,000 people are classified as having severe hearing loss or deafness (Accessibility Services, n.d.). Just under 850 children are born with deafness or hearing difficulties in the UK every year (Hutchin et al., 2005).

The sign language of the UK is known as British Sign Language (BSL) (Young, Monteiro & Ridgeway, 2000). Around 87,000 d/Deaf people in the UK have BSL as their preferred language (British Deaf Association, n.d.). More than 150,000 people in the UK can use BSL, not counting those who use BSL exclusively outside of the home such as professional interpreters (British Deaf Association, n.d.). BSL has been regarded as an official language in the UK since 2003 (British Deaf Association, 2020). According to the British Deaf Association (2020), it is however not a language that is protected by the law.

The number of d/Deaf individuals who use CI in the UK is around 12,000 (Hearing Link, 2018). According to a study by Raine (2013) it has become more common to equip infants that are born deaf with CIs in the UK. Around 74% of children aged 0-3 with severe to profound hearing loss born in the UK between 2006 and 2011 had CIs implanted (Raine, 2013). Among UK adults the number of implantations more than doubled from 2003/2004 to 2010/2011 (Raine, 2013).

The UK Government have made several efforts to make the online sphere more equal for those with disabilities. Although this research does not categorize d/Deaf individuals as being disabled, this classification is often made on government level. In 2009 the UK ratified the UN Convention on the Rights of Persons with Disabilities. This act includes making online services accessible to those who are d/Deaf or hard-of-hearing (gov.uk, 2020). Despite these equality policies, a paper by Harris and Bamford (2010) highlighted the issues that are still faced by people who are d/Deaf in the UK. They wrote that despite efforts to change policy and improve services, society still failed to make d/Deaf and hard-of-hearing people fully participating in society. The current study aims to assess the current situation for d/Deaf individuals in the UK and compare these experiences with d/Deaf CI-users in the Netherlands, and Croatia.

d/Deaf and hard-of-hearing individuals in the Netherlands

The Netherlands has a population of nearly 17.5 million (Centraal Bureau voor de Statistiek, 2020). Around 1.5 million of these were in 2003 classified as deaf and hard-of-hearing, with 495,000 of these being considered as serious cases of deafness or hearing loss (Hoorwijzer, 2017). Over 8,700 d/Deaf people in the Netherlands are CI-users, and in 2017 436 people had one or two CIs implanted (OPCI, n.d.). The Sign language of the Netherlands is not regarded as an official language by the Dutch government.

In contrast with the UK, the Netherlands does not have an explicit law on online accessibility of information for people with disabilities (Stichting Accessibility Expertisecentrum voor toegankelijke ICT, n.d.). The country does however have the Equal Treatment Act which aims to secure equal rights for those with disabilities and chronic illness (Stichting Accessibility Expertisecentrum voor toegankelijke ICT, n.d.). In 2019, representatives of d/Deaf organizations in the country wrote a letter to the Ministry of Education, Culture and Science expressing their concern that not enough effort has been made to ensure that audiovisual content is accessible for d/Deaf people, stating that only one percent of the programs on Dutch Public Broadcast is subtitled (Soffer et al., 2020). There is also concern about the fact that the Dutch government has not implemented article 7 of the EU's Audiovisual Media Services Directive (AVMSD) (De Tweede Kamer, 2020). The government however states that they are taking steps towards increased accessibility for d/Deaf people, with the Ministry of the Interior and Kingdom Relations (BZK) wanting the government’s own website and mobile app to comply with the international standards for online accessibility as set out by the Web Content Accessibility Guidelines (WCAG) by 2021 (De Staatssecretaris van Binnenlandse Zaken en Koninkrijksrelaties, 2018).

d/Deaf and hard-of-hearing individuals in Croatia

Croatia has a population of just over 4 million (Population Estimate of Republic of Croatia, 2018; Croatian Bureau of Statistics). In 1999 it was estimated that between 8,000 and 10,000 Croatians were deaf, and between 100,000 and 150,000 hard-of-hearing (Žic, 1999). It is not known how many CI-users there are in the country. The equality rights for d/Deaf people in Croatia are protected under the UN's Convention on the Rights of Persons with Disabilities, which Croatia ratified in 2007, ahead of the UK's 2009 and the Netherlands's 2016 ratifications. Additionally, Croatia ratified the European Accessibility Act in 2015. The country also has a law that states that d/Deaf citizens have the right to communication support, such as a sign language interpreter, in government, work, and cultural environments (Hrvatiski Sabor, 2015).

Method

This research intended to investigate in what ways and to what extent d/Deaf CI-users experience individual empowerment through social media in the UK, the Netherlands, and Croatia. Additionally, the effect of social media accessibility on the empowerment of this demographic was tested. These research questions were investigated as part of a larger project on d/Deaf CI-users and social media where three researchers investigated their own research questions. The researchers jointly produced an interview guide and collected the data but had different approaches to the analysis.

The data was collected using a qualitative approach in order to gather the participants own experiences and insights on the topic (Treadwell, 2016). The research consisted of in-depth semi-structured interviews with d/Deaf CI-users from the UK, the Netherlands, and Croatia. Semi-structured interviews were chosen in order to explore the participants' motivations and feelings surrounding social media use (Arksey & Knight, 1999). Due to the COVID-19 pandemic that spread across Europe in the winter and spring of 2020, and the travel restrictions implemented as a consequence, the interviews were conducted using online tools instead of face-to-face, as was the initial plan.

Participants

The participants for this project consisted of 18 d/Deaf CI-users from the UK, the Netherlands, and Croatia. The participants were spread evenly between the countries, with six participants from each country. Participants had to fulfill the following criteria in order to participate in the research: the participant had to be over 18 years old, be a CI-user, and use social media every day. The d/Deaf population is a diverse group as they prefer to communicate in a range of different ways, from using Sign language to lip-reading, to speech. This project did not recruit participants based on their communication preference as the project wanted to investigate accessibility on social media for all atypical communication preferences.

The participants recruited were between 18 and 59 years of age, with the average age being 34. This project was open to all genders. Eight of the participants identified as male, and 10 identified as female.

The interviews were held in the native language of the participants: English, Dutch, or Croatian. The researchers conducting the interviews with the Dutch and Croatian participants were native to that language. The researcher that interviewed the UK participants was fluent in English, with a degree from a UK university.

Sampling

The sampling of participants was done differently for each country. Each of the three researchers sampled six participants from one of the three countries.

The participants from the UK were sampled using convenience sampling, meaning that the researcher collects participants in a way that is convenient to them (Treadwell, 2016). The researcher responsible for the UK interviews used Facebook groups for d/Deaf and hard-of-hearing individuals in the UK in order to reach the demographic. This was convenient for the researcher because it was an easy way to get in touch with the demographic directly. The researcher posted a brief description of what the research was about and what participation entailed in four different Facebook groups. Group members interested in participating were asked to contact the researcher to express their interest.

