Please Understand My Disability: An Analysis of YouTubers' Discourse on Disability Challenges

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Video-sharing platforms offer a unique avenue for people with disabilities (PWDs) to highlight their experiences, including the challenges and accessibility barriers they face. While creators with disabilities effectively use these platforms to share their life struggles and advocate for societal changes, the scope of research exploring the nature of the discourse activities related to disability challenges remains limited. Our study addresses this gap by conducting a comprehensive qualitative content analysis of 468 videos posted by YouTubers with a range of disabilities, including vision, speech, mobility, hearing, and cognitive and neural impairments. Our findings reveal a predominant discussion on stigma and lack of support. YouTube is also used to share difficulties related to communication and systemic problems. Creators with disabilities also share experiences with technologies and public and private environments, through which they discuss accessibility issues and solutions. Building on our analysis, we propose future research directions aimed at enhancing the experience and support for disability communities on video-sharing platforms.

CCS Concepts: • **Human-centered computing** → **Empirical studies in accessibility**; **Empirical studies in collaborative and social computing**; *Collaborative and social computing systems and tools.*

Additional Key Words and Phrases: video; disability; YouTube; discourse; difficulty; barrier

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1 Introduction

Video-sharing platforms have attracted people with disabilities (PWDs) to upload videos, share their lives, and engage with communities [1, 16, 26, 32, 34, 37, 48, 65]. Recent Human-Computer Interaction (HCI) research has studied how PWD creators use YouTube, as well as the challenges they encounter during video creation [8, 29, 36, 38]. Creators with disabilities make videos to disclose the obstacles they face, offering an alternative, unmediated avenue to understand the lives of PWDs [16, 34, 65]. Existing studies have focused on PWDs' social media use for community building and knowledge sharing, with some noted problems such as cyberbullying and technology inaccessibility [61]. However, a holistic understanding of how people with a diverse range of disabilities use video-sharing platforms to express their daily challenges has not been established. YouTube videos provide valuable research data for examining accessibility barriers [19]. By utilizing the rich information from videos, we examine how YouTube PWD communities use them to advocate for social inclusiveness and support.

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To enhance our understanding of YouTube's disability communities and explore ways to support PWDs on video-sharing platforms, this paper presents a comprehensive qualitative content analysis of 468 videos produced by 304 YouTubers with disabilities. Videos were annotated based on a codebook developed from the disability barrier framework [24], which categorizes barriers and challenges into five themes: information technology and assistive technologies, social support and attitudes, systems and policies, environment and transportation, and economic challenges. Subsequently, a mix of Natural Language Processing (NLP) and machine learning methodologies were employed to filter videos containing disability difficulties. The analysis focused on YouTubers with visual, speech, mobility, hearing, and cognitive and neural (cog&neu) disabilities. The annotation was carried out by participants of Amazon Mechanical Turk and the researchers. Fundamentally, this study seeks to address:

> *What social, technology, system, environment, and economic difficulties are discoursed on YouTube by people with cognitive, vision, mobility, hearing, and speech disabilities?*

Our findings indicate that YouTube is mostly used to discourse difficulties related to social stigmas and isolation. YouTubers with cog&neu, hearing, and speech disabilities openly discuss communication barriers. Those with visual, mobility, and hearing impairments use YouTube to highlight the challenges they face with web and app interfaces, as well as with assistive devices. YouTubers with neurodiversity and mobility issues bring attention to healthcare problems, while those with speech disabilities discuss obstacles in the education and employment sectors. Additionally, YouTubers with visual and mobility impairments express their concerns about residential environments and public facilities. The patterns of disability discourse highlight how PWDs use online videos to combat isolation [37, 58] and educate the public about disabilities [5, 35], guiding the development of supportive social media policies and strategies [32, 34].

2 Related Work

2.1 Disability Discourse on Social Media

Social media is an increasingly prevalent medium for People with Disabilities (PWDs) to access information and establish connections with communities [17, 20, 61]. PWDs express their thoughts, share personal narratives, and form bonds with others who have similar experiences on social media [17]. Numerous platforms, including YouTube [8, 29, 35, 37], Facebook [46], Twitter [21, 25], and Instagram [63, 66, 68], offer valuable social support for people with disabilities.

In addition to community activities, social media serves as a crucial online space for advocating disability inclusiveness. PWDs use these platforms to communicate their challenges, educate others, and advocate for societal change [20]. Social media enables PWDs to share their experiences of isolation and marginalization, thereby advocating for themselves [18, 41]. On Reddit, users discuss medical, financial, and social challenges [49]. TikTok's affordances and culture facilitate the development of disability identities [63]. The self-representation on Instagram helps PWDs negotiate their existence and advocate for societal equality [12, 15]. PWDs utilize Twitter hashtags for disability activism [2]. Although there has been extensive examination of disability discourse across various social media platforms, an overview of this discourse on YouTube is noticeably lacking. There is a limited understanding of how YouTubers with disabilities address negative stereotypes and misconceptions by disclosing and explaining their everyday challenges [6].

2.2 Video-Sharing Platforms and Accessibility

Prior research on PWDs on other social media platforms has primarily focused on understanding the stigma they face [3] and public disclosures related to medication, financial aid, and the workplace [49]. These public discourse aim at increasing visibility [2, 57], shape disability identities,

and advocate for rights [51, 54]. Unlike social media platforms such as Twitter/X and Facebook, where interactions often revolve around offline relationships, YouTube enables creators to share personally meaningful videos to engage viewers as fans [4]. YouTubers disclose their identities in videos and connect with viewers through frequently uploaded content. The disclosure of creators' identities, interests, and lives fosters a one-sided sense of closeness with viewers, known as "parasocial interactions" [28]. A range of research has studied PWDs' motivations for sharing videos or live-streams online. PWDs use video-sharing platforms diversely, including sharing vlogs, narrating personal stories, advertising, and presenting creative work [11, 19]. However, there is a knowledge gap in understanding the types of disclosures that PWDs typically make in videos and the specific disability issues they advocate for within the YouTube community. This lack of systematic understanding limits the ability of video-sharing researchers to support disability communities and hinders the use of online videos as a new venue to address disability challenges.

Prior studies have mostly focused on specific disability groups, lacking comprehensive insights into the role of video-sharing in disability discourse. For example, research on YouTubers with cognitive and neurological disabilities highlights their identity presentation [42, 55] and anti-stigma efforts [8, 45, 56]. Creators with visual impairments use vlogs to showcase various daily challenges [31, 32, 34, 59], while other PWDs also share solutions for managing disabilities, preparing food, and applying makeup [16, 32, 34, 35]. However, it is unknown which are the most common and dominating disability challenges advocated by PWDs on the platform. Secondly, disability research in HCI has studied the accessibility of features like video recommendation algorithms [14] and closed captioning [31, 33, 38, 55, 59]. Despite the importance of these technologies, social-emotional factors still prevent many PWD from participating in video sharing. While PWDs use of video-sharing for social and emotional support [8, 30, 42, 56], yet disclosures can trigger hate speech and harassment [48, 52]. Addressing these barriers requires a systematic examination of YouTubers' challenges and the development of fair community guidelines and moderation techniques. Lastly, research has utilized vlogs to study activities with accessibility devices and to understand the everyday challenges faced by PWDs in various environments [1, 31, 32, 34, 59, 65, 69]. An examination of the challenges disclosed on YouTube may lead to new opportunities for social media and accessibility researchers to utilize videos of PWDs as a research site.

2.3 Conceptual Framework

Understanding the challenges faced by PWDs is central to accessibility research. The discourse around disability has evolved from a medical model to a social model [23], where disability is considered a social situation rather than a disease. In the social model, the income, mobility, or institutional challenges faced by PWDs should not lead to their isolation [54]. It is further emphasized that PWDs, with the support and advice of others, should be empowered to take control of their own lives [54]. Beyond social inclusiveness, disability is also recognized as an identity of a distinct minority group, necessitating societal respect for their human rights and community culture [43, 54]. Analyzing the discourse on disability challenges on YouTube can shed light on how PWDs use online videos to share their perceptions of these challenges and reveal ways to reduce stigmas and enhance support through video-sharing [7].

