Academic Journal of Science,
CD-ROM. ISSN: 2165-6282 :: 10(01):111–122 (2020)

CIVIC ENGAGEMENT AND NEWS MEDIA PREFERENCES AMONG THE DEAF, HARD OF HEARING, AND HEARING

Charlotte Deering and Rudy Pugliese

Rochester Institute of Technology, USA

The present study compared the levels of civic engagement, news media consumption, and preferred news media channels between a sample of deaf, hard of hearing, and hearing college students. No significant differences were found regarding civic engagement as measured by the Activity Orientation Scale. Deaf respondents overwhelmingly preferred Facebook as a single source of news but accessed Instagram and Twitter as additional sources. Hearing respondents consumed news media significantly more often than deaf. The study provides some support for Media Richness Theory. Implications are discussed.

Keywords: Deaf, Hard of hearing, Civic engagement, News media.

Introduction

Significant barriers to political and public participation exist for people with disabilities (Harris, Owen, & De Ruiter, 2012). One such group, the deaf and hard-of-hearing (DHH), compose approximately 48 million, or 5%, of the United States population (Center for Hearing and Communication, n.d.); a nearly identical percentage worldwide has a "disabling hearing loss" (World Health Organization, 2019, para. 1). Politicians in the US should be attentive to all citizens with disabilities, especially since voter turnout among the disabled increased by 8.5% in 2018 (United States Census Bureau, 2019) and 71% of the disabled report that who won the 2016 presidential election really mattered (Bialik, 2017).

DHH individuals desire political involvement, but their full engagement is sometimes limited by accessibility and technological challenges. If they attempt to communicate with legislators and representatives at meetings, an interpreter is often required, which is not easily arranged. The increased use of audiovisual media on the Internet may actually work against accessibility among the Deaf and hard-of-hearing (Rogers, 2009) since, currently, no U.S. law requires captioning of all video and audio content on the Internet unless first broadcast on television with captions (FCC.gov, n.d). Real-time captioning services on broadcast and cable television, as well as online news videos, often present obstacles to DHH audiences (Romero-Fresco, 2016), and the political effects of captioning are not well understood (Ellis, Kent, Locke, & Latter, 2017; Engelmann, 2012). If captioning is not present, DHH individuals may not understand the video (Debevc, Milošević, & Kožuh, 2015) or the news, and this serves to limit the quality and quantity of political information about the world around them (Avon, 2006) and enhances their isolation. Pew Research reported that disabled Americans have lower rates of technology adoption: 23% report they do not go online (Bialik, 2017). On even the simplest level of political participation, there can be challenges: DHH people may require the use of a video phone or a caption call phone just to participate in a telephone poll. Although recent and legacy media may try to

keep pace with technological advancement, some groups are still disadvantaged by media technology (Ellis et al., 2017; Rogers, 2009).

While media presentations of deafness and disabilities are well-studied within the field of communication (Avon, 2006; Ellcessor, 2012; Foss, 2014; Worrell, 2018), political activism and engagement of the DHH community are not. The present study examines the relationship between civic engagement, political participation, and news media selection of the DHH college student community at the National Technical Institute for the Deaf (NTID) in Rochester, New York. The study's first three research questions ask: "Where do DHH people report they get their news?"; "What are the self-reported preferred news media channels for DHH people?"; and "Do Hearing and DHH people differ with regard to their frequency of news media consumption?"

Review of Literature

Past communication research focused on Deaf culture, sign language, and the limitations of being DHH (Avon 2006; Musengi & Dakwa, 2010; Rose, 1995). Face-to-face communication among DHH individuals usually involves the use of American Sign Language or ASL (Musengi & Dakwa, 2010), but little research investigates the way in which DHH people prefer to communicate among themselves via social media. DHH individuals report their preference for using text on such platforms as AIM, iChat, and Facebook or on a cellphone; the DHH text more often than do their hearing counterparts (Cuculick, 2014). Among DHH students, Facebook was used for information sharing, community participation, and community support (Cuculick, 2014). The present study's fourth research question asks: "Which social media sites do DHH people report they access for news?"