The Dutch participants were recruited using snowball sampling. Snowball sampling entails being introduced to the participant demographic by a member of that network (Treadwell, 2016). Snowball sampling was efficient for this research due to the demographic being limited and difficult to get in touch with. The researcher for the Netherlands contacted a member of Stichting Platform Gehandicaptenbeleid Eindhoven, an organization that is focused on people with disabilities in the city of Eindhoven, and a member of the city council. They shared the request for participants on their personal Facebook page, and this post was again shared by their contacts. Participants that saw these posts then contacted the researcher to indicate their interest in participating.

The Croatian participants were conducted with a mix between convenience sampling and snowball sampling. The researcher posted on the social media platforms Facebook and LinkedIn looking for participants. Several Facebook groups were used to post about the research. Potential participants contacted the researcher after seeing the post on Facebook. Some of those participants messaged members of their network that they thought might be interested in participating as well. Some of the participants were recruited through other participants, hence the mix between convenience and snowball sampling.

For all of the three countries the researcher sent a participation letter to the participant ahead of the interview. They also agreed together on a time and date for the interview, as well as the form of the interview, i.e. Skype video call or Facebook Messenger chat.

Materials

The researchers jointly produced an interview guide for this research. The interview guide consisted of 55 questions covering topics related to the research questions of each researcher. The interview guide had four main topics: (1) social media use, (2) accessibility on social media, (3) accessibility of e-government information on social media, and (4) Deaf identity. Next to the 55 main interview questions the interview guide also contained prompts and follow up questions where applicable. The predetermined interview questions advised the researchers during the interview, but since the interviews were semi-structured the interviewer was free to ask other questions surrounding topics that came up during the conversation. The order of the questions may also have changed depending on the conversation.

The questions that were developed to answer the research questions of the present study aimed to reflect the empowerment of the individuals, as well as the participants' experience of accessibility on social media. For empowerment, the questions were based on the following three empowerment constructs: self-esteem (Larson, Walker & Pearce, 2005), self-efficacy (Tafarodi & Swann; Speer, 2000), and self-determination (Boehm & Stapels, 2004; Sprague & Hayes, 2000; Hur, 2006). The questions related to accessibility were more general, as they had the goal to investigate how the participants perceived accessibility on social media. The interview guide can be found in appendix C.

In addition to the interview guide the researchers also produced an informed consent form and participant information letter. These can be found in appendix A and B, respectively.

Instruments

Skype and Facebook Messenger were the main tools used to conduct the interviews. Skype was used for 11 of the interviews, six were conducted on Facebook Messenger, and one was carried out via Apple's calling tool Facetime simultaneously as Facebook Messenger was used to chat. The majority of the interviews were video recorded, with the exclusion of four interviews that were entirely chat-based. Six interviews that were conducted on Skype were recorded using Skype's own recording function and five were recorded using Ecamm Movie. The interviews conducted via Facebook were recorded using QuickTime Player's screen recorder. The recordings of the interviews were uploaded to Tilburg University SurfDrive, which the three researchers and the two supervisors had access to. The recordings were also saved on the researchers' own password-protected laptops.

Upon completion of the data collection, the researchers transcribed the interviews. The transcripts were anonymized to protect the privacy of the participants and uploaded to SurfDrive and saved on the researcher's own password protected laptop.

Informed consent from the UK and Dutch participants was gathered using the online survey tool Qualtrics. PDFs of the participant's responses were downloaded prior to the interview to check that that participant had answered all the questions and signed the document. For the Croatian participants the researcher sent the informed consent form via email, and the participants signed it and sent it back.

Procedure

A pilot interview was conducted prior to data collection. This was done in order to ensure that the questions were correctly understood by the participant. The pilot interview was with a 35-year-old male Dutch CI-user that the researcher for the Netherlands had already been in touch with during research for this research. The interview was conducted in English over Skype. The Dutch researcher conducted the interview, with the other two researchers present on the call as well. Minor changes to the interview guide were made after the pilot interview.

Data collection began on May 4, 2020 and ended on May 29, 2020. The interviews were carried out either via Skype, Facebook Messenger, or Apple's Facetime. When sampling for participants it became apparent that not all CI-users were comfortable with listening and speaking on a video call. Because of this we also allowed for participants to read the questions as they were asked and/or reply by chat instead of speech. In seven of the instances the interview was conducted primarily by chat, in three instances the interviewer typed the questions and the participants spoke the answers, and in eight instances the interview was mostly spoken both by the interviewer and the interviewee.

The interviews lasted between 35 minutes and 4 hours 10 minutes, with the average duration being 1 hour and 47 minutes. The interviews conducted mainly via chat were in general longer in duration than the ones that were spoken, due to the time it took for the interviewer to type questions and for the participants to type their answers. When it came to the amount of words per transcript the ones that were fully spoken were all longer (Mean: 8,280, range: 5,731- 12,335) than the ones conducted only via chat (Mean: 3,493, range 2,601 - 4,886). The interviews conducted with a mix between speaking and chatting were in the middle in terms of duration (Mean: 5,423, range: 2,976 - 6,006).

The participants were sent a participation letter via email or Facebook Messenger prior to the interview, giving them enough time to read the document thoroughly. Informed consent was gathered from the participants before the interviews commenced.

The participants were offered two short breaks during the interview. Only seven of the participants wanted a break during the interview. The interviews began with demographic questions. For the four main topics of the interview the researchers used the predetermined interview questions as a guide but were free to ask follow-up questions and discuss other topics as relevant. After the completion of the interview the participants were thanked for their time. No compensation was given.

Analysis

The first step of the analysis process was to transcribe all the interviews. Each researcher transcribed their own interviews, meaning that each researcher transcribed six interviews. The interviews conducted in Dutch and Croatian also had to be translated to English.

The three researchers analyzed the data differently depending on their research questions. The remainder of this section will focus on the coding done by the researcher for the present study. The current study which focuses on empowerment used Theoretical Thematic Analysis (TTA) (Braun & Clarke, 2006) to conduct the analysis. The use of TTA allowed the researcher to discover patterns across the interviews. TTA entails looking at the data from a theoretical standpoint. In order to use TTA the researcher ensured they had extensive knowledge of the literature before the analysis process commenced. TTA entails identifying themes in the dataset. In the present study, the analysis was based on the guidelines offered by Braun & Clarke (2006). The researcher began by reading the interviews thoroughly several times in order to become familiar with the data, while noting down patterns and interesting points.

The researcher then proceeded to look for words and concepts that repeated themselves that could be used as codes. The researcher looked for codes that would match the empowerment constructs self-esteem, self-efficacy, and self-determination. Additionally, any information relating to accessibility was noted in order to answer the second research question of this study. The codes that were found to match these concepts were then formed into themes. Themes are defined by Braun and Clarke (2006) as capturing ‘’something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set’’. The themes identified in the data were at the semantic level (Braun & Clarke, 2006). This means that the researcher looked for explicit information in the data, rather than looking at the meaning behind what was said. A total of 16 themes and 18 sub themes were identified in the data. Nine themes and two sub themes were identified for empowerment, and seven themes and 16 sub themes were identified for accessibility.