Our analysis of disability challenge discourse is grounded in the disability barrier framework identified by Hammel et al. [24] framework elucidates eight thematic barriers encountered by PWDs: (1) *IT access* encompasses both the usability of knowledge and the delivery methods through IT, including devices and technology used for the transmission and reception of information. (2) *Social support and societal attitudes* address the availability, use, and quality of social supports and networks, including social attitudes towards disability and participation. (3) *Systems and policies* reflect the accessibility of supportive systems for participation, including healthcare, housing, community

living, education, and employment. (4) *Economic* pertains to the adequacy of the economic resources required for the participation of living and the community, as well as the economic issues that influence individual participation. (5) *Built environment* covers factors and characteristics of the human-made environment. (6) *Natural environment* involves climate and weather conditions. (7) *Assistive technology* refers to the availability and use of specialized devices or tools to aid in daily activities. (8) *Transportation* denotes vehicular movement from one place to another, involving both private and public means. Hammel et al.'s model highlights how society should adopt the social model to understand disability challenges and make an inclusive environment.

3 Data Collection

Figure 1 and Figure 2 illustrate the data collection procedure. We started with a list of disability keywords (Table 1) across five disability categories – cognitive/neural, vision, mobility, hearing, and speech disabilities, derived from the CDC report on adults with functional disabilities [13]. We search each word with YouTube's Data API V3[1] to identify channels run by PWDs or their caregivers. Then we used a combination of programmatic and manual filtering to select the satisfied channels. To be included, a channel had to have at least one video and one keyword related to disabilities in its description. To focus on individual experiences, we excluded channels with words like "center," "organization," "association," "group," or "mission" in their descriptions. Subsequently, we manually reviewed each channel to verify that the videos featured individual PWDs or caregivers. If a channel mentioned that the creator has inter-sectional disabilities, either in the description or in the introduction videos, we labeled the channel with multiple disabilities (including 17 videos from 12 channels). Next, we collected all videos posted on these channels, retaining only those with closed captions (CC). This selection process resulted in a dataset comprising 51,446 videos.

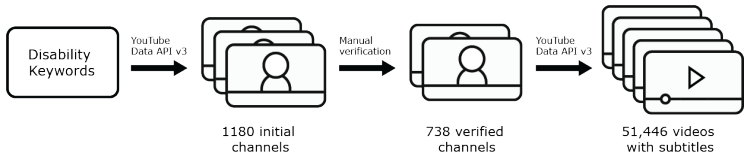


Fig. 1. Data collection steps.

Disability	Search Keywords
Vision	blindness, low vision, blind, loss of vision, visual impairment
Speech	speech disorders, language disorders, tourette syndrome, aphasia, speech impairment, loss of speech, speech disability, communication disability
Mobility	Amputation, arthritis, cerebral palsy, Charcot-Marie-Tooth disease, Huntington's disease, juvenile rheumatoid arthritis, multiple sclerosis, muscular dystrophy, scleroderma, scoliosis, spina bifida, spinal cord injury, mobility disability, physical disability, wheelchair user, physically disabled
Hearing	deafness, hard of hearing, deaf, hearing loss, hearing impairment
Cognitive & Neural	anxiety disorders, Asperger syndrome, attention deficit hyperactivity disorder, ADHD, autism, autism spectrum disorders, bipolar disorder, down syndrome, fetal alcohol syndrome, intellectual disabilities, mental retardation, learning disabilities, mental health, obsessive compulsive disorder, OCD, post-traumatic stress disorder, PTSD, Williams syndrome, mental health disability

Table 1. Keywords used to search YouTube channels of PWDs

We then used CCs to segment videos into clips, targeting portions mentioning "difficulty" words. This strategy was necessary as many videos were long and watching them in their entirety could

[1] developers.google.com/youtube/v3

overlook essential disability information. To create these clips, we used the timestamps provided in the SubRip (SRT) files (Figure 2). Each timestamp in these files includes a start and end time, as well as the spoken text for approximately 5 seconds of the video. We combined 24 consecutive timestamps to form one *video clip*, which lasted about 2 min. All CC texts for a clip were concatenated. We processed each subtitle file by transforming it to lowercase, segmenting it into tokens, and reducing each word to its base by lemmatization. Subsequently, we examined each video clip for the presence of "difficulty" keywords. Next, we checked all the clips, retaining only those videos with at least one clip containing at least one difficulty keyword. This process filtered our video dataset down to 28,441 videos. To identify difficulty keywords, we started by recognizing a list of seed words such as "difficult," "frustrate," and "struggle." We then traversed through the subtitles of all 51,446 videos, calculating the average similarity of each token to all seed words using WordNet. From the top 200 words, we manually selected those that corresponded with "difficulty" (refer to Appendix A for the final difficulty words). Consequently, our video annotators focused only on the segments of each video that contained these keywords.

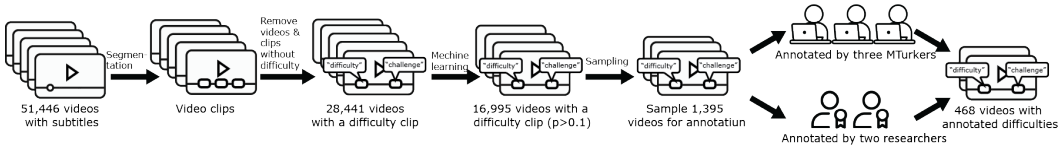


Fig. 2. Video filtering and annotation steps

4 Categorizing subthemes

Guided by the accessibility barrier framework [24], we followed the steps in thematic analysis [10] to extract subthemes. Four researchers divided 1,000 randomly selected video clips and noted whether the six barrier themes were mentioned. After filtering, 257 clips contained at least one difficulty in the barrier framework [24, 44]. The researchers then sorted and summarized the notes using affinity diagramming, grouping similar notes around emerging concepts, and giving each subtheme a definition. Since videos mentioned different assistive software and technologies, clips about IT access and assistive technology were combined into one barrier theme. We did not see many clips with the built environment, the natural environment and transportation, so we created a single theme for environmental barriers. The researchers discussed and generated an initial codebook, which was then used to annotate four rounds of 50 new video clips (200 clips in total). After the first three rounds, the annotation differences were compared to refine the definitions. The last round of annotating 50 video clips was used to calculate the inter-rater agreement. The researchers reached substantial agreement on the challenge types in this round of 50 videos (Table 2). The finalized codebook can be seen in Table 3.

	Technology	Social	System	Environment	Economic
Krippendorff α	0.92	0.77	0.87	0.78	1

Table 2. The inter-rater agreement scores calculated with Krippendorff α

5 Machine Learning Filtering and Data Sampling

We noticed that the clips that contain the difficulty in the codebook only took up a small proportion. This was because the word embed technique included words or phrases such as "hard cover" and

Theme	Subtheme	Definition
Technology	Video game	Accessibility issues with video games
	Web & app	Accessibility issues with websites, mobile apps, computer software, and closed captions
	Assistive device	Barriers with assistive hardware, devices, and tools (e.g., wheelchair and hearing aid)
Social	Social stigma	Stigma of disability; PWDs being isolated or excluded due to discrimination
	Absent support	Difficulties caused by the lack of social support or communities
	Communication barrier	Breakdown and barriers in communicating with others
	Self-stigma	Difficulties caused by PWDs' self-stigma, shame, or negativity caused by the disability
	COVID	Difficulties caused COVID-19, social-distancing, quarantine, and PPE
System	Healthcare	Lack of medical treatment or information; the poor quality of treatment and healthcare
	Education	Problems, discrimination, or inaccessible learning in education and childcare
	Government	Problems with the authorities such as government, legislation, and public policies
	Employment	Barriers in job market, employment, and workplace
	Business	Barriers in commercial services, business, and recreational services
Environment	Residence	Problems with private and residential space, including building environment and home goods
	Public facility	Barriers found in a public environment or commercial facilities
	Transportation	Barriers with vehicles and transportation systems
	Nature	Problem caused by the natural environment, weather, or climate
Economic	Problems caused by inadequate economic or allocation of financial resources	

Table 3. The subthemes of disability barriers in [24].