Political views are largely shaped by the information available to citizens. Television has long served as the cultural arm of American society (Austin & Nelson, 1993) and television news, particularly cable news, provides access to political information and opinion. However, debates cannot be understood without an interpreter or real-time captioning, and such resources are not always provided. The DHH community was further integrated into the television culture with the passage of the Television Decoder Circuitry Act in 1990, which required that all television sets manufactured in the US of 13 inches or larger contain caption-decoding technology (National Captioning Institute, n.d.). However, the quality of captioning varies, and that can drastically affect the meaning of any given message (Romero-Fresco, 2016); moreover, without adequate captioning, information is rendered inaccessible to the DHH. More recent media platforms have been slow to accommodate DHH individuals. Initially, the Internet was understood as an especially accessible medium for DHH audiences thanks to its heavy use of text and few audiovisual features. The Internet created a new type of public sphere and an online participatory culture (Turner, Napier, Skinner, & Wheatley, 2017), but not all participatory features are completely functional, and language barriers still exist. The Internet's maturation and the growth of video streaming services launched without captioning have both reduced DHH accessibility. Netflix, for instance, was embroiled in a controversy when it refused the National Association of the Deaf's (NAD) request to caption *The Wizard of Oz* (Ellcessor, 2012) in 2009.

D/deafness Defined

"Deaf" refers to people with a partial or complete lack of hearing, and the hard of hearing (HOH) refers to those who cannot detect sound at an amplitude of 20 decibels in a frequency range of 20 to 20,000 vibrations per second (USLegal, n.d.). Many Deaf people refrain from using assistive hearing technologies such as cochlear implants: they choose to view their hearing loss as a cultural identity rather than a disability (Rose, 1995). Primarily through the use of ASL, DHH individuals have created a culture based upon their hearing status, "The attachment to identity for the Deaf Community is fundamentally rooted in both language and community culture" (Glenn-Smith, 2017, p. 5). Consequently, the Deaf culture is spelled with a capital "D." HOH individuals who desire to actively participate in the hearing community employ lip reading and technical aids rather than ASL (Roots, 1999).

Media technologies have often been created without regard for the DHH community (Rogers, 2009). As a result, the community encounters significant problems when using media to interact without adequate accessibility services (Yoshida, 2008). Perhaps the greatest divide between hearing and deaf populations is the use of video: without captioning, DHH individuals may not understand the video (Debevc, Milošević, & Kožuh, 2015). Isolation results when DHH individuals cannot productively employ common technologies such as radio and television, thus limiting what information they can obtain about the world around them (Avon, 2006). Without accurate captioning, DHH viewers cannot adequately understand television news. This serves to limit the quality and quantity of political information and may force the DHH so seek alternative forms of media.

Deafness does not limit individuals' understanding if the correct or preferred form of communication is used (Musengi & Dakwa, 2010). However, there is little research investigating the way in which DHH people prefer to communicate via social media. Face-to-face communication among DHH individuals usually involves the use of ASL (Musengi & Dakwa, 2010). DHH individuals have been reported to prefer the use of text on platforms such as AIM, iChat, and Facebook or on a cellphone; they often text more than their hearing counterparts (Cuculick, 2014). Facebook has been used for information sharing, community participation, and community support among DHH students (Cuculick, 2014).

The current U.S. political system presents challenges for ASL users (Turner et al., 2017). Access to media often limits their political participation. Debates cannot be understood without an interpreter or real-time captioning. When provided, they can lag behind the discussion or misrepresent its content. However, the Internet has created a new type of public sphere and created an online participatory culture (Turner et al., 2017), but not all participatory features are completely functional, and language barriers still exist. Only by providing accurate, real-time captioning can media succeed in granting DHH audiences access to news and political information.

Civic engagement within the United States has been on the decline for decades (Putnam, 1995). However, the rise of young activists participating in online political media has provided an opportunity for engagement. Family, peers, media, academics, and literature can also encourage civic engagement. Microsystems, ecological communities where children and adults directly interact, can have a large degree of influence over individuals (Warren & Wicks, 2011). NTID can be considered such a microsystem for its DHH students. One of nine colleges of RIT, NTID students can attend classes with assistive support services such as C-PRINT, interpreting, and notetaking.

It has been reported that children with politically active parents are more likely to be politically active (Corning & Meyers, 2002) and that deaf children of deaf parents are more likely to be social leaders, more likely to be socially engaged, and lead political protests within their communities (Roots, 1999). In the Deaf President Now (DPN) protests, the main Deaf leaders all had Deaf parents. DHH people who use English instead of ASL are more likely to engage in their community and participate in politics in the hearing community (Roots, 1999). The DPN movement, cochlear implant debate, and language debate are leading examples of political and civic engagement involving the DHH population. This leads to the fifth research question, "Do DHH and hearing people differ with regard to civic engagement?"

Media Richness Theory

Media richness theory (Daft & Lengel, 1986) assesses a communication medium's ability to reproduce information, characterized by visual social cues such as gestures and nonverbal communication. These cues allow the medium to better communicate a complex message.