For self-esteem the themes that were found were ‘involvement’ and ‘lack of engagement’. Involvement indicated positive self-esteem, with two sub-themes identified being ‘contribution’ and ‘initiative’. The theme ‘lack of engagement’ indicated negative self-esteem. For the self-efficacy construct, three themes were identified: ‘control’, ‘impact’, and ‘not having an impact’. ‘Control’ and ‘impact’ indicated positive self-efficacy in the participants, whilst ‘not having an impact’ indicated negative self-efficacy. In order to measure to what extent participants were self-determined the researcher wanted to explore to what extent the participants were able to make decisions and form opinions related to the information they saw on social media. One theme that became apparent when reading the transcripts was ‘distrust’, based on codes mainly surrounding the topics of fake news and a need to verify information. ‘Distrust’ was chosen as a theme to encompass these codes since being wary of fake news and wanting to verify information seen on social media can both be characterized as forms of distrust. ‘Distrust’ was chosen as a theme for the self-determination construct because it was considered a hindrance for participants to make decisions. A second and third theme that was formed for the self-determination construct was ‘voicing opinion’ and ‘not voicing opinion’ ‘Voicing opinion’ reflected positive self-determination in the interviewees, with ‘not voicing opinion’ indicating negative self-determination. ‘Distrust’ however was seen as potentially being both positive and negative, which will be further deliberated in the discussion section of the present study.

In order to answer the second research question of this study themes were also developed for the topic of accessibility. The themes determined around accessibility were, among others, ‘preferred linguistic format’ with the subthemes ‘sign language’, ‘sign language and subtitles’, ‘subtitles and transcripts’, and ‘subtitles’. The second theme was ‘staying informed’, indicating participants using social media to stay informed. Thirdly, ‘accessibility issues’ was identified as a theme, with ‘greater accessibility for hearing’, ‘lack of subtitles’, ‘language difficulties’, ‘dependency on others’, and ‘real life easier than social media’ identified as subthemes. Due to a number of participants bringing up negative emotions felt when something was inaccessible to them another theme that was formed was ‘negative emotions due to inaccessibility’, with the sub themes being ‘isolation’, ‘annoyance’, ‘frustration’, ‘anxiety’, ‘sadness’, and ‘anger’. A number of participants were also noted to speak positively about social media and therefore ‘positive about accessibility’ was formed as a theme, with ‘social media easier than real life’ and ‘increased subtitling’ as subthemes.

The second research question of this study is how accessibility on social media affects the empowerment of d/Deaf CI-users. In order to measure this the level of empowerment for each participant was compared with their view on accessibility. First it was counted whether each participant was coded for more positive or negative empowerment themes. The themes that corresponded with positive empowerment were ‘involvement’, ‘initiative’, ‘control’, ‘impact’, and ‘voicing opinion’. The themes that corresponded with negative empowerment were ‘lack of engagement', 'not having an impact', and 'not voicing opinion'. Their level of empowerment was then compared against their view on social media accessibility. The themes that corresponded with a positive view of accessibility on social media were 'staying informed' and 'positive about accessibility'. The themes that corresponded with a negative view of accessibility on social media were 'accessibility issues' and 'feelings when inaccessible'. The researcher counted whether each participant matched with more positive or empowerment codes to determine their level of empowerment. Then the participants' view on accessibility was counted to be either mostly positive or mostly negative. The empowerment level was then measured against the sentiment towards accessibility for each participant.

Results

This section will showcase the findings across the 18 participants in this study. The first section will discuss themes found in the data surrounding individual empowerment. The findings for the three constructs self-esteem, self-efficacy, and self-determination, and their respective themes, will be discussed in order to determine the participants' experience of individual empowerment through social media. Secondly, what was found in relation to accessibility will be discussed. Lastly, the evidence surrounding how accessibility, or the lack thereof, impacts the empowerment of CI-users on social media will be deliberated.

Self-esteem

The first construct that was measured in order to investigate empowerment among the participants was self-esteem. One of the themes that was found to correspond with the self-esteem construct was involvement. All 18 participants mentioned they were involved in some way on social media. This involvement varied from contributing to taking initiative. 12 out of the 18 participants indicated that they contributed in some form on social media. This contribution varied from answering questions from others to engaging in conversation. An example of social media contribution was given by a UK participant: ‘’If someone’s talking about something that I’m interested in, I do tend to join the conversation and chatting with people.’’ (IE4_UK: 59-60). Contribution was most prominent among the UK and Dutch participants, where five out of six mentioned contribution, whereas four of the Croatian participants reported to contribute to social media.

The participants were also asked whether they took initiative on social media. All but one out of the 18 participants indicated that they took initiative on social media. The participant that did not show initiative was one of the Croatian participants. Initiative was measured in various ways, from whether participants posted on social media to using social media to reach out to other people. As one of the Croatian participants indicated: ‘’I am able to share some stuff with people…or share my experience’’ (IE5_CR: 86-87). The fact that all but one of the participants were found to take initiative on social media can indicate that the level of self-esteem among the participants was high, which gives an indication to their level of individual empowerment.

While the majority of the participants indicated that they took initiative on social media, five of the participants also showed hesitation to engage on social media, and a preference for passive use. This behavior was most prevalent in the Dutch participants, with half indicating that they mostly used social media passively. One of the Dutch participants said: ‘’I don't really feel like I'm part of it, I look more. I've asked questions from time to time, but I'm not really active in Facebook groups or on Instagram. But I do follow, but I don't feel like I'm participating.’’ (IE3_NL: 249-251). Only one of the UK participants and one of the Croatian participants showed an inclination for passive social media use.

Self-efficacy

The second construct that was measured in order to determine the participants' level of empowerment on social media was self-efficacy. The theme that was found to match this construct was control. This theme was apparent for three of the 18 participants. Two of these were UK participants and one was from the Netherlands. The theme of control was brought up as part of the conversation surrounding social media use and what content the participants followed on social media. The three participants showed control by stating that they unfollowed people or content they did not want to see and limiting their exposure to certain kinds of information. An example of control was uttered by a UK participant: ''I think you just have to be careful of who you follow, and what you're looking at, and what you expose yourself to. Cause it's so easy to, even subconsciously, just absorb messages from people, going through the same old thing every day.'' (IE_6: 142-144).

The participants' self-efficacy levels were also measured up against the theme of impact. 12 out of the 18 participants believed that their actions on social media could have an impact. This was most prevalent among the Dutch participants, where five out of six believed this. The belief that participants could impact others was seen the least among the Croatian participants, where only half believed they had an impact. An example of impact presented by one of the Dutch participants was: ''I think I can help people with it if they have questions, for example, if they are going to get a CI'' (IE6_NL: 154-155).

The opposite was found with six out of the 18 participants, with these participants stating that they did not think they had an impact. One example of this came from one of the Croatian participants: 'I think it means nothing. Because before when I wrote my opinions or responded on someone's comment, oftentimes there would be no results' (IE2_CR: 126-127). The insecurities regarding their own impact was also seen most among the UK participants, with half stating they did not have an impact. Only one of the Dutch participants stated the same.