"accept a challenge." To filter out irrelevant clips, we incorporated active learning into the process. Active learning is the process of selecting a small number of data points from a large dataset for human review [60]. We used a deep learning model in NLP tasks called BERT [64]. The BERT model can be transferred and generalized to other tasks with a small number of labels. Considering that the default BERT model may not be accurate and consist of biases against PWD, three steps were taken. We used 500 annotations to fine-tune the model (500 clips, including 200 annotated by the researchers and 300 by MTurkers). We applied the model to predict all the unlabeled clips and calculate confidence scores. We chose a low confidence threshold ($p > 0.1$), which means that if the model predicts that the probability of containing a difficulty is higher than 10%, the clip is included for annotation. This approach makes the recall rate with the training set equal to 1 to avoid eliminating false negative samples. Human labeling eventually determines the final annotation.

After filtering, clips from 16,995 videos were left for data sampling and annotation. To balance the videos from YouTubers with different disabilities, we randomly selected up to three videos per channel. If a channel has fewer than three videos in our dataset, we included all its videos. This step yielded 1,395 videos for annotation.

6 Data Annotation

We utilized Amazon Mechanical Turk (MTurk) to annotate video difficulty levels. Annotators were screened through a qualification test, which included a training session and a test where they identified the difficulty level in three preannotated videos. Only those who correctly answered all test questions were qualified. To maintain annotation quality, we exclusively engaged MTurk workers who had completed more than 5000 tasks with an approval rate above 97%.

We asked MTurkers to watch each video clip and identify the main barrier themes, then select all applicable difficulty subthemes. Annotators could refer to training materials and examples as needed. To maintain active engagement, we included a simple math problem as an attention check, where a wrong answer led to task rejection and reassignment. Three different annotators annotated each clip. For enhanced accuracy, two undergraduate researchers also answered the same questions

as the MTurkers. A clip was classified under a subtheme if at least one MTurk annotator and one researcher identified it. Notably, each clip could be annotated with multiple categories (for example, a school bullying clip could be both the "social stigma" and the "education" subthemes). Subsequently, we consolidated all the clip annotations for each video, marking the video's subtheme as "1" if it included at least one clip featuring that subtheme; otherwise, it was marked "0." After this stage, we removed all videos that didn't have "1" in any subtheme, leaving 468 videos from 304 individual YouTube creators (see Appendix B for the video-keyword distribution). These videos were uploaded between February 2010 and July 2022 and have collectively garnered 12,175,716 views. The mean duration of these videos is at 19.44 minutes (SD = 26.02). On average, each video includes 1.83 "difficulty" clips (SD = 1.81). Figure 3 shows the distribution of videos across five disability categories and among the YouTube video categories.

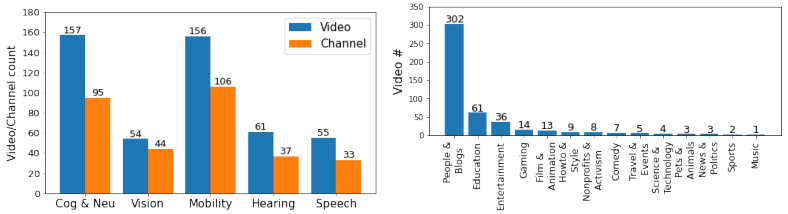


Fig. 3. Left: Distribution of videos and channels across five disability categories. Right: Distribution of videos among YouTube video categories.

7 Data Protection Impact Assessment (DPIA)

All analyzed videos were publicly available, with no direct interaction between the researchers and the YouTubers. No private videos were accessed. All quoted closed captions in the study are lightly paraphrased. We processed captions using word-embedding and machine-learning technologies, taking care to respect privacy. Only the YouTube video and channel IDs were used to link captions, excluding any personal or demographic information from processing. All data were publicly shared on YouTube. Amazon Mechanical Turk annotations solely identified video difficulties, without collecting personal data or subjectively describing video creators. Our protocol, designed for privacy protection, received an exemption from our institute's IRB office.

8 Results

The distribution of difficulty themes and subthemes between five types of disabilities is in Figure 4. This section discusses subthemes with more than 5% of videos from each disability group. However, it does not mean certain difficulties do not challenge a disability group; we do not introduce less-mentioned difficulties to avoid biases introduced by small sample numbers. We illustrate the difficult stories shared by YouTubers with disabilities. Quotes are modified to protect privacy.

8.1 Social Difficulties

8.1.1 ***Social and Self Stigma.*** YouTubers openly discuss their personal experiences with stigma, dive into the causes of their self-stigma, and raise awareness of the stigmatization that people with disabilities often face. This underscores the significant impact of social attitudes and self-perception on people with disabilities.

Cog&Neu Disability. Social stigma is a prevalent topic within the social and societal category of YouTube videos featuring people with cog&neu disabilities (48.1% videos, n=77). These YouTubers

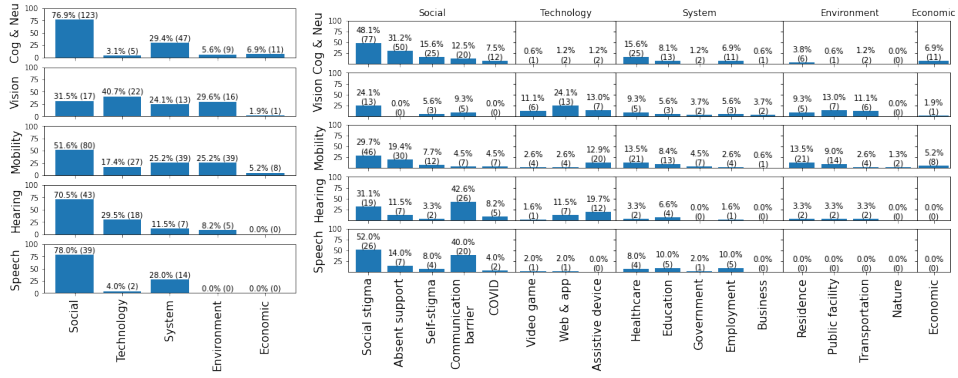
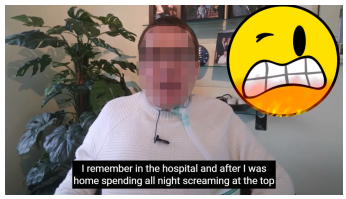


Fig. 4. Distributions of barrier themes and subthemes of YouTubers with different disabilities.

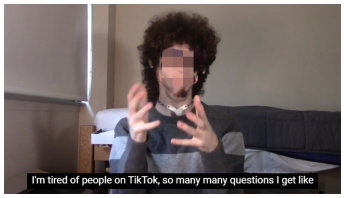
share their experiences of stigma, shedding light on the lack of awareness and misconceptions surrounding mental disabilities. For instance, a YouTuber dispelled the notion that all individuals with autism are "savants" with extraordinary talents, emphasizing, *"I can't draw a cool map of London. I can't sit down and play Mozart for you"* (Figure 5-a). Mental disabilities often lead to discrimination and social embarrassment. In a video, a YouTuber shared a personal story highlighting the assumptions made about their social behavior due to Asperger syndrome, recounting *"My friend said the nightclub might make me anxious because there will be new people. He advised me not to feel compelled to attend. Due to my Asperger syndrome, they assume that I will say socially awkward things."* Some YouTubers argue that divulging disabilities online can perpetuate stigma. A YouTuber living with bipolar disorder emphasized their intention to avoid any perception of exploiting their mental illness for money-making, stating *"I would never want anyone to think that I was using my channel to make money out of my mental illness."*

(a) I can't sit down and play Mozart for you.

(b) I feel uncomfortable asking around and becoming a partner.



(c) I was home spending all night screaming at the top of my voice.



(d) Viewers ask vlogger on TikTok why you can't talk

(e) Customers feel uncomfortable being served by a server with a speech disability.

Fig. 5. Videos demonstrating social stigma and self stigma.