Media that can clarify ambiguous messages are considered richer than those that require more time to produce understanding. Richer communication media are considered more effective for communicating equivocal messages, those that are unclear and more difficult to interpret (Daft, Lengel, & Trevino, 1987).

Media richness is composed of four functional characteristics: the capacity for immediate feedback, the ability to provide multiple cues simultaneously, the potential of establishing a personal focus, and the capability of using natural language (Lengel & Daft, 1989). Richer media provide more of these functions

(Gilman & Tuner, 2001). The MRT originally applied to five media: Face-to-face, telephone, written personal documents, written impersonal documents, and formal numeric documents (Daft & Lengel, 1984). Since then, other media have developed, especially social media. Using the four functional characteristics, Facebook could be considered the richest of social media since it incorporates all functions with features such as Messenger, Facebook Post, and Videochat. This is particularly the case with Deaf users since it allows them to communicate in their native language, ASL. Instagram meets all features video chat, messaging, and captioning but its focus in more on the visual and text is largely used for captions. Twitter has also incorporated video calling but would be considered a leaner medium with its text limitation of 280 characters.

Although the MRT has been used to study communication managers in the workforce, it has also been used to understand why people select particular media. Ambiguity of the message, symbolic cues, and situational factors determine medium selection within the workforce (Trevino, Lengel, & Daft, 1987). News has a history of being unequivocal in legacy media, but social media have changed that. The inclusion of pictures, videos, and graphics along with the exclusion of gatekeepers, editors, and moderators have made them a "richer" form of media but a poorer source of news (Shearer & Grieco, 2019). Deaf audiences need visual media to accommodate ASL, and the HOH rely more on visuals than sound to offset their aural deficiencies. As a result, rich media may be preferable whether the content is equivocal or not. This leads to the sixth research question, "Do DHH people prefer richer media?" As of this writing, this theory has not been used to explain DHH media selection.

Research Questions

This study addressed the following questions:

RQ 1: Where do DHH people report they get their news?
RQ 2: What are the self-reported preferred news media channels for DHH people?
RQ3: Do Hearing and DHH people differ with regard to their frequency of news media consumption?
RQ4: Which social media sites do DHH people report they access for news?
RQ 5: Do DHH and hearing people differ with regard to civic engagement?
RQ 6: Do DHH people prefer richer media?

Method

An email survey of DHH and hearing students was distributed to a convenience sample at Rochester Institute of Technology (RIT). The National Technical Institute for the Deaf (NTID) is one of the nine colleges within RIT located in Rochester, New York. NTID is the only technical institute for the deaf in the US, and students from all over the country attend (National Technical Institute for the Deaf, n.d.). This has produced a community for socialization, civic engagement, and political participation among DHH students.

Posters distributed on the RIT and NTID campuses contained a QR code that linked to the survey. Emails were also sent out to students in the College of Liberal Arts (COLA) and NTID encouraging them to take the survey. Snowball sampling was also employed to increase the number and variety of respondents. The survey was open to students, faculty, and staff members.

The Activity Orientation Scale (AOS) was used to measure civic engagement. As of this writing, neither the AOS nor Media Richness Theory has been used to study the DHH community. An activist orientation "…is defined as an individual's developed, relatively stable, yet changeable orientation to engage in various collective, social-political, problem-solving behaviors spanning a range from low-risk, passive, and institutionalized acts to high-risk, active, and unconventional behaviors" (Corning & Myers, 2002, p. 704). Composed of 35 questions, the scale's questions range in behaviors from displaying a poster or bumper sticker with a political message to engaging in a physical confrontation at a political rally.

Results

A total of 191 survey responses were collected of which 150 were hearing, 22 were HOH, and 19 were deaf. Respondent ages ranged from 17 to 69 with an average of 25 years. When asked to identify political party, the plurality identified as Democrat (48.3%) followed by Independent (41.0%), and Republican (10.7%). Those who identified as Deaf reported using a combination of English and American Sign Language (63.2%), ASL only (31.6%), and English only (5.3%). The HOH preferred to communicate in English (65.00%), a combination of English and ASL (30%), and ASL only (5%).

The first research question asked, "Where do DHH people report they get their news?" Respondents were instructed to select the *one* [emphasis added] medium where they most frequently learned about news. The results indicate the popularity of Facebook among the DHH but especially among the Deaf (Table 1). Social media have reached out to the Deaf community, and Facebook has been reported to replace Deaf clubs in the United Kingdom as places where communication and interaction among the Deaf take place (BBC, 2016, January 2). Facebook allows for the posting of photographs, text, and videos, thus making it a richer medium and providing support for the MRT. Although word of mouth would normally be the richest medium, it was not among the highest rated for news for any of the three groups. One explanation is that news is not necessarily equivocal, and it is more often consumed than questioned. An alternative explanation for its low ratings by the Deaf is that word of mouth could imply the use of spoken English instead of ASL.