However, all but one of the participants stating that they did not have much of an impact, also stated elsewhere that they did have some impact. This could show us that the participants to a great extent were unsure of the extent of their own impact and influence on social media.

Self-determination

The third construct used to measure individual empowerment in the current study is self-determination. One important aspect of self-determination is the ability to make decisions and form opinions. This research focused on the participants' ability to make decisions and form opinions based on the information available to them on social media.

Distrust was evident among 15 of the participants. All of the six Croatian participants stated they had a lack of trust in what they saw on social media. One of the Croatian participants said: ''No social network controls whether the information is accurate or not. And I don't want to check every piece of information for accuracy. That's why I stick to newspaper portals (verified) and books and traditional newspapers that stick to the tradition of checking information before publishing articles'' (IE2_CR: 278-281). For the UK, five out of six participants mentioned distrust. For the Netherlands four of the participants indicated that they didn't trust the information they saw on social media.

Only four of the participants indicated that they trusted what they saw on social media, with one UK participant saying: ''I would say that some of it is pretty trustworthy'' (IE4_UK: 318-319). This could indicate that these factors are standing in the way of this demographic using social media to base their opinion and make decisions.

Another theme that was found for self-determination was the participants' attitude to voicing their opinions on social media. Out of the 18 participants, 12 said that they used social media to voice their opinion. This was most common among the Dutch participants, where five said they used social media for this purpose. Four of the Croatian participants and three of the UK participants said they used social media to voice their opinion. One participant explains how they express their views on social media: ‘’if there's something I don't agree with, I want to share’’ (IE5_NL: 112-113).

10 of the 18 participants said that they avoided voicing their opinion on social media, with four Croatian, three Dutch and three UK participants stating this. Some of the participants who were reluctant to voice their opinion on social media also said that they would share their opinion in certain situations. For example, one UK participant said ‘’yeah I've definitely put my opinion out there a bit’’ (IE4_UK: 95-96), while also stating ‘’If it's political or religious I tend not to because people then sort of turn around and say ‘’you said that’’ or whatever. And it ends up with a lot of arguments and tension, so I just sort of stay out of it. I don't do confrontations’’ (IE4_UK: 54-56). This could indicate that the participants' wish to voice their opinion is situational.

Accessibility

To answer the second research question of this study the participants were asked about accessibility on social media. As was deliberated in the literature review, access to information has been deemed crucial when it comes to empowerment. Seven of the participants indicated that they use social media to stay informed, with this ranging from staying up to date with the news to staying informed about specific interests, as one of the Croatian participants said: ‘’I am interested in the area of politics, economy and similar… also if there is some lecture or conference, I like to be informed'' (IE2_CR: 55-56).

The participants were asked what linguistic format they preferred for receiving information in video-format. 14 of the participants preferred subtitles, three favored Sign language with subtitles, one indicated a preference for subtitles + transcripts and finally one participant said they preferred Sign language. The preference for Sign language was strongest among the Croatian participants, with half of them stating they preferred either Sign language or Sign language with subtitles.

15 of the participants indicated that they had experienced general accessibility issues on social media. This was most prevalent among the Dutch participants, with all six participants stating the fact, and five and four participants from the UK and Croatia respectively stating the same. One of the UK participants explained the issues they faced on social media: ''In a video, you don't know what's going on, they might have extra music and you know…I don't know to what extent I am still lipreading you, right now as well. So, uhm…there are many things…and like accents and like all sorts of things that people include in videos…uhm often they're not…the voice is a voice over, so there's no kind of person there. So things like that. I think even though…With my cochlear implants I do hear a lot better, uhm…you know, perhaps one of the issues is I'm not always plugged in. So in a sense that is the accessibility issue for me as well'' (IE6_UK: 235-241). Additionally, seven of the participants showed that they believed social media was more accessible to people without deafness or hearing loss.

One of the major issues on accessibility that became apparent during the interviews was a lack of subtitles on audiovisual content. 13 of the 18 participants mentioned a lack of subtitles as a reason for inaccessibility on social media. This was the case for all of the UK participants and all but one of the Dutch participants. It was however only the case for two of the Croatian participants. The issue was presented by one of the UK participants: ‘’a lot of information comes across in like a video or in audio format. And they don’t put subtitles on. So, you can’t follow what’s being said’’ (IE4_UK: 163-164).

While the majority of the participants stated that a lack of subtitles was an issue, three participants also said that there are more subtitles nowadays; ‘’I also see that lately there is much more often that it is subtitled, and on Facebook you have that too’’ (IE3_NL: 363-365).

Another accessibility issue that was raised in the literature review was that d/Deaf individuals sometimes struggle with written language. The majority of the interviewees however did not indicate that they struggled with language. Only three of the participants brought up difficulties with language, two UK participants and one Dutch participant. One UK participant said: ‘’they use very long words that we don’t understand’’ (IE2_UK: 129-130).

Another theme that became apparent from the data was that some participants had experienced being dependent on other people to understand information on social media. Half of the participants said that they had needed the help of someone else such as family members or partner to access information on social media. For some participants this dependency was clearly negative: ‘’Every time when I ask my mom to call, I feel like a person who is not independent enough’’ (IE2_CR: 189-190).

Inaccessibility led to negative feelings for the majority of the participants, with 13 of the participants having experienced negative emotions when something had not been accessible to them on social media. This was most apparent in the UK participants, with all having had some kind of negative feeling around inaccessibility. The same number was three for the Dutch participants and four for the Croatian participants. The most common negative emotions mentioned by the interviewees were annoyance, frustration, and feeling isolated. As one participant expressed: ‘’I get really frustrated when it’s not accessible to me, yeah, just really frustrated’’ (IE3_UK: 167).

It is clear from the data that the majority of participants had experienced accessibility issues on social media. However, 11 of the participants also stated that they had positive experiences when it came to accessibility on social media. As one UK participant indicated: ‘’I think that the information I am looking for is generally accessible. As in with subtitles, and things like that’’ (IE6_UK: 365). Some participants raised both positive and negative aspects of accessibility on social media, showing that the accessibility can vary depending on context rather than the individual involved.

Another positive factor about social media that was brought to the researcher’s attention was that many of the interviewees felt it was easier to communicate and connect on social media compared to face-to-face. 10 of the interviewees mentioned the ease of socializing online compared to in real life. As one Dutch participant explained: ‘’On the train or in the city, I don't know how someone talks or how someone will react. On insta (Instagram) I can just read the text and it's not difficult to understand. If someone reacts wrong you can easily end the conversation. You also have background noises that often make it harder to understand’’ (IE6_NL: 69-72). While this was the case for the majority of the UK and Dutch participants, only one of the Croatian participants said social media was easier than face-to-face. In fact, three of the Croatian participants said it was easier to connect in real life than on social media, with none of the UK or Dutch participants stating the same.