In 15.6% of videos (n = 25), YouTubers with cog&neu disabilities reveal that their fears and negative feelings towards their disabilities can foster self-stigma. For example, a YouTuber diagnosed with autism discussed their preferences when working in groups (Figure 5-b), *"I find it uncomfortable to have to talk to others and become a partner in activities such as science labs or in-class projects."* These kinds of experiences can often lead to feelings of shame. As a YouTuber with bipolar disorder and generalized anxiety expressed, *"Accepting certain aspects of myself and recognizing that this is part of who I am has been challenging."*

Vision Disability. Social stigma experienced by YouTubers with vision disabilities is discussed in 13% of videos (n = 24), also resulting from stereotypes associated with this group. For example, a YouTuber highlighted the pressure to conform to the stereotype of using a cane, saying, *"Whenever I use my cane, I feel like I have to live up to that stereotype... Because if people see me not using a cane, they think I am faking my blindness."* In some cases, stigmatization manifests in the form of unsolicited help. A YouTuber shared their discomfort when others offer assistance without being asked, explaining *"When I didn't ask them for their help, it can make me uncomfortable in their attempt to help. It's like when you're trying to get somewhere, and someone grabs you and starts giving you directions."* Insults and misconceptions also contribute to the social stigma faced by individuals with vision disabilities. A YouTuber advocated against such ignorance, stating, *"Being blind is not a contagious disease. So many people are like, 'Oh, she is blind. Don't touch her. She might infect you with blindness.' "*

In 5.6% of videos (n = 3), YouTubers disclose their self-stigma associated with visual impairment. A particular instance was mentioned in one video, where the YouTuber reminisced about their childhood, stating, *"I remember as a child, I would feel too embarrassed to admit that I could not see the cards during card games."*

Mobility Disability. In videos discussing mobility disabilities, social stigma issues were addressed in 29.7% (n = 46) of the content. For example, a YouTuber with cerebral palsy expressed their exasperation: *"People start talking really slow. My brain works fine. People assume I have a learning disability. Sometimes it is really annoying."* The videos also highlighted the discomfort caused by well-intentioned but inappropriate questions or undue attention. A person living with Parkinson's disease stated, *"It is very inconsiderate when people ask 'if you are okay, if you need help.' I don't want to be noticed."* Moreover, several YouTubers discussed unique challenges associated with the YouTube platform. One YouTuber articulated their frustration with viewers making assumptions based on how they manage their symptoms: *"Somebody watches my videos and sees I handle my symptoms well, and they assumed I'm not disabled. Or they seem to compare that I have milder ataxia than them."*

Self-stigma is disclosed in 7.7% of videos (n = 12) of this group. YouTubers openly discuss experiences of depression and suicidal ideation. For example, a YouTuber with a spinal cord injury (SCI) shared a harrowing experience of despair, as depicted in Figure 5-c, *"I remember being in the hospital, and even after coming home, spending entire nights screaming at the top of my lungs in floods of tears."* Other YouTubers also reveal their reluctance to acknowledge their disabilities, with one YouTuber confessing, *"I used to intentionally distance myself from the disabled community. I just wanted to pretend that I wasn't disabled."*

Hearing Disability. In videos created by YouTubers with hearing disabilities, social stigma was a topic of discussion in 31.1% (n = 19) of the videos. YouTubers in this group highlight ableism and the common misconception of disabilities as tragic or abnormal. A vlogger with hearing and speech disabilities expressed their irritation with frequent and inappropriate inquiries such as (Figure 5 -d), "*What happened to you? Why can't you speak?*", rather than a general interest in their well-being or hobbies. The matter of communication misunderstanding among people with hearing loss was also addressed, with one YouTuber explaining, *"I use speech every day doesn't mean I don't know*

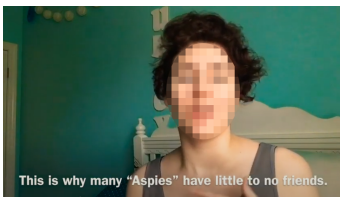
ASL. People with hearing loss have different communication preferences." Some YouTubers disclosed insults, *"I have got many messages and comments saying that you should kill yourself, or being deaf is a sin. I would get a lot of negative words."*

Speech Disability. In the analysis of videos created by YouTubers with speech disabilities, the social stigma is discussed in 52% ($n = 26$) of the content. These YouTubers express their experiences with prejudgment, discomfort, frustration, and even bullying due to their disability. One YouTuber disclosed, *"Others do judge me a lot. People think I am weird, I am awkward, and I am creepy. All because I stutter."* A coffee shop owner described the unease of customers when served by an employee with speech impairment (Figure 5-e), stating, *"People in the community who have been around someone with special needs are very uncomfortable."* The serious issue of bullying was also raised, with one YouTuber noting that *"People with verbal apraxia are at a higher risk of being bullied because they have trouble speaking."*

8% videos ($n = 4$) are categorized as PWDs' self-isolation due to speech disability. YouTubers noted that they have anxiety when talking to a group of people or having to find new friends.

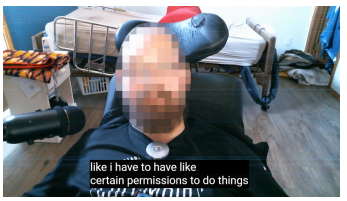
8.1.2 ***Absent Social Support***. Across disabilities in cog&neu, mobility, hearing, and speech, YouTubers frequently raise the issue of absence of social support. This lack of support is manifested in different ways, including relational difficulties, stigma, isolation, and societal attitudes.

Cog&Neu Disability. In videos involving individuals with cog&neu disabilities, 31.2% ($n = 50$) discuss the absence of social support. Content creators frequently link their mental health issues with relational difficulties. For example, a YouTuber with Asperger's (Figure 6-a) explained their limited social circle, stating, *"Because I don't understand emotions. I don't understand betrayal. I don't understand lies."* PWDs often report feeling helpless and misunderstood, particularly when others fail to comprehend their situation, as one YouTuber expressed, *"Others won't understand your situation no matter how much you tell them."* Physical distance from their support networks is another concern for PWDs. An example of this is a YouTuber seeking advice on maintaining a long-distance relationship, *"This is my first time being in a long-distance relationship with someone."*



(a) I don't understand emotions, betrayal, or lies.

(b) I don't see anybody like me.



(c) I am not in control of my own life.

Fig. 6. Videos of absent social support.

Mobility Disability. In 19.4% of videos ($n = 30$), YouTubers with mobility disabilities discuss the absence of support. They note challenges in relationships, one expressing, *"If you are a person with a physical disability, you need to have a partner to share those things without any judgment or any form of embarrassment."* The difficulty of finding a supportive community is another common issue. A YouTuber stated (Figure 6-b), *"I don't see anybody like me. I often struggle alone to get my walker out of the car."* Unsupportive societal attitudes further exacerbate the problem. One YouTuber with cerebral palsy admitted feeling frustrated by the lack of control over their life, stating *"I need permissions for basic tasks. It's frustrating not to be in control"* (Figure 6-c). Another

brought attention to the issue of untrained volunteers: *"Local volunteers are often not well equipped to assist people with disabilities."*

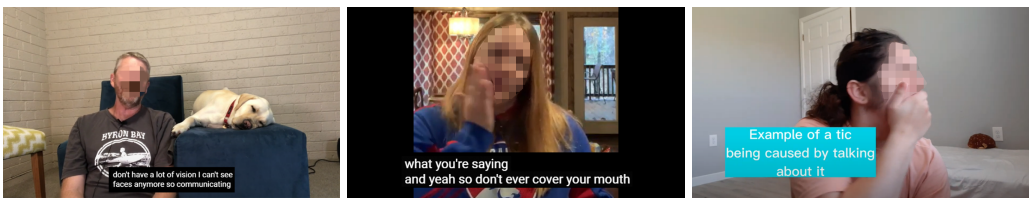
Hearing Disability. In 11.5% of videos ($n = 7$), YouTubers with hearing disabilities discuss the absence of support. One video illustrates this point: *"Others want me to continue striving for a future version of myself, rather than accepting me as who I am."*. Two other videos indicate that PWDs can become defensive and find it challenging to establish friendships. The remaining two videos underscore the emotional upheaval arising from the loss of family members.