Table 1. Where Most Frequently Learned about News by Hearing Status

Medium	Deaf	Hard of Hearing	Hearing
Facebook			
Percent	58%	32%	19%
Frequency	11	7	29
Independent Searches			
Percent	21%	41%	33%
Frequency	4	9	49
Instagram			
Percent	11%	0%	6%
Frequency	2	0	9
Twitter			
Percent	5%	14%	15%
Frequency	1	3	22
Word of mouth			
Percent	5%	9%	12%
Frequency	1	2	18
Snapchat			
Percent	0%	0%	1%
Frequency	0	0	2
Print Magazine			
Percent	0%	0%	5%
Frequency	0	0	8
Reddit			
Percent	0	5%	33%
Frequency	0	1	13

The second research question asked, "What are the self-reported preferred news media channels for DHH people?" Respondents were asked to check all of the media they prefer to access for news. Table 2 reveals that the Deaf overwhelmingly cited Instagram far more than HOH or hearing respondents. Instagram is the photograph editing and video-sharing platform owned by Facebook. Deaf students have

been known to struggle with reading comprehension (van Staden, 2013). It has also been reported (Maiorana-Basas & Pagliaro, 2014) that the DHH Make frequent use of search engines (39.3%), social websites (32.9%) and news and information sites such as CNN (31.3%). Twitter, a microblogging and social networking service, was used by twice as many deaf respondents as HOH or hearing. The brevity of the 280-character limit may be attractive to deaf individuals but hardly supportive of the RMT which regards it as a leaner medium. One surprise was the support for magazines across all three groups, especially since the use of print media for news has given way to social media (Shearer, 2018).

Table 2. News Media Preferences by Hearing Status

Medium	Deaf	Hard of Hearing	Hearing
Instagram			
Percent	79%	4%	9%
Frequency	15	1	14
Independent Searches			
Percent	63%	95%	71%
Frequency	12	21	107
Twitter			
Percent	57%	23%	22%
Frequency	7	5	33
Print Magazines			
Percent	53%	41%	43%
Frequency	10	9	64
Reddit			
Percent	26%	36%	19%
Frequency	5	8	29
Facebook			
Percent	26%	32%	20%
Frequency	5	7	30
Snapchat			
Percent	1%	9%	19%
Frequency	1	2	29

The third research question asked, "What differences are there between Hearing and DHH people and their self-reported frequency of news media consumption?" Results of the Kruskal-Wallis Test revealed that hearing and deaf respondents differed significantly regarding the frequency with which they check the news ($H = 7.22$, $df = 2$, $p = .027$). Although differences between HOH and deaf respondents approached significance ($H = 5.41$, $df = 2$, $p = .06$), no significant differences were found between hearing and HOH respondents ($H = 868$, $df = 1$, $p = .352$). It may be that deaf respondents check the news less frequently due to barriers such as uncaptioned videos, lack of ASL, and difficulty with reading. Lacking such barriers, the hearing may be more inclined to access news. Although the HOH checked the news more frequently than the deaf, but not as frequently as the hearing, the differences were not statistically significant. The HOH may experience barriers to accessing news information but overcome them by using partial hearing and assistive technologies.

The fourth research question asked, "Which social media sites do DHH people report they access for news?" Facebook was the overwhelming favorite for all three groups, but especially for the deaf. This is consistent with MRT and deaf media preferences of this sample. However, LinkedIn was surprisingly high for the deaf, especially in comparison to HOH and hearing. This is likely due to the emphasis Vocational Rehabilitation (VR) places on LinkedIn. Since VR services include employment planning and job placement assistance, the use of LinkedIn is strongly promoted for students at NTID. It is notable that the DHH do not prefer YouTube as much as the hearing; however, this may be due to the reported

inconsistent quality of its captioning (Besner, 2019). Since YouTube is not regulated by the Federal Communications Commission, it is not subject to ADA requirements.