Accessibility’s effect on empowerment

In order to measure the effect of accessibility on the participants empowerment a different approach was taken. Each of the codes that related to an individual participant's level of empowerment and accessibility was noted and counted. It was then compared for each participant whether they showed more evidence for positive or negative empowerment, and whether they spoke more positively or negatively about the accessibility of empowerment. Their sentiment towards empowerment was then compared against their sentiment towards accessibility. This way it was possible to say something about how the person's empowerment level was linked to their view on accessibility.

Out of the 18 participants 10 showed higher levels of empowerment and also spoke more negatively about accessibility on social media. Four of these participants were from the Netherlands, three were from the UK and three were from Croatia. This shows that poor accessibility does not necessarily lead to lower empowerment among our demographic but can rather mean that the participants were empowered enough to understand the issues of accessibility on social media. This statement will be further deliberated in the discussion section of this research paper. Four of the participants, two from the Netherlands, one from the UK, and one from Croatia, with higher levels of empowerment also had a more positive view on accessibility. Two of the participants, both from the UK, showed signs of lower empowerment and a more negative view on accessibility, and two of the Croatian participants had lower levels of empowerment and a positive view on accessibility.

Summary

The first research question of the current study set out to investigate to what extent d/Deaf CI-users feel empowered on social media. Three constructs were measured in order to say something about the participants level of empowerment: self-esteem, self-efficacy, and self-determination. The participants across all the three countries in general showed high levels of empowerment for these constructs. This indicates that d/Deaf CI-users do experience individual empowerment through social media.

The second research question set out to investigate how accessibility on social media impacts the participants level of empowerment. The majority indicated that they had experienced accessibility issues on social media. However, it was found that those participants who showed most signs of being empowered also spoke a lot about accessibility issues. Taking this into account the second research question can be answered by stating that accessibility does not necessarily stand in the way of d/Deaf CI-users being empowered. While it could be a hindrance for the participants to be fully empowered, it could also be argued that awareness of accessibility issues is a sign of empowerment. This sentiment will be discussed further in the discussion section of this paper.

Discussion

This study set out to investigate in what ways and to what extent d/Deaf CI-users experience individual empowerment through social media in the UK, the Netherlands, and Croatia. The results indicate that the participants across the three countries generally were empowered on social media, and hence this study demonstrates that d/Deaf CI-users in the Netherlands, UK, and Croatia experience individual empowerment through social media.

The second research question of this study was to what extent accessibility has an effect on d/Deaf CI-users' experience of individual empowerment through social media in the UK, the Netherlands, and Croatia. While it was found that the vast majority of the participants experienced accessibility issues on social media, this was not found to correlate with low empowerment in the participants. This suggests that the accessibility on social media does not majorly impact the empowerment level of d/Deaf CI-users in the Netherlands, UK, and Croatia.

Interpretations

The first research question of the current study set out to investigate to what extent d/Deaf CI-users feel empowered on social media. Three constructs were measured in order to determine the participants' level of empowerment: self-esteem, self-efficacy, and self-determination. The majority of the participants said that they were involved on social media, with no major discrepancies between the countries. Less than a third of the participants hesitated to engage on social media, with this being most prevalent among the Dutch participants. Involvement is linked to the concept of self-esteem because individuals who are higher in self-esteem are more likely to engage with others and contribute their talents (Gist & Mitchell, 1992). This means that for the self-esteem construct the participants scored high, indicating that they were empowered. However, it could be argued that since half of the Dutch participants showed a lack of engagement, they have slightly less self-esteem on social media, and consequently this could point to a lower level of empowerment for this specific construct in this regard.

Self-efficacy was the second construct that made up the definition of empowerment for this research, with impact being the most prevalent theme under this construct. The majority of the interviewees, 12 participants, did display evidence of impact, compared to the six participants that said they believed they did not have much of an impact. The Dutch participants were most certain of their own impact, and the Croatian participants the least. For the opposite theme of 'no impact' the UK participants were most prevalent. An individual's impact and ability to make a difference is linked to the concept of self-efficacy (Bandura, 2010). Taking the impact theme into account, it can be said that in general the participants showed high levels of empowerment as defined under the self-efficacy construct, with the Dutch participants scoring highest.

The third and final empowerment construct that was measured was self-determination. One theme that became apparent to the researcher for this construct was distrust, with 15 out of 18 participants showing distrust on social media. All of the Croatian participants indicated feelings of distrust, but this number was high also for the UK and Dutch participants, with five and four interviewees respectively expressing the same. It can be argued that this distrust is standing in the way of participants' abilities to make decisions and form opinions, which again would be a hindrance to their empowerment. However, it could also be argued that the participants are empowered enough to be critical to information they see on social media, and that their need to verify information is not a sign of low empowerment, but rather the opposite.

Another measurement used for self-determination was whether the participants used social media to voice their opinions. 12 of the participants said they did so, and there were no major discrepancies between the countries. However, 10 of the participants also said that they were hesitant to share their opinion on social media. While more participants stated that they were happy to share their opinion, there were only two more than those who said they did not share their opinion. This means there is evidence that the participants were more likely to voice their opinion on social media than to refrain from it, although the difference is minimal.

To summarize, the results for each of the empowerment constructs in general shows high levels of empowerment among the participants of this study. In general, there were no major discrepancies between the countries. Where one country scored lower for one empowerment construct, they also scored higher for another empowerment construct, meaning that we cannot conclude that there is a difference in the empowerment level on social media for this demographic in the different countries. We can however say that this study shows that d/Deaf CI-users do in general experience individual empowerment through social media.

The second research question set out to investigate the relationship between accessibility on social media and the individual empowerment of d/Deaf CI-users. Based on the literature on accessibility and empowerment it was expected that accessibility issues could be a hindrance for d/Deaf individuals in feeling empowered on social media. This is because access to information is a crucial part of being empowered (Munoz-Baell & Ruiz, 2000; Bowen & Lawler 1992; Ritchie & Blanck, 2003). The majority of the participants across the three countries indicated that they had experienced accessibility issues on social media. Notably, it was also found that those participants who showed most signs of being empowered also spoke a lot about accessibility issues. This goes against the expected results that those who experienced more accessibility issues would feel less empowered. The increased accessibility awareness in empowered individuals might be interpreted as accessibility issues not having a direct effect on d/Deaf CI-users experiences of empowerment. Conversely, however, increased awareness of accessibility issues could also be symptomatic of increased self-esteem. That is to say, empowered d/Deaf CI-users may actually have a greater sense of entitlement to equal information access because they have higher self-esteem. Taking this latter view into account the second research question can be answered by stating that reduced accessibility does not necessarily stand in the way of d/Deaf CI-users being empowered. Moreover, while accessibility issues could still be a hinder for the participants to be fully empowered on social media, their awareness of such issues actually reflects higher levels of individual empowerment. The following quote from one of the Dutch participants illustrates this interpretation: “Like these important things, like with corona, yes I think everyone should know that. What it's about. And there's a lot of people watching, but there's also a lot of people who can't follow.” (IE1_NL: 515-517). Similarly, one of the UK participants exemplified this notion by explaining how they reached out to content creators to ask for accessibility: “I remember sending a direct message to these people, who have quite a lot of followers, and ask them like ‘’would you mind making this more accessible?’’. And so I did that to a few of them, and a few of them actually responded and actually put subtitles on their videos, which is amazing.” (IE6_UK: 193-197).