Speech Disability. In 14% of videos ($n = 4$), YouTubers with speech disabilities discuss the absence of social support. These individuals often face exclusion and isolation, particularly children in school settings. As one YouTuber shared, *"People with speech disorders often become targets of teasing. This can lead to these children feeling out of place in the classroom."*

8.1.3 ***Communication Barriers.*** YouTubers with disabilities illuminate a range of communication barriers they confront daily. This includes the feelings of social awkwardness and isolation, the struggle to recognize or deliver non-verbal cues, the complexities of interactions with hearing individuals, challenges related to pronunciation and maintaining eye contact, and speaking fluently when under stress.

Cog&Neu Disability. Among the videos of YouTubers with cog&neu disabilities, 12.5% ($n = 20$) highlight the communication barriers that can arise due to their mental health issues. For example, a YouTuber revealed *"When I was younger, I struggled a lot with communication. This led to a very isolated lifestyle, and I didn't have many friends."*.

Vision Disability. In our dataset, 9.3% of videos ($n = 5$) featuring people with vision impairments discuss the communication barriers they experience. An individual legally blind emphasized the difficulties in non-verbal communication, stating *"I am legally blind. I can't see faces anymore, so communicating is difficult if you can't see someone's face since you can't tell whether they're smiling, frowning, or pissed off"* (Figure 7-a).



(a) Communicating is difficult if you can't see someone's face. (b) Don't cover your mouth when speaking. (c) Have a tic while talking about it when making the video.

Fig. 7. Videos of communication barriers.

Hearing Disability. In our dataset, communication challenges are the most frequently mentioned social difficulty among individuals with hearing disabilities, appearing in 42.6% of videos ($n = 26$). These individuals frequently cite problematic interactions when communication partners do not maintain eye contact or cover their mouths. A quote from a YouTuber illustrates the frustration (Figure 7-b) : *"Please, don't cover your mouth or look away, as it prevents those with hearing disabilities from understanding your words."* YouTubers expressed their daily struggle to understand the spoken word, demonstrating the persistent communication gap between hearing and deaf individuals. A YouTuber explains, *"Every day, I struggle to understand hearing people. It's a constant challenge to decipher their spoken words."*. Additionally, YouTubers with hearing disabilities also highlight the struggle to live in a world where sign language is not widely understood. For instance, one

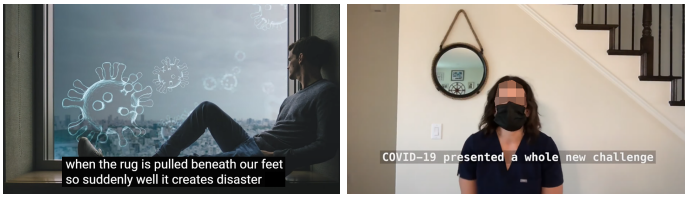
YouTuber recalled, *"Once, a man became angry with me because he mistook my sign language for gang signs."*

Speech Disability. Among the videos of YouTubers with speech disabilities, 40% (n = 20) highlight the challenges faced in communication. The creators of these videos recount various socially challenging situations due to their speech impairment. For instance, two YouTubers described the difficulties encountered while using drive-through services, as one expressed: *"In scenarios like drive-throughs, it's difficult because the other person can't see you and they don't know that you're attempting to communicate."* Other issues include mispronouncing words, difficulty maintaining eye contact, or instances of increased stuttering when under stress. Stigma related to speech disabilities, coupled with these communicative challenges, often leads to social anxiety, embarrassment, and isolation. As one YouTuber shared, *"Meeting new people is particularly hard for those who stutter, due to anxiety issues."* Notably, some YouTubers choose to leave instances of their speech breakdowns in their videos, providing viewers with a real-time glimpse into the reality of their condition. In one such instance (Figure 7-c), a YouTuber experiencing a tic used on-screen text to explain the situation to the viewers.

8.1.4 ***Difficulties during COVID.*** The COVID-19 pandemic has not only amplified existing challenges for people with disabilities but also created new hurdles, limiting access to vital mental health services and support, and disrupting routines, particularly for people with mental health disabilities. With face masks impeding lip-reading for people with hearing impairments, these revelations stress the importance of stronger support systems to help PWDs navigate global crises like COVID.

Cog&Neu Disability. COVID-19-related challenges are featured in 7.5% of videos (n = 12), as YouTubers underline the stress and depression triggered by the pandemic, quarantine, and drastic changes to daily life. As one YouTuber confessed, *"I don't want to get out of bed because of my depression and anxiety... I'm struggling with this coronavirus. I'm struggling with the face masks. The whole way of life has changed."* Quarantine also presents a significant obstacle to accessing mental health services and support (as examined in [47]). A YouTuber focusing on drug recovery mentioned, *"With COVID, a lot of AA and NA groups are literally nonexistent for people."* The sudden shift caused by COVID-19 also disrupts routines, especially for those with ADHD, as one YouTuber noted: people with ADHD *"rely on the systems put into place usually by other people and workplaces,"* and COVID is *"pulling the rug beneath our feet so suddenly"* (Figure 8-a).

Hearing Disability. COVID-related difficulties are discussed in 8.2% of videos (n = 5), predominantly focusing on the hindrances to lip-reading and clear hearing due to mask-wearing. To illustrate, one YouTuber recalled, *"COVID-19 presented a whole new challenge for me because wearing a mask prevents me from reading lips"* (Figure 8-b).



(a) Quarantine is like pulling a rug beneath our feet. (b) Can not lip-reading during COVID-19.

Fig. 8. Videos of difficulties during COVID.

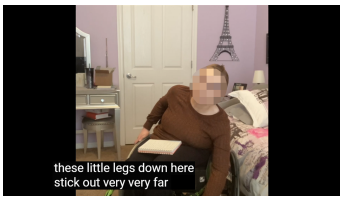
8.2 Technology Difficulties

8.2.1 ***Challenges and Solutions with Assistive Devices.*** The challenges associated with the use of assistive devices are discussed across YouTubers with disabilities, suggesting real-world issues related to digital and assistive technologies.

Vision Disability. In the context of people with visual impairments, 13% of the videos ($n = 7$) highlight challenges with assistive devices. For instance, a blind YouTuber illustrated the issue when their cane, fitted with a marshmallow tip, unexpectedly struck an uneven manhole cover, causing discomfort (Figure 9-a). Social implications associated with assistive devices were also discoursed, such as the misuse of service dog kits. One YouTuber expressed concerns about the easy procurement of such kits, stating, *"I can get a 'certified' service dog vest and an identity card by paying twenty bucks at a website, but the problem is, the fake service dog misbehaves in public."*

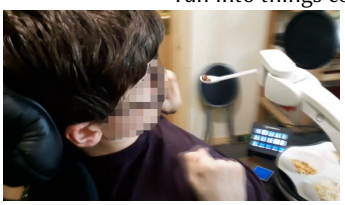
Mobility Disability. YouTubers with mobility disabilities discuss the complexities associated with assistive devices in 12.9% of the videos ($n = 20$). They discuss and review a range of aids including prosthetic legs, wheelchairs, walkers, and navigational tools for computers and phones. For example, one YouTuber demonstrated the challenges she encounters with their wheelchair, noting, *"These little legs [foot rest] stick out very far so I run into things constantly"* (Figure 9-b). Some YouTubers also offer solutions to the issues they face with assistive equipment. In a review of prosthetic limbs, one YouTuber highlighted their practicality, saying, *"Some people are very self-conscious about what they wear and how they look [when wearing prosthetic legs], and you don't have to worry about this shoe coming off and tying the shoelaces"* (Figure 9-c). The experiences shared extend to more specialized devices as well. A YouTuber with quadriplegic cerebral palsy demonstrated the use of a robotic arm for feeding and admitted, *"I feel more awkward with a big robot feeding me than a person spoon feeding me"* (Figure 9-d).

(a) The uneven surface of a manhole cover bumped the cane.



(b) These little legs on my wheelchair stick out very far so I run into things constantly.

(c) Some people care about what they wear and how they look with a prosthetic leg.



(d) I feel more awkward with a big robot feeding me.

(e) The tube might be too hard to pull off from the hearing aid.

Fig. 9. Videos demonstrating difficulties related to assistive devices.