Table 3. Preferred Social Media for News by Hearing Status

Medium	Deaf	Hard of Hearing	Hearing
Facebook			
Percent	74%	50%	43%
Frequency	14	11	65
LinkedIn			
Percent	63%	4%	7%
Frequency	12	1	11
YouTube			
Percent	26%	23%	38%
Frequency	5	5	57
Twitter			
Percent	21%	41%	27%
Frequency	4	9	40
Google+			
Percent	21%	9%	11%
Frequency	4	2	16
Reddit			
Percent	11%	36%	17%
Frequency	2	8	26
Pinterest			
Percent	11%	5%	0%
Frequency	2	1	1

The fifth research question asked, "Do DHH and hearing people differ with regard to civic engagement?" Using the Activity Orientation Scale to measure political engagement no significant difference was found between the DHH and hearing sample ($H = 1.83$, $df = 2$, $p = .401$). Hearing status does not present a barrier to civic engagement. The DHH were no more or less likely to make a difference in the civic life of their communities. They are just as free to effect the quality of life in a community, whether by political or non-political means.

Individual items from the AOS scale were tested for differences between groups. No differences were found between the hearing, deaf, or HOH respondents. However, using Mann-Whitney U tests, hearing and deaf samples differed significantly on a number of items within the scale. The differences are reported and explained below.

Differences between Hearing, Deaf, and HOH

Hearing respondents were more likely to "present facts to contest another person's social or political statement" ($U = 991.5$, $p = .022$). One explanation could be that the disabled have fewer opportunities to use advocacy skills (Parker, Owen, & De Ruiter, 2012). Moreover, if the argument involves the use of digital media, the deaf may lack the technological resources to gather information, access media, and engage in social or political arguments.

Deaf respondents were significantly more likely to "engage in a physical confrontation at a political rally" ($U = 1048.5$, $p = .026$). McKay and Greenberg (1999) report that violence and aggression are disproportionate in the Deaf community as evidenced by their overrepresentation in correctional facilities (Miller, Vernon, & Capella 2005). The authors point out that although

most deaf and hard-of-hearing individuals adjust to their circumstances nonviolently, they can internalize anger and aggression. Willingness to use force might result when other means of addressing conflict are impeded or blocked.

Hearing respondents were more likely to "confront jokes, statements, or innuendoes that opposed a particular group's cause" ($U = 954.5$, $p = .014$). This may be due to the hearing community's ability to take advantage of subtlety and nuance in spoken language. Since jokes tend to be spoken, the deaf might be less inclined to counter with a face-to-face rebuttal. Innuendo is often veiled or implied, so deaf individuals might choose not to respond when their verbal skills might be challenged. Given that their first language is American Sign Language, and most hearing individuals are not fluent in that language, the difference is understandable.

Hearing respondents were more likely to "attend a talk on a particular group's social or political concerns" ($U = 1035$, $p = .04$). This may be due to the phrasing of the question since "talk" is oral. For deaf individuals to take full advantage of an oral presentation, an interpreter or captionist would have to be provided. However, that is more likely in the Rochester, New York area owing to the fact that it has one of the largest per capita deaf populations in the US (National Technical Institute for the Deaf, 2012). This may explain why the difference is barely statistically significant. Differences might be more pronounced in other locations.

Hearing respondents were more likely to "sign a petition for a political cause" ($U = 982$, $p = .019$). Although online petitions are gaining popularity via such organizations as Change.org, Avaaz.org, and 38 degrees, requests to sign petitions are often face to face and verbally solicited. Online petitions have also been criticized for enabling "slacktivism," expending little effort by using social media to support a social or political cause.

HOH respondents were more likely to "vote in a non-presidential federal, state, or local election" ($U = 122$, $p = .015$) than their deaf counterparts. Barriers to voting still exist, and the deaf might be less comfortable interacting with people at a polling site than their HOH counterparts.

The sixth research question asked, "Do DHH people prefer richer media?" When asked to select the one medium where they most frequently learned about news, (Table 1) 58% of deaf respondents and 32% of HOH selected Facebook as compared to 19% of the hearing sample. When asked to select all media preferred to access news (Table 2), 79% of the deaf sample selected Instagram. Independent searches were strong across all three groups, but the deaf reported a preference for Twitter at 57%. When asked what their preferences were for accessing news on social media, 74% of the deaf preferred Facebook as compared to 50% and 43% of the HOH and hearing, respectively. It appears the deaf have a preference for richer media as evidenced by their reported use of Facebook and Instagram, but these are not shared by the HOH. One explanation is that the Deaf prefer to use ASL, and Facebook enables news and commentary to be viewed and discussed in their native language. The HOH also expressed a preference for Facebook but not to the same extent as the Deaf.