Limitations

One possible limitation of this study is that the interviews were conducted via online tools instead of face-to-face. The decision to conduct the interviews online was however made due to the circumstances of the COVID-19 outbreak, which made face-to-face interviews impossible due to travel restrictions and social distancing regulations. However, while one might say that face-to-face interviews could have yielded better results, this research also enabled participants to take part via chat. This could also have been done in a face-to-face setting by using tools such as a laptop or a tablet. However, allowing participants to participate via chat made it easier to sample participants as we could also include those who struggled with speaking and understanding speech, as well as those who would not have agreed to face-to-face interviews for various reasons. Conducting the interviews online also made data collection more time efficient and less costly as there were no travel time or costs involved.

Another limitation of this research is the fact that the data was collected by three different researchers. Although the researchers followed the same interview guide the semi-structured approach meant that the researchers could follow a different order for questions or bring up different topics based on the participants' answers. This in addition with the fact that the researchers had various experience with research interviews, the interviews for the different countries did have some discrepancies and varied in factors such as interview length and the amount of follow-up questions that were asked. This could also however be the same within the data collected for one country, as the researchers agreed that the interviews became increasingly better as data collection went along. Even though the quality was not the same for all 18 interviews , they did all yield answers that helped the researchers analyze their research questions.

The fact that two of the researchers also had to translate their transcripts from Dutch and Croatian to English is a possible limitation. This is because some meaning could get lost in translation, especially when it comes to language specific sayings for which there are no good English translations. The researchers tried to avoid this as much as possible with the other researchers asking questions or raising concern when something was not entirely clear in the English translations.

Implications

The findings of this research showed that d/Deaf CI-users were empowered on social media. These results build on existing evidence that the Internet and social media play an important role in the empowerment of minority groups (Mehra, Merkel & Bishop, 2004; Odine, 2013; Miller, 2017; Shirky, 2011). The data of the present study hopes to contribute to the knowledge of empowerment for the d/Deaf CI-user demographic, specifically in the domain of social media.

This research has shown that d/Deaf CI-users in the Netherlands, UK, and Croatia feel empowered on social media. This research has found evidence to show that d/Deaf CI-users in the three countries use social media for empowering activities such as initiative, opinion sharing, and impacting others. These results can have implications because they shine a light on the importance of social media for the empowerment of this demographic. It shows that social media is an important tool for socialization and information. While this research does indicate that the majority of participants are empowered in that their answers in the interviews could be linked to the components that make up empowerment, it is important to take into consideration that there is no one definition for empowerment and that it can look different for different people in different situations (Zimmerman, 1995).

This research shows that there are major accessibility issues on social media for d/Deaf CI-users. The most prevalent accessibility issues found in this research was a lack of subtitling, which was consistent with previous research by Munoz-Baell & Ruiz (2000). This research hopes to encourage content creators to subtitle their video and audio content in order to make it more accessible for d/Deaf users. While accessibility issues were not found to directly negatively impact empowerment for the participants, it is believed that improved accessibility on social media can enhance the empowerment of this group even further. As explained in the literature review, access to information is crucial for empowerment (Munoz-Baell & Ruiz, 2000; Bowen & Lawler 1992; Ritchie & Blanck, 2003).

Another aspect of accessibility that was presented in the literature was that d/Deaf people can struggle with understanding written text (Maiorana-Basas & Pagliaro, 2014; Asuncion et al., 2012). The results of the present study are not in line with previous research in this aspect, as only a small minority of the participants indicated they struggled with this.

The fact that the participants were found to have major issues with accessibility on social media goes against the perception of CI-users as being ‘’cured’’ of their deafness (Saunders, 2016; Tucker, 1998). The present research indicates that despite having a CI, there are still issues of accessibility on social media, with the most mentioned among the participants being a lack of subtitles. This means that despite the ever-evolving technology that aid deafened people to hear, the difficulties that this minority continue to experience should not be ignored or forgotten.

This research investigated the experiences of d/Deaf CI-users on social media in three countries: the Netherlands, UK, and Croatia. There were no major differences found in terms of empowerment of the participants between the three countries. It was also found that participants across the three countries had experienced accessibility issues on social media. These findings could indicate that the accessibility on social media does not differ greatly between the three countries. Therefore, this research is not able to say that one country is better than the next when it comes to accessibility on social media. Rather, it gives insight into the individual experiences of d/Deaf CI-users of that nationality on accessibility on social media. Another factor that can play a part when comparing the experiences of accessibility on social media in the three countries is that social media, and the Internet as a whole, are global. This means that the content and information d/Deaf CI-users in the respective countries are not restricted to viewing content solely from their country or in their own language, but they rather have access to content from anyone anywhere in the world. Since a large part of social media is created by its users this research suggests that raising awareness and visibility around d/Deaf issues in order to call for greater accessibility on social media. It is recommended that official social media strive to make their content accessible to all, in line with the recommendations of the EU. Official channels choosing to for example subtitle their video and audio content can function as an example for everyday social media users and influencers to do the same, in order to make their content accessible to d/Deaf people.

Future research

One of the major findings of the present study was that the d/Deaf CI-users that were the most empowered were also the ones that showed more awareness of accessibility issues. From the present study it is not possible to conclude that empowerment leads to increased awareness of accessibility issues. It could also be the case that those who are more empowered also happen to be more aware of accessibility issues, and that they are empowered despite the obstacles they face. Since this study only shows that there is indeed a relationship between higher levels of empowerment and accessibility awareness one could also theorize that awareness of accessibility issues leads to greater empowerment. Future research could investigate whether awareness of accessibility issues actually leads to higher levels of empowerment. In order to do this one could conduct a quantitative study to test the causality between empowerment and accessibility awareness.

The notion that awareness of accessibility issues could in fact be empowering could also bring forth more broader topics surrounding empowerment of those on the margins of society, and how minorities who experience inequality or oppression could be more empowered if they are aware of the hardships they face. The present study investigated the accessibility challenges experienced by d/Deaf individuals, a group with atypical communication preferences. Similar research could be conducted with other groups with atypical communication preferences, such as individuals who are blind or vision impaired. It is expected that this minority would have vastly different accessibility challenges on social media compared to d/Deaf individuals. It would be interesting to investigate the accessibility issues faced by this group on social media, and how these affect their empowerment. It is likely that this group will have greater challenges when it comes to accessing information on social media, due to its visual aspect.

Similarly, other groups that might experience accessibility issues due to language restrictions, such as immigrants, could be worth investigating in this aspect. Such research would likely result in findings showing a need for translations for this specific group, as they might struggle understanding i.e. government information on social media in the native language of the country they immigrated to.