Hearing Disability. YouTubers with hearing disabilities address challenges associated with assistive devices in 19.7% of videos ($n = 12$). These videos largely focus on the durability, quality, maintenance, and customization of hearing aids (such as [50]). For instance, one YouTuber illustrated a technique of warming the tube of hearing aids with a lighter, explaining, *"I sometimes put*

off replacing the tubes in my hearing aids, which causes the tubes to become too hard to pull off and entirely stuck" (Figure 9-e).

8.2.2 ***Challenges with Web, App, and Games.*** In the analysis of YouTube videos, creators with vision and hearing impairments share experiences of their struggles and solutions regarding digital technology use. Gamers with visual impairments discuss difficulties encountered during.

Vision Disability. In 24.1% of videos studied ($n = 13$), YouTubers with vision impairments disclose the challenges they face when using digital technologies. This discourse involves recounting personal struggles with technology, presenting solutions, and advocating for better digital communication practices. One such YouTuber described the routine necessity of moving closer to and further from their computer screen (as studied in [62]), stating, *"That is really becoming detrimental to my health, doing this constantly is gonna risk my scoliosis"* (Figure 10-a). Further, some YouTubers emphasize the need for inclusive communication practices within digital applications to better accommodate people with vision impairments. As one YouTuber suggested, *"Don't use too many emojis as they can be overwhelming with a screen reader."*

In 11.1% of videos analyzed ($n = 6$), gamers with visual impairments express the difficulties they encounter when playing games. One example can be seen in Figure 10-b, where a gamer pointed out the issue of game elements, such as the text and mini-map, being too small to read, posing a significant challenge to the visually impaired gaming community.

(a) Showing how close he has to get to the screen to see the details.

(b) The text and mini-map are too small to read.

Fig. 10. Videos discussing technology difficulties.

Hearing Disability. In 11.5% of videos analyzed ($n = 7$), YouTubers with hearing impairments address issues they face with websites and applications. These discussions predominantly focus on problems associated with closed captions and voice recognition [27]. One YouTuber highlighted the limitations of automatic closed captions, remarking, *"The automatic closed captions lack punctuation, do not format text into paragraphs, struggle to recognize technical terms and jargon, and fail to indicate who is speaking."*.

8.3 System Difficulties

8.3.1 ***Unsatisfactory Healthcare.*** YouTube content analysis reveals distinct healthcare challenges for different disability groups. PWD creators express frustration with the lack of useful medical information and dissatisfaction with hospital diagnoses.

Cognitive and neurological disability Healthcare-related issues emerge as the most frequently discussed system difficulties among YouTubers with cog&neu disabilities, accounting for 15.6% of videos ($n = 25$). These YouTubers often address challenges pertaining to the diagnosis, medication, and treatment of their mental health conditions. For instance, a YouTuber, who experiences PTSD, recounted an instance of inadequate medication instructions, stating, *"There wasn't any detailed advice about the timing for taking the tablets. The instructions only suggested taking them at bedtime.*

But taking them at my bedtime last night proved to be too late." The prohibitive cost of mental health treatment and lack of insurance coverage also pose significant difficulties. As voiced by one YouTuber, *"It's an unfortunate reality that autism assessments for adults can be quite costly, and insurance often doesn't cover these expenses."*

Vision Disability. In 9.3% of videos analyzed ($n = 5$), individuals with vision impairments express their struggles with the healthcare system, particularly concerning treatment procedures and acquiring relevant medical information. As an instance, one YouTuber shared, *"There is not much information and all the visits to the doctors were quite frustrating because they always told us there is nothing you could do."*

Mobility Disability. In 13.5% of videos reviewed ($n = 21$), YouTubers with mobility impairments highlight various healthcare issues, primarily dissatisfaction with diagnosis and treatment procedures at hospitals. For instance, some express frustration about insufficient hospital staff leading to prolonged wait times. As individuals with mobility disabilities often require long-term care, several videos touch upon the complexities of home care. One YouTuber voiced concern over the waste generated from medical supplies, remarking, *"The feeding tubes with all other equipment and supplies are constantly thrown away. I am generating a lot of garbage and it makes me a little nauseous."*

Speech Disability. In 8% of videos ($n = 4$), creators with speech disabilities discuss various difficulties they encounter with healthcare. These videos also touch upon problems such as inaccurate diagnoses, inadequate medical information, and substandard medical services. For example, a YouTuber warned about the complexity of managing multiple health issues. They pointed out the potential confusion surrounding the effects of different medicines, advising, *"When you have multiple problems, you don't know what medicine affects you and how they affect you, you have to be very careful with this, especially if you have dysautonomia."*

8.3.2 ***Inequity in Education and Employment.*** YouTubers with disabilities shed light on numerous obstacles in both educational and professional settings. They underscore issues like inadequate educational accommodations and limited job opportunities, often citing pervasive ableism in the workplace as a key barrier.

Cog&Neu Disability. In 8.1% of videos ($n = 13$), YouTubers with cog&neu disabilities discuss the challenges they face in educational settings, including issues like school bullying. One YouTuber with a learning disability opened up about their struggles, stating, *"I have been bullied in school due to my learning difficulties, and these issues have also made it hard for me to make friends."* The lack of diagnosis or recognition of a mental disability can exacerbate educational problems. A student with ADHD shared their experiences, expressing, *"Teachers would think I was always talking when I was actually distracted. They think I was talking to the student behind me, so that used to get me into trouble a lot."*

Employment-related issues are highlighted in 6.9% of videos ($n = 11$), with YouTubers discussing social stress in their workplaces. For instance, a YouTuber with autism revealed a lack of understanding from employers, saying, *"I had a national role and had to travel to other areas. A failure means I am in trouble. But these companies don't even respond to my stress."*

Vision Disability. In 5.6% of videos ($n = 3$), YouTubers with vision disabilities disclose the hurdles they encounter in educational institutions. These difficulties often stem from a lack of appropriate accommodations for their disabilities. For instance, a visually impaired college student emphasized the importance of self-advocacy, noting, *"In larger classes, it's not uncommon for professors to overlook our needs or forget to provide accommodations, such as enlarging print or sending lecture slides via email."* Other videos underscore additional issues, including inappropriate interactions with service dogs by other students' pets and the lack of braille books in libraries.

In this group, 5. 6% of the videos (n = 3) touch on the difficulties they face in the employment sector. These videos shed light on the limited job opportunities available for people with visual disabilities and the pervasiveness of ableism in the workplace. Some YouTubers reported that employers are often hesitant to hire individuals with visual impairments.

Mobility Disability. In 8.4% of videos (n = 13) created by individuals with mobility disabilities, challenges pertaining to the educational environment are discussed. For example, one YouTuber felt their high school experience to imprisonment, revealing, *"I had no aides with me in my classes. Students [who helped me take notes] might not have written something down that might be important because they didn't think it was important."*

Hearing Disability. In 6.6% of videos (n = 4) produced by YouTubers with hearing disabilities, various educational challenges are articulated. These videos primarily discuss issues related to education rights and policy, the employment of assistive technology in classrooms, and general obstacles to learning. For example, a YouTuber, while endorsing the use of FM systems in classrooms, cautioned that, *"The main limitation with an FM system is that students may miss out on their peers' discussions, as only the teacher wears the microphone."*

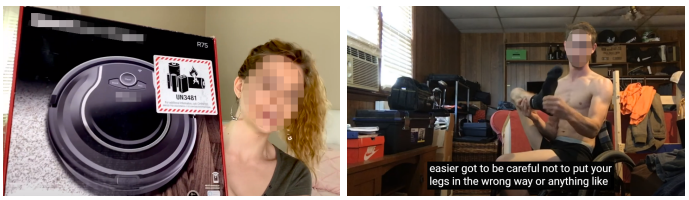
Speech Disability. In 10% of videos (n = 5) of YouTubers with speech disabilities, education-related issues are discussed. These YouTubers share personal experiences about not participating in and critique the lack of representation within education systems. One YouTuber who has a stutter described how they would avoid reading aloud in class, *"I remember being in class and when it was time to read, I just pretended to have a headache or I had to go to the bathroom."*

Also, 10% of videos (n = 5) from this group discuss employment issues. These videos touch on concerns about the work performance of individuals with speech disabilities. For example, a YouTuber mentioned, *"People with disabilities often question 'will my performance be good enough?' This self-doubt is burdensome. It ties into societal expectations of what normal performance should be."*

8.4 Environmental Difficulties

8.4.1 ***Difficulties with Home Goods and Residential Environment.*** YouTubers with different types of disabilities discuss the challenges they encounter in their everyday environments and propose potential solutions.