Discussion

The Deaf and HOH have embraced social media as each reported a strong preference for Facebook as a news medium. Social media not only present news, but allow individuals to voice their own opinions and views via comments and posts. U.S. adults have increasingly used social media platforms for news (Anderson & Caumont, 2014), and Facebook has become the most popular (Shearer & Grieco, 2019).

Deaf respondents were also far more likely to use Instagram and Twitter. Although originally conceived as a photography app (Bruner, 2016), Instagram has become an additional medium for journalists (Takanaga, 2019). The fact that it generally contains only captions and hashtags as text might attract an audience whose first language is not English. Hashtags such as "#deaf" and "#hardofhearing" have been used to attract the deaf on both Instagram and Twitter. Both platforms have moved social media conversations from verbal to visual and written expression, thus eliminating the ability to hear as a necessity to communicate.

Facebook and LinkedIn were the preferred social media platforms for deaf respondents. Although Facebook's popularity is not surprising, LinkedIn is not one of the most popular social media platforms. However, in this particular sample LinkedIn was almost as popular as Facebook among Deaf respondents. It has been reported that 90% of LinkedIn users have a Facebook account (Smith & Anderson, 2018) and that half of all college students use LinkedIn (Perrin & Anderson, 2019). If one factors in the influence of Vocational Rehabilitation Counselors and the career focus of NTID, LinkedIn's popularity is more expected than surprising.

HOH individuals often find themselves between two cultures. They straddle the hearing world and the deaf community. This may also be true for deaf individuals who prefer using English over ASL. Both populations are likely to be bilingual and feel a strong sense of belonging to the hearing political world and Deaf community politics.

No significant differences were found among the hearing, Deaf, or HOH regarding civic engagement using the AOS scale. Although statistically nonsignificant, it is politically meaningful. Hearing status does not limit individuals from engaging in civic life. All can make a difference through political and non-political processes, and new media have enabled them to take part in civic debate and discussion. Despite the limitations of new and legacy media, DHH are no different from their hearing contemporaries in their desire to take part in civic discourse or action.

Media Richness Theory (Daft & Lengel, 1984) was created at a time when email was comparatively new and the telephone was considered a rich medium. It has had to adapt to newer, richer media such as online conferencing. The theory focused on reducing ambiguity and reducing the consequences of equivocality, but there may be different motives for selecting media, particularly within a cultural minority that seeks to communicate in its own language. Although rich media theory began as a theory of organizational communication, it has applications to other settings and with this study, a new audience.

Limitations

The DHH population is difficult to study, but that should not preclude researchers from broadening our understanding. With the exception of NTID and Gallaudet University, the DHH are scattered across the country with a wide range of communicating skills and linguistic abilities. The study's small sample size and underrepresentation of DHH makes generalization difficult if not impossible. Additional social media choices could have been added to the survey, such as WhatsApp or WeChat. As social media evolve, additional platforms are likely to capture the attention of DHH and hearing audiences.

The AOS might benefit from some minor changes or adaptations for different samples. Some of the language focuses on orality. For instance, question 7 reads, "Organize a political event (e.g. talk, support group, march)?" question 8 states, "Give a lecture or talk about a social or political issue?" and question 23 asks, "Attend a talk on a particular group's social or political concerns? Substituting "presentation" for "talk" might take the focus off public speaking, especially since the deaf often present by using an interpreter to voice for them. In question 18, "Confront jokes, statements, or innuendoes that opposed a particular group's cause?" might substitute "ridicule" for "jokes" since the latter have a history of oral presentation and entertainment.

Conclusion

The hearing, deaf, and HOH did not differ significantly regarding their civic engagement. Hearing status does not preclude one from engaging in civic life, and new media have enabled audiences to take part in political dialogue and discussion. Future research should focus on how media can better enable political understanding by improving and increasing access, particularly among cultural minorities and those with disabilities. Politicians and policymakers would be well advised to support media access and understand media preferences of civically engaged citizens whether they be Deaf, HOH, or hearing.