Conclusion

This study found that d/Deaf CI-users in the Netherlands, UK, and Croatia experience individual empowerment through social media. Additionally, the participants experienced several accessibility issues on social media, with lack of subtitles on audiovisual content, dependency on others to access information, and the feeling that hearing individuals have access to more information being the main issues the participants faced. The interviewees who were discovered to be most empowered were also more aware of accessibility issues. This indicates that the d/Deaf CI-user demographic is empowered and aware of the accessibility issues they face because of their deafness, indicating a wish to see an increase in access for themselves and other d/Deaf people. The lack of access on social media could potentially hinder the full empowerment of d/Deaf individuals. This study calls for improved accessibility on social media platforms. Specifically, efforts should be made to add subtitles to audiovisual content in order to make information in this format accessible for d/Deaf CI-users. Further studies should be conducted in order to investigate the relationship between empowerment and awareness of accessibility issues. Such research could be conducted with a focus on the d/Deaf minority, but also with similar minority groups with atypical communication preferences that do not have a hearing impairment. This includes but is not restricted to: individuals who are blind or vision-impaired, immigrants who are accessing social media in a foreign language, and people with learning and reading difficulties. While this research focused on the empowerment of d/Deaf individuals it is hoped that the results from this project can shine a light on the issues faced by all those who are not able to access all aspects of social media so that progress can be made in making social media accessible to all.

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Appendix A - Informed Consent form

Social media experiences of d/Deaf individuals with Cochlear implants in the Netherlands, the United Kingdom, and Croatia.

Dear participant,
As Tilburg University master thesis students, we are investigating the experiences of d/Deaf individuals with Cochlear implants in the Netherlands, the United Kingdom, and Croatia. In this European study, we will look into our participants' thoughts and experiences around social media use. We will also discuss the benefits and challenges faced on social media by this specific group.

If you are happy to participate then please complete and sign the form below, please initial the box with "X'' to confirm that you agree with this statement. If you do not agree to participate in this study, please leave this form blank and inform the researchers and your participation will be withdrawn.

☐ I confirm that I have read and understood the information sheet dated May 2020 and have had the opportunity to ask questions.

☐ I understand that my participation is voluntary and that there are no negative consequences if I want to opt out during the interview.

☐ I understand, that I am free to decline to answer any of the questions in this interview.

☐ I understand that my answers will be kept confidential. Moreover, my name or any other personal information will not be linked in the results section of the paper.

☐ I agree to be audio and video recorded during this interview. I understand that this recording will only be used for this research, which I would not be personally identified with. I also understand, that no one else than this research team of three students and the supervisors of this research will have access to the original recording.

☐ I agree that my anonymized data will be stored for the legally required 10 years.

☐ I agree to take part in this interview

Name of the participant: Date:

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Signature:

Interviewer name: Date:

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Signature:

If you still have questions after the interview, or you are interested in receiving the research when it is published, you can send an email to Sophia Shahrjerdy (NL)/Christine Forsberg (UK)/ Petra Čubrić (HR)

Appendix B - Participation letter

Title: Social media experiences of d/Deaf individuals with Cochlear implants in the Netherlands, the United Kingdom, and Croatia.

Faculty Supervisor(s): Dr. Connie de Vos & Prof. Dr. Marjolijn Antheunis

Student Investigator(s): Sophia Shahrjerdy, Petra Čubrić & Christine Forsberg

This letter will explain the purpose of the current study in order for you to make an informed decision on your participation. If you have any questions regarding the information in this letter, please ask the researchers prior to the study. In addition to this letter, you will also be provided with an informed consent form.

Dear participant,
You are invited to participate in a research study about social media experiences of d/Deaf individuals with Cochlear implants in the Netherlands, the United Kingdom and Croatia. In this study, three researchers from the Netherlands, the United Kingdom, and Croatia are working together to explore the motivations and experiences of d/Deaf individuals with Cochlear implants (CI) on the use and accessibility of information on social media. This study is the first of its kind to investigate the differences and similarities for d/Deaf individuals with CI in European countries. Moreover, past researchers focused on d/Deaf individuals and their social media use, but not on d/Deaf individuals with CI and their social media use. This master thesis will focus on social media use and information accessibility on social media for d/Deaf individuals with CI.

Participation in the study will consist of one Skype session of between 1 and 2 hours in length, in which you will be asked to answer the interview questions. You may decline to answer any question(s) you prefer not to answer by requesting to skip the question. You can request for the recording to stop during the interview if you prefer to share information that you do not want to be recorded. This Skype session will be recorded. The access for these recordings is limited to the three researchers and the supervisors. The Skype recordings will be securely stored on a password-protected computer. The individual results will not be shared with people outside this study. When shared between the researchers and supervisors, the data will be anonymized and only the gender, age, and country of the participant will be known. Research data will be retained until the researchers' graduation, at which time it will be August 2020.

The study will involve individuals with Cochlear Implants and in order to participate in the study, you must be 18 years and older. Your participation in this study is voluntary. You may decide to leave the study at any time during the interview without any negative consequences, and without providing any explanation. You can request your data be removed from the study up until 24 hours after the interview, to allow the researchers sufficient time to find a replacement participant. There are no risks or disadvantages to participating in this research. One advantage for the participant is that they will contribute to science.

This study has been approved by the Research Ethics and Data Management Committee of Tilburg University. If you have any remarks or complaints regarding this research, you may also contact the Research Ethics and Data Management Committee of TSHD via tshd-redc@tilburguniversity.edu

If you have any questions regarding your participation of this study, or would like additional information to assist you in reaching a decision about participation, you can send an email to Sophia Shahrjerdy (NL) / Christine Forsberg (UK) / Petra Čubrić (HR).

Appendix C - Interview Guide

Interview Guide

This interview consists of four main topics: (1) social media use, (2) accessibility on social media, (3) accessibility of e-government information on social media, and (4) Deaf identity. I suggest we take two short 5-minute breaks during the interview. In case you feel like you don't need them, or you need more breaks, please feel free to tell me. We can stop the interview if you are uncomfortable at any point. Please let me know.

I would like to record this interview. Is that okay with you?

Demographic Questions:

These first questions are general demographic questions.

1. What is your age?

2. What is your gender?
- Male
- Female
- Other
- Would rather not say

3.Were you born with hearing loss?
- Yes: Skip to question #5
- No

4. How old were you when you lost your hearing?

5. How would you characterize your degree of hearing without cochlear implants?
- Profound hearing loss (cannot hear anything)
- Severe hearing loss (able to hear only really loud or high-pitched sounds)
- Moderate or mild hearing loss (able to hear much of a conversation)

- Normal hearing (can hear everything)

6. How would you characterize your degree of hearing with Cochlear Implants?

- Profound hearing loss (cannot hear anything)
- Severe hearing loss (able to hear only really loud or high-pitched sounds)
- Moderate or mild hearing loss (able to hear much of a conversation)
- Normal hearing (can hear everything)

7. Did your parents or siblings use sign language with you when you grew up?

8. Are your parents d/Deaf or hearing?

- d/Deaf
- Hearing

9. What is your native language?

- English
- British Sign Language (BSL)

10. What additional languages do you communicate in?

- English
- British Sign Language (BSL)
- Others … please specify

Social Media:

The next questions I will ask you will be about your social media use.