Vision Disability. In 9.3% of videos (n = 5), YouTubers with visual impairments discuss the challenges they face within their residential environments. These discussions shed light on daily obstacles as well as potential solutions to these difficulties. For instance, one blind YouTuber emphasized the complexities of cleaning tasks, stating, *"Cleaning can be a daunting and frustrating task for those with visual impairments. The very thought of it can feel overwhelming."* She subsequently suggested a solution that worked for them - utilizing a cleaning robot (Figure 11-a).



(a) When you can't see, cleaning can become daunting and frustrating.

(b) I got to be careful not to put my legs in the wrong way.

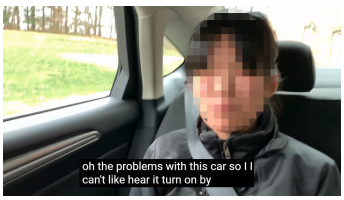
Fig. 11. Videos about difficulties with home goods and residential environment.

Mobility Disability. In 13.5% of videos ($n = 21$), YouTubers with mobility disabilities reveal challenges related to home environments and personal goods. They particularly address difficulties with clothing. For instance, a YouTuber demonstrated their method of putting on socks (Figure 11-b), noting, *"Care must be taken to avoid misplacement of the legs due to lack of sensation in individuals like me."* Some videos touch on the difficulties of establishing an accessible home environment. One YouTuber, for example, pointed out, *"There are limitations if you are renting. It can be a financial constraint to do home accessibility modifications."*

8.4.2 ***Difficulties with Public and Transportation Environments.*** YouTubers with vision and mobility disabilities bring attention to the various challenges encountered in public spaces and transportation systems.

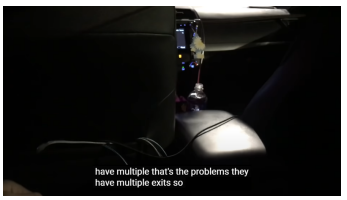
Vision Disability. In 13% of videos ($n = 7$), YouTubers with vision disabilities bring attention to challenges faced in public environments, often focusing on safety issues. For instance, one blind YouTuber raised the concern about the silent operation of electronic and hybrid vehicles, highlighting, *"The issue with this EV is that I can't hear it turning on... I rely on auditory cues from vehicles and traffic to ensure my safety"* (Figure 12-a). In a video tour of an accessible cabin on a cruise ship, another YouTuber pointed out potential hazards, cautioning, *"There is a shelf above the television, positioned at eye level. One must be careful when navigating this area"* (Figure 12-b).

Transportation-related difficulties are discussed in 11.1% of videos ($n = 6$), exploring the accessibility barriers within traditional transportation and emerging technologies. As an illustration, one YouTuber using Uber's services for the visually impaired expressed the challenge of finding drivers at multi-exit venues: *"It might be easier if you're near a specific store like Jimmy John's, but places like Macy's have multiple exits, which complicates things when you're visually impaired"* (Figure 12-c) Another creator discussed challenges when using rideshare apps with a service dog, stating, *"There can be difficulties with rideshare apps like Uber and Lyft... Service dogs are often mistaken for pets."*



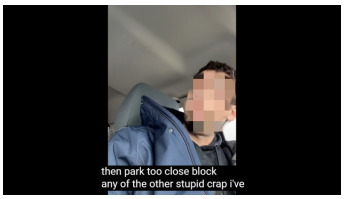
(a) The problem with electric cars on the road is that I can't hear them turn on.

(b) You need to be mindful when doing things around the shelf (on a cruise ship).



(c) Macy's has multiple exits, so that is pretty hard if you're blind and use Uber.

(d) The fire pit should better be raised up above the ground for wheelchair users.



(e) Some people park and block two complete spots.

Fig. 12. Videos of public and transporation environments.

Mobility Disability. In 9% of videos ($n = 14$) of YouTubers with mobility disabilities, they highlight the accessibility challenges posed by public environments. These creators share experiences with uneven road surfaces, absence of ramps and elevators, and buildings lacking automatic doors. One wheelchair user camping in a park (Figure 12-d) recommended, *"They should level that [picnic area]... The fire pit should be raised from the ground to accommodate wheelchair users."* Other issues include the lack of accessible toilets, parking spots, and shopping carts. One YouTuber discussed their difficulties with handicapped parking (Figure 12-e), expressing frustration over *"People park and block two complete spots. Some people park too close, block the ramp, and all kinds of stupid crap."*

8.5 Economic Difficulties

YouTubers with cog&neu and mobility disabilities disclosed their economic challenges, ranging from costly treatments and assessments to managing daily expenses.

Cog&Neu Disability. Economic challenges emerge as a primary concern for YouTubers with cog&neu disabilities, referenced in 6.9% of videos ($n = 11$). These financial difficulties often stem from the steep costs of assessments, treatments, and the undercompensation in their occupations. For instance, a YouTuber living with Ehlers-Danlos Syndrome discussed their struggle to afford necessary nutritional formula due to insurance coverage issues, leading to significant weight loss.

Mobility Disability. Financial struggles are also brought up by YouTubers with mobility disabilities, accounting for 5.2% of videos ($n = 8$). The topics range from seeking financial assistance to confronting poverty. One YouTuber, for instance, expressed concern about funding for their child's wheelchair, which is $3000.

9 Discussion

9.1 Disclosing Social Stigma, Self-Stigma, and Absent Support

Our study finds that YouTube serves as a social space where YouTubers from all disability categories openly share and discuss their struggles with societal stigmas, self-stigma, and lack of support. Disability research in HCI typically concentrates on accessibility, overlooking PWDs' mental health [39]. Earlier research has primarily explored stigma and challenges PWDs face on social media, including issues with medication, financial aid, and employment [3, 49]. In contrast, our study reveals that on YouTube, the most commonly disclosed disability difficulty is the stigma they encounter in everyday life and the lack of support. They confront stereotypes and misconceptions, such as the belief that all autistic individuals have unique talents or that those with visual impairments always need a cane. These misconceptions result in challenges like unwanted assistance for the blind or neglect of mental health. YouTubers share their identities online [41], but disclosing disabilities can cause stigmas, disbelief, and inappropriate questions about their conditions [52].

The widespread presence of stigmas and the lack of support expressed by YouTubers suggest a need for social media platforms like YouTube to better support PWDs. Firstly, the stories of stigma shared by PWDs can serve as valuable educational resources. Video platforms could encourage and support PWD creators in making educational videos to combat social stigma [20]. Increasing the visibility of these videos can assist researchers and educators to raise disability awareness and reduce inappropriate social behaviors. Secondly, the online disclosure of social and self-stigmas may lead to privacy concerns [22]. YouTubers share their experiences with stigma to an unknown audience, which makes privacy management challenging [9]. Therefore, video-sharing platforms should investigate and adapt to the privacy needs of PWD creators. For instance, platform designers need to consider whether videos disclosing stigmas need to hide personal information and protect creators from attacks and harassment. Thirdly, for many PWDs, disclosing social pressures is a means of

seeking support. Recommending their videos to mental health experts who can provide advice could be a new support system for PWDs. Additionally, organizing platform-based community activities for PWD creators with similar experiences can promote peer support and expand their support networks.

9.2 Explaining Challenges in Communication

Our findings highlight that PWDs, particularly those with cog&neu, speech, and hearing impairments, frequently discuss a range of communication challenges. Previous studies on YouTube and cog&neu disabilities have investigated platform use [42, 55] and online communities [8, 56]. Our research uncovers that this PWD group also openly discusses how social barriers like social anxiety affect communication. Beyond the closed captioning issues noted in the literature [33, 38], we find that YouTubers with hearing impairments frequently discuss challenges involving lighting, mouth covering, and sign language use. Those with speech disabilities share difficulties in daily interactions, like using drive-thrus or speaking with strangers. These communication issues highlight their efforts to combat isolation. PWD YouTubers also offer advice online, educating others on supporting and fostering social inclusion.