References

1. Anderson, M., & Caumont, A. (2014, September 24). How social media is reshaping news. Retrieved March 16, 2020 from: https://www.pewresearch.org/fact-tank/2014/09/24/how-social-media-is-reshaping-news/
2. Austin, E. W., & Nelson, C. L. (1993). Influences of ethnicity, family communication, and media on adolescents' socialization to U.S. politics. *Journal of Broadcasting & Electronic Media, 37*(4), 419.
3. Avon, A. (2006). Watching films, learning language, experiencing culture: An account of deaf culture through history and popular films. *The Journal of Popular Culture, 39*(2), 185-204. doi:10.1111/j.1540-5931.2006.00228.x
4. BBC (2016, January 21). Why Facebook has become so important to the sign language community. Retrieved March 13, 2020 from: https://www.bbc.com/news/disability-35103292
5. Besner, L. (2019, August 9). When is a caption close enough? YouTube's notoriously nonsensical auto-captions are improving. But there's a deeper problem. *The Atlantic*. Retrieved March 14, 2020 from: https://www.theatlantic.com/health/archive/2019/08/youtube-captions/595831/
6. Bialik, K. (2017, July 27). 7 facts about Americans with disabilities. Retrieved March 14, 2019, from http://www.pewresearch.org/fact-tank/2017/07/27/7-facts-about-americans-with-disabilities/
7. Bruner, R. (2016, July 16). A brief history of Instagram's fateful first day, *Time*. Retrieved on March 17, 2020: https://time.com/4408374/instagram-anniversary/
8. Center for Hearing and Communication. (n.d.). Statistics and facts about hearing loss. Retrieved March 14, 2019, from https://chchearing.org/facts-about-hearing-loss/
9. Corning, A. F., & Myers, D. J. (2002). Individual orientation toward engagement in social action. *Political Psychology, 23*(4), 703-729. doi:10.1111/0162-895X.00304
10. Cuculick, J. A. (2014). Facebooking among deaf college students: Deaf-gain and funds of knowledge. (Doctoral dissertation) Order No. 3579815 University of Rochester, 2014. Ann Arbor: *ProQuest.* Web. 24 Mar. 2019.
11. Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to managerial behavior and organizational design. In L. L. Cummings, & B. M. Staw (Eds.), *Research in Organizational Behavior* (pp. 191-233). Greenwich, CT: JAI Press.
12. Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*(5), 554-571.
13. Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly, 77*(3), 355-366.
14. Debevc, M., Milošević D., & Kožuh, I. (2015) A comparison of comprehension processes in sign language interpreter videos with or without captions. https://doi.org/10.1371/journal.pone.0127577
15. Ellcessor, E. (2012). Captions on, off, on TV, online: Accessibility and search engine optimization in online closed captioning. *Television & New Media, 13*(4), 329-352. doi:10.1177/1527476411425251
16. Ellis, K., Kent, M., Locke, K., & Latter, N. (2017). Who is working on it? captioning Australian catch-up television and subscription video on demand. *Media International Australia, 165*(1), 131-145. doi:10.1177/1329878X17724606
17. Engelman, A. A. (2012). Addressing disparities in emergency communication with the deaf and hard-of-hearing: Cultural competence and preparedness for first responders. (Doctoral dissertation). University of California, Berkeley, California.
18. FCC.gov (n.d.). 21st century communications and video accessibility act (CVAA). Retrieved March 10, 2020 from https://www.fcc.gov/consumers/guides/21st-century-communications-and-video-accessibility-act-cvaa
19. Foss, K. A. (2014). Constructing hearing loss or "Deaf gain?" voice, agency, and identity in television's representations of d/Deafness. *Critical Studies in Media Communication, 31*(5), 426-447. doi:10.1080/15295036.2014.968603
20. Gilman, S. C., & Turner, J. W. (2001). Media richness and social information processing: Rationale for multifocal continuing medical education activities. *The Journal of Continuing Education in the Health Professions, 21*, 134-139.
21. Glenn-Smith, S. (2017). The use of social media as a conduit to promote social justice in the deaf community, as a cultural and linguistic minority, through the visual language of American Sign Language: A movement against audism. (Doctoral dissertation) Nova Southeastern University, Fort Lauderdale, Florida.