11. What social media platforms do you use?

12. What do you use social media for?

Probing question(s):

- Why?

- When?
- Are there any other reasons why you use social media?

13. Do you take initiative to start discussions on social media?

Probing question(s):

- Can you give an example on when you started a discussion?

(if they do not have an example, ask for an example of a time they joined a discussion.)

14. Do you take the initiative to connect with other people on social media?

- Is it easier to connect on social media than in real life?

15. How frequently do you post on social media?

- Often - Every day
- Regularly - Every week
- Seldom - Once a month or less
- Never

Probing question(s):

- Why?
- When?

16. How important is it for you to get feedback on what you post/comment on?

17. Do you feel like what you post or comment can make a difference?

Probing question(s):

- Why?

18. Do you feel you contribute on social media?

Probing question(s):

- Can you give an example?

19. Do you feel like you can influence others on social media?

Probing question(s):

- Why?

20. In what ways do you use social media to voice your opinion?

Probing question(s):

- Why?

21. Do you feel like your opinion on social media matters?

- Why/why not?

26. Do you think that social media affects the way you think or feel about yourself?

- In what way?
- Can you give an example of a time when something on social media made you feel a certain way about yourself?
- Do you think that is positive? Why?
- Do you think that is negative? Why?

22. Do you participate in any community on social media?

Probing question(s):

- Which communities in particular?

(Notes for ourselves: People your own age? People in your area? Other d/Deaf people? People with similar interests/hobbies? Similar in other ways?)

23. Do you feel that social media makes it easier for you to participate in the communities that you are part of?

(If they haven't mentioned any deaf communities, ask the following question:)

24. Are you part of any deaf/CI-related Facebook groups and/or do you follow deaf/CI content/influencers on social media?

Probing question(s):

- What groups/content specifically?

- Why/why not?

25. How do you experience being part of these social media communities?

Probing question(s):

- Why?

Accessibility:

Thank you for your answers on your social media use. Now I will ask you some questions relating to accessibility of information on social media.

27. Do you feel that you have access to information on social media?

Probing question(s):

- Why?

28. Do you experience a difference between accessing information on different social media platforms?

Probing question(s):

- How?
- Can you give examples of this?

29. If something is not accessible to you, how do you make sure that you get access to the information?

30. How do you feel when information is not accessible for you?

Probing question(s):

- Why do you feel that way?

E-government information accessibility on social media:

The following questions will focus on the information accessibility of government messages on social media.

31. Do you ever check government information on social media?

Probing question(s):

- How many times do you check the government social media page?

32. Why do you follow government information on social media?

Probing question(s):

- Why?
- For specific situations?

33. What is your opinion on the information accessibility of the government on social media?

Probing question(s):

- Why?

If they experience difficulties:

- How do you feel when government information on social media is not accessible to you?

34. Do you believe that government information on social media is more accessible for hearing people?

Probing question(s):

- Why?

35. Do you also follow other platforms to access government information?

Probing question(s):

- Which ones?
- Why?

36. Do you think there is a difference in accessibility between government information on social media and government information on traditional media such as television?

Probing question(s):

- How?

37. In which language format(s) do you prefer to receive government information: Sign language, subtitles/closed captions, transcripts, Sign Language with subtitles, or spoken communication?

Probing question(s):

If they answer subtitles:

- Why do you prefer subtitles over Sign Language interpretation?

If the answer is Sign Language with subtitles:

- Why?
- What is the difference if they only use one of these two?

If the answer is closed captions:

- Why?

Probing questions for all formats:

- Why?
- What do you think the advantages are of your prefered linguistic format?
- Do you also experience any disadvantages of this format?

38. Do you ever experience that there is a language barrier for you on social media?

Probing question(s):

If they say yes:

- In what ways?
- What kind of language barriers?

If they say no:

- Do you ever struggle understanding written text? In what languages?

39. What do you think of the quality of the information that is presented in subtitles/closed captions/sign language?

Probing question(s):

- Why?

40. Do you believe you are able to form your opinions and make decisions based on information accessible to you on social media?

Probing question(s):
- Why?

41. To what extent do you trust the information on government social media pages?
Probing question(s):
- Why?

42. Do you have an example of a time where you were not sure that you could trust the government information you saw on social media?
Probing question(s):
- Why were you unsure?

43. How do you experience the accessibility of the Coronavirus information by the government on social media?

44. Do you feel that you receive equal information compared to hearing people during the Corona crisis?
Probing question(s):
- Why?

Deaf Identity:

In the next section, I will ask you questions related to your identity. Are you familiar with the concept of Deaf identity?

→ If they say yes: What does Deaf identity mean to you?
continue to question 45.
→ If they say no: Deaf identity is a concept that has arisen from the cultural perspective of deafness where deafness is not seen (only) as a medical condition. The Deaf person who has a Deaf identity oftentimes has a strong connection with Sign Language, but this is not a requirement, as knowledge of Sign Language is only one part of Deaf culture. Deaf identity and culture is also constructed around specific beliefs, values and art.

45. Do you feel like you have a Deaf identity?

Probing question(s):

- Why?

46. To what extent do you feel you relate to Deaf identity?

47. What makes you feel like you have/haven’t formed a Deaf identity?

48. Do you think there is a difference between hearing and deaf culture?

Probing question(s):

If they say yes:

- What do you think are the main differences?

If they say no:

- Why not?

49. Do you relate more to deaf culture or hearing culture?

Probing question(s):

- Why?
- Could you give an example of when you relate to *that* specific culture the most? Why?

50. How does being part of *that* culture make you feel?

Probing question(s):

- What positive feelings, if any, do you relate to being part of *that* culture? (Why?)
- What negative feelings, if any, do you relate to being part of *that* culture? (Why?)

51. Do you think that there are certain positive and negative aspects of being part of *that* culture? Which ones?

Probing question(s):

- Why?

52. To what extent do you feel proud of being part of *that* culture?

Probing question(s):

- Why?

53. To what extent do you think knowledge of Sign Language plays a role in developing a Deaf identity?

Probing question(s):

- Why?
- How?

54. How do you feel being around hearing people?

Probing question(s):

- If they are your close friends and family?
- If they are strangers?
- Do you think your needs and wants are being understood by your family and friends/other people?

If they say yes:

- How?
- Why?

If they say no:

- What do you think is the main reason for possible misunderstanding?

55. That was all of my questions, thank you very much for your answers. Finally, I want to ask you if you think there is information that hasn't been mentioned during the interview that you want to add?

This is the end of the interview. Thank you for participating!

Given the relatively small group of d/Deaf CI users in each of these countries, full anonymity could not be guaranteed for all participants in this research. For this reason, the interview transcripts have not been made available publicly as appendices in this thesis. In accordance with this research project's data management plan, they have however been archived with the Tilburg Dataverse and are available for the academic community on request via Dr. Connie de Vos.