The narratives shared by PWDs about their communication difficulties highlight the opportunity for YouTube to help people without disabilities become aware of the conversational needs of PWDs. Our findings on the frequent disclosure of communication barriers among the cog&neu group suggest that video-sharing platforms like YouTube could be a vital medium for amplifying the voices of this group. Engaging in dialogue with a camera and sharing content on social media might offer a way for people with cog&neu disabilities to communicate without experiencing anxiety, giving them a chance to express their communication challenges. Additionally, creating conversational videos on YouTube can be challenging for creators with hearing or speech disabilities. Therefore, video-sharing platforms should consider implementing video and speech AI technologies to enable and encourage PWDs with communication barriers to produce videos. This support could include technologies addressing speech breakdowns and supporting viewers to understand videos featuring sign language or unclear speech.

9.3 Sharing Experiences with and Solutions for Difficulties with Technologies

Our findings indicate that YouTubers with visual, mobility, and hearing impairments commonly utilize the platform to critique and share their experiences with digital and assistive devices. Previous research has examined how creators with visual impairments produce vlogs [31, 59] and manage daily activities [32, 34]. Building on this, we found that YouTubers with visual impairments frequently discuss challenges with digital devices and assistive tools like canes and service dogs. Studies on mobility impairments have analyzed YouTube videos for touchscreen [1] and multi-modal input [65]. Our work extends this by highlighting how videos can shed light on the use and issues with wheelchairs, prosthetics, and other assistive devices. Additionally, our results show that PWDs with hearing impairments actively share both the obstacles and solutions they encounter with hearing aids.

The use of YouTube for discussing assistive devices and services indicates its role as a public platform for PWDs to share experiences, tips, and solutions. While YouTube is known for influencing product reviews and purchase intentions [67], research on how PWDs use videos to find information about assistive products such as canes and hearing aids is limited, especially in terms of the impact of videos on PWDs' purchase decisions. YouTubers frequently share personalized solutions and modifications, such as customizing prosthetic legs or repairing hearing aids, thus providing practical help for others facing similar challenges. This exchange of information fosters peer-support communities on YouTube. Recognizing this, video-sharing platforms have the potential

to promote the search for information on assistive devices. Designers of these platforms should consider incorporating features that enable PWDs to demonstrate their user experiences and provide functions for asking and answering questions.

9.4 Discoursing Systemic Problems

Our analysis reveals that YouTube videos serve as a platform for PWDs to discuss problems they encounter with healthcare, education, government, and employment. Disability activism research highlights the crucial role of social media in advocating for disability rights [2, 57]. Our study shows that besides activism, video advocacy can take the form of sharing daily challenges within social systems. YouTubers with cog&neu and mobility disabilities vocalize their healthcare system struggles. Those with speech impairments highlight educational and employment difficulties, including inadequate diagnosis, ineffective treatments, and home care issues. Particularly, creators with speech disabilities recount educational discrimination, problems stemming from inadequate accommodations in education plans, and workplace challenges impacting fair evaluation and promotion.

The advocacy surrounding systemic issues highlighted by YouTubers should capture the attention of policymakers and researchers, directing it toward the systemic barriers faced by PWDs. While the role of online videos in other social movements has been a research focus [40], exploring how video-sharing platforms could support disability activism and discourse on problems in education, healthcare, and the workplace represents a future research direction. It would be interesting to investigate whether and how YouTubers use social media videos to support public actions and advance societal changes. Considering that PWD YouTubers might not have many subscribers, they may lack the necessary visibility for their voices to be heard [57]. Technology designers should consider ways to amplify PWDs' voices concerning barriers within healthcare, education, and employment systems. Additionally, a thorough analysis of video discourse on systemic problems could inform and enhance policymaking for assistive programs and disability support.

9.5 Sharing Solutions for Challenges with Residential, Public, and Transportation Environments

Our findings indicate that YouTube is utilized by people with vision and mobility disabilities to share their difficulties in daily activities and environments. Previous research has examined the everyday lives of YouTubers at home [16, 32, 34, 35]. Beyond showcasing activities and practices, our study finds that PWDs also use videos to discuss challenges in public and private environments. YouTubers with visual impairments address difficulties with public facilities and transportation, noting issues with newer technologies like electric vehicles and ride-sharing apps. People with mobility impairments highlight various residential challenges, including everyday tasks like cleaning and dressing, and produce videos to share their experiences and practical tips.

Sharing challenges and solutions in their residential environments allows creators with disabilities to disclose and explain their life challenges to their audience. This disclosure of disability life experiences could authenticate their disability identities and potentially strengthen their relationships with viewers [53]. Therefore, video-sharing platforms may consider making these videos more accessible to other PWDs through search features or recommendation algorithms. Investigating how PWDs use online videos to plan their travels and avoid inaccessible public environments is a promising area of research. It is also noteworthy that challenges in public environments can be caused by new transportation technologies or a lack of accessibility considerations. Designers and policymakers could utilize these videos by PWDs as a rich source of firsthand feedback. Social computing researchers might consider conducting comprehensive analyses of PWDs' vlogs, which could lead to insights into which daily activities pose the greatest difficulties for PWDs.

10 Conclusion

This paper presents a content analysis of 468 videos created by YouTubers with vision, speech, mobility, hearing, and cognitive/neural disabilities. We identified that PWDs' difficulties with social support and societal attitudes are the most discussed problems on YouTube. PWDs with different disabilities also share different challenges with communication, assistive technologies, web & apps, healthcare, education, employment, residential environments, public facilities, and transportation systems. We discussed the design opportunities inspired by the disability discourse on YouTube.

This study has certain limitations. For instance, the accessibility barrier framework might not precisely encapsulate complex issues. School bullying, for example, can be interpreted as both a social issue and an educational system problem. The CDC's categorization of disabilities, based on a medical model, may not encompass all terminologies to describe certain disabilities (e.g., "dexterity impairment," "upper limb loss"). Nevertheless, the diversity of the 400+ videos used in this study ensures the generalizability of our research. It's also important to note that YouTube videos predominantly feature creators with long-term disabilities. Consequently, they may not fully represent individuals with disabilities who aren't active social media users or those experiencing situational disabilities.

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A Difficulty Keywords

Difficulty Keywords
"absurd", "agony", "angry", "annoy", "annoying", "arduous", "ashamed", "awful", "awkward", "baffle", "baffling", "absurd", "agony", "angry", "annoy", "annoying", "arduous", "ashamed", "awful", "awkward", "baffle", "baffling", "challenge", "challenging", "clumsy", "concern", "conflict", "crap", "crappy", "crude", "cumbersome", "difficult", "difficulty", "disappointed", "disappoint", "disappointing", "discomfort", "discommode", "discourage", "discouraging", "dispute", "disturbing", "embarrass", "embarrassed", "embarrassing", "excruciate", "exhaust", "frustrate", "frustrated", "frustrating", "frustration", "hard", "harsh", "hinder", "impossible", "inconvenience", "inconvenient", "irritate", "irritated", "irritating", "irritation", "laborious", "limitations", "meltdown", "obstacles", "obstruct", "offensive", "overwhelm", "overwhelmed", "overwhelming", "perplex", "preposterous", "problem", "problematic", "ridiculous", "risky", "rough", "shit", "so bad", "strenuous", "struggle", "struggled", "struggling", "suck", "suffer", "terrible", "terribly", "too bad", "tough", "traumatic", "trouble", "uncomfortable", "uneasy", "unmanageable", "unwieldy"

Table 4. Keywords to identify video clips with difficulty information.

B Top Disability Search Keywords

Search key	Video #	Search key	Video #
cerebral palsy	33	mental health disability	17
bipolar disorder	23	deafness	15
mobility disability	22	visual impairment	15
tourette syndrome	21	blind	14
autism	20	asperger syndrome	12
hard of hearing	19	muscular dystrophy	12
physical disability	18	wheelchair user	11
post-traumatic stress disorder	17	amputation	11
spina bifida	17	speech disability	10
ptsd	17	hearing loss	9

Table 5. Number of videos in the final analyzed dataset for the top 20 search keywords, noting that one video may correspond to multiple search terms.

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