22. Harris, S. P., Owen, R., & De Ruiter, C. (2012). Civic engagement and people with disabilities: The role of advocacy and technology. *Journal of Community Engagement and Scholarship, 5*(1), 70-83.
23. Lengel, R. H., & Daft, R. L. (1989). The selection of communication media as an executive skill. *The Academy of Management Executives. 2* (3), 225–232. doi:10.5465/ame.1988.4277259.
24. Maiorana-Basas, M., & Pagliaro, C. M. (2014). Technology use among adults who are deaf and hard of hearing: A national survey, *The Journal of Deaf Studies and Deaf Education, 19*(3), 400–410, https://doi.org/10.1093/deafed/enu005
25. McKay, V., Greenberg, S. (1999). Violence in deaf and hard-of-hearing people: A review of the literature. *Aggression and Violent Behavior, 4*(3), 259-272.
26. Miller, K. R., Vernon, M., & Capella M. E. (2005). Violent offenders in a deaf prison population. *Journal of Deaf Studies and Deaf Education, 10*(4), 417-425.
27. Musengi, M., & Dakwa, F. E. (2010). The language dilemma of the deaf child: An educator's viewpoint. *Nawa: Journal of Language and Communication, 4*(2), 45-54.
28. National Captioning Institute (n.d.). History of closed captioning, Retrieved March 9, 2020, from https://www.ncicap.org/about-us/history-of-closed-captioning/
29. National Technical Institute for the Deaf. (n.d.). Retrieved March 14, 2020, from https://www.ntid.rit.edu/numbers/
30. Parker, S. P., Owen, R., & De Ruiter, C. (2012, August 22). Civic engagement and people with disabilities: The role of advocacy and technology. *Journal of Community Engagement and Scholarship*. Retrieved March 25, 2020 from: http://jces.ua.edu/civic-engagement-and-people-with-disabilities-the-role-of-advocacy-and-technology/
31. Perrin, A., & Anderson, M. (2019, April 10). Share of U.S. adults using social media, including Facebook, is mostly unchanged since 2018. Retrieved March 17, 2019 from: https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/
32. Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1), 65–78. doi:10.1353/jod.1995.0002.
33. Rogers, T. (2009). Access to information on computer networks by the deaf. *The Communication Review, 2*(4), 497-521. doi:10.1080/10714429809368569
34. Romero-Fresco, P. (2016). Accessing communication: The quality of live subtitles in the UK. *Language and Communication, 49*, 56-69. doi:10.1016/j.langcom.2016.06.001
35. Roots, J. (1999). *The politics of visual language: Deafness, language choice, and political socialization*. Ottawa: Carleton University Press.
36. Rose, H. M. (1995). Apprehending deaf culture. *Journal of Applied Communication Research, 23*(2), 156-162. doi: 10.1080/00909889509365421
37. Shearer, E. (2018, December 10). Social media outpaces print newspapers in the U.S. as a news source. Retrieved March 18, 2020 from: https://www.pewresearch.org/fact-tank/2018/12/10/social-media-outpaces-print-newspapers-in-the-u-s-as-a-news-source/
38. Shearer, E., & Grieco, E. (2019). Americans are wary of the role social media sites play in delivering the news, Retrieved March 16, 2020 from: https://www.journalism.org/2019/10/02/americans-are-wary-of-the-role-social-media-sites-play-in-delivering-the-news/
39. Smith, A., & Anderson, M. (2018, March 1). Social media use in 2018. Retrieved March 17, 2020 from: https://www.pewresearch.org/internet/2018/03/01/social-media-use-in-2018/
40. Takanaga, L. (2019, August 23). 12 Instagram accounts that reveal life as a *Times* journalist. *The New York Times*. Retrieved on March 17, 2020 from: https://www.nytimes.com/2019/08/23/reader-center/instagram-times-journalists.html
41. Trevino, L. K., Lengel, R. H., & Daft, R. L. (1987). Media symbolism, media richness, and media choice in organizations: A symbolic interactionist perspective. *Communication Research, 14*(5), 553-574. doi:10.1177/009365087014005006337-348. doi:10.1093/deafed/5.4.337
42. Turner, G. H., Napier, J., Skinner, R., & Wheatley, M. (2017). Telecommunication relay services as a tool for deaf political participation and citizenship. *Information, Communication & Society, 20*(10), 1521-1538. doi:10.1080/1369118X.2016.1234633
43. United States Census Bureau. (2019). Voting and registration in the election of November 2018. Retrieved March 16, 2020 from: https://www.census.gov/data/tables/time-series/demo/voting-and-registration/p20-583.html

44. USLegal. (n.d.). Deaf person law and legal definition. Retrieved March 16, 2020 from: https://definitions.uslegal.com/d/deaf-person/
45. van Staden, A. (2013). An evaluation of an intervention using sign language and multi-sensory coding to support word learning and reading comprehension of deaf signing children. *Child Language Teaching and Therapy, 29*(3), 305- 318.
46. Warren, R., & Wicks, R. H. (2011). Political socialization: Modeling teen political and civic engagement. *Journalism & Mass Communication Quarterly, 88*(1), 156-175. doi:10.1177/107769901108800109
47. World Health Organization (2019). Deafness and hearing loss. Retrieved March 16, 2020 from: https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss
48. Worrell, T. R. (2018). *Disability in the media: Examining stigma and identity*. New York: Lexington Books.
49. Yoshida, M. (2008). Barriers for telecommunication accessibility and needs assessment of video relay services (VRS): Utilization of VRS for the deaf community. (Master's thesis) Rochester Institute of Technology, Rochester, New York.