

# Shifting the Focus: Exploring Video Accessibility Strategies and Challenges for People with ADHD

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## Abstract

Despite the growth of video as a medium, videos remain inaccessible to many people. Prior video accessibility research has focused primarily on blind and low vision or d/Deaf and hard of hearing audiences. However, the video watching experiences of people with ADHD are largely unexplored. Through semi-structured interviews with 20 participants self-identifying with ADHD, we uncovered video watching frustrations, current strategies for access, and desired accessibility features. Participants faced both overstimulation and understimulation from visuals and audio (e.g., flashing lights, slower speech), which impacted their attention, engagement, and information retention. Common strategies included altering video speed, using captions, and leveraging timestamps for skipping through videos. Participants desired adjustable sound channels for aiding focus, video summaries for retaining information, and warnings for preempting sensory discomfort. We close by discussing (1) design recommendations for platforms and creators to support users in achieving their viewing goals and (2) ADHD-inclusive design principles.

## CCS Concepts

- Human-centered computing → Accessibility; Empirical studies in accessibility.

## Keywords

video accessibility, ADHD, neurodivergence, audiovisual, captions, audio descriptions, neurodiversity

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## 1 Introduction

Video consumption has become increasingly popular in today's digital ecosystem. User-generated video content has scaled significantly on platforms such as YouTube, Instagram, and TikTok [28, 47, 73]. In tandem, streaming services such as Netflix, Hulu, and Amazon Prime Video have facilitated unprecedented access to diverse content on-demand [20]. Beyond entertainment, videos continue to play a pivotal role in social interactions, employment contexts, and educational settings. For example, lecture recordings have become much more common [1, 64] and educators often integrate supplemental videos into curricula [10, 52].

Despite their prevalence, videos are not universally accessible. Prior work has examined video accessibility for blind and low vision or d/Deaf and hard of hearing audiences (e.g., [35, 40]). However, few have explored how videos can be more accessible to people with Attention-Deficit Hyperactivity Disorder (ADHD), a disability experienced by nearly 400 million adults globally [62]. People with ADHD (also referred to as ADHDers<sup>1</sup>) experience traits such as inattention, hyperactivity, and / or impulsivity that can make them more susceptible to having unintended or unwanted digital interactions (e.g., continuous or compulsive scrolling) [48, 49].

As videos typically communicate information through auditory and visual channels, which can be overstimulating or unpredictable, they are often inaccessible to people with ADHD. The multimodal sensory stimuli in videos may cause ADHDers to face challenges with adapting to neurotypical expectations for attention and engagement [27]. Additionally, prior work found that students with ADHD paused and reviewed videos more often than their neurotypical peers, likely due to difficulties with sustaining focus [29]. To address these challenges, some researchers have investigated how existing access measures (e.g., captions, audio descriptions) can improve viewer attention, engagement, and information retention. For example, ADHDers and other neurodivergent (ND) people found that "redundant visual information," like captions, supported their auditory information processing [43, 61]. However, there is limited research in this area, and resources such as the Web Content Accessibility Guidelines (WCAG) do not provide recommendations for practitioners to design for viewers with ADHD in mind [31, 32].

<sup>1</sup>ADHDer is an informal term used by some people who identify as having ADHD. Throughout this paper, we use person-first and identity-first language interchangeably to acknowledge and respect varied language preferences within the disabled and neurodivergent community [19, 59].

While prior research has surfaced some challenges that ND people face when watching videos [43, 61, 72], these studies focused on only one platform (e.g., TikTok [61]), type (e.g., education [15]), or accessibility mechanism (e.g., captions [43]). Additionally, content creation practices have evolved in recent years; for example, trending sound effects or rapidly flashing clip sequences introduce additional sensory elements to the video watching experience. As such, there is a gap in understanding how people with ADHD watch videos, the challenges that they face, and potential features that can make videos more accessible to them.

To address this gap, we pose the overarching research question: **What challenges do people with ADHD experience when watching videos, and what patterns and practices do they develop as a result?** To scaffold our approach, we investigated sub-questions such as:

- How do people with ADHD currently watch videos?
- What accessibility challenges do people with ADHD face with regard to attention, engagement, and information retention when watching videos?
- How can videos and video platforms be made more accessible to better suit the needs of viewers with ADHD?

We conducted semi-structured interviews with 20 participants self-identifying with ADHD (no medical diagnosis required), many of whom had additional neurodivergent identities like Autism and anxiety. We found that ADHDers had difficulty sustaining attention and engagement for videos with slow or limited action, few visual cues, and audio lulls. Participants used strategies such as reading closed captions, speeding up videos, and skipping to preset timestamps to stay engaged. They also desired additional video accessibility features, including different captioning styles to maintain attention and textual descriptions of a video's key points in the description box as an additional reference.

In summary, we contribute: (1) novel insights on ADHDers' frustrations, current strategies, and desired features for video accessibility, (2) design recommendations for both platforms and creators to better support user agency and ADHDers' video watching goals, and (3) ADHD-inclusive design principles to guide practitioners more broadly. Our work provides comprehensive insights into ADHD community members' unique needs and preferences when watching diverse types of videos on various platforms. Through this project, we highlight the need to design and develop inclusive video watching experiences for people with ADHD, which can lead to improving the user experience for all.

## 2 Related Work

Given evolving definitions and differing interpretations of terms like neurodivergence and ADHD, we first describe our understanding of these identities and contextualize our usage of these terms. Then, considering the diverse and complex landscape of multimedia digital content, we ground our research in the broader body of work on digital content accessibility and neurodivergence. We include literature on neurodivergence more generally, given the similarity of traits and experiences with ADHDers and the high incidence of ADHD with additional neurodivergent identities [34]. Lastly, we draw on prior work that is more specific to ADHD and video accessibility.

## 2.1 Definitions

**Neurodivergence** encompasses various learning, cognitive, and psychological disabilities, including ADHD, Autism, anxiety, bipolar disorder, and dyslexia [18]. **Neurodiversity**, a concept developed by neurodivergent people in the 1990s, refers to the broad spectrum of human cognitive differences [11].

**Attention Deficit Hyperactivity Disorder (ADHD)** is estimated to affect 6.76% of the global adult population (roughly 366.33 million people) [62]. There are three primary types of ADHD (hyperactive and impulsive, inattentive, and combined), commonly characterized to include traits such as fidgeting and impatience, difficulty with focus and distractions, or a combination of the above [5, 55]. However, Spiel et al. [63] challenge the common misconception that ADHDers have a complete inability to focus, and highlight how varied motivations and goals can initiate phases of "hyper-focus" (a state of flow or intense concentration [58]). They define the experience of living with ADHD as being "*a mismatch between external expectations and differences in processing external input and information*" [63].

## 2.2 Digital Content Accessibility for Neurodivergent People

Research on ND consumption of digital information has investigated how images and pictographs can improve ND users' information comprehension [4, 66, 71]. For example, Yaneva et al. [71] identified that Autistic adult readers spent relatively more time viewing photos and symbols compared to non-Autistic peers, showing that the inclusion of relevant images can support Autistic readers' understanding of texts. Similarly, Tran et al. [66] proposed ADHD-inclusive visual design recommendations to improve the accessibility of data visualizations, which are inherently visual but not necessarily easy to comprehend. They found that using a wide range of colors, graphs with minimal text annotation, and situational visual embellishments such as pictographs could improve ADHDers' ability to quickly identify key takeaways from these data visualizations. We build on this body of work, as prior findings regarding image and visual media accessibility are applicable to the accessible presentation of visuals within videos.

Several researchers have examined ND user experiences on social media platforms, as these platforms often feature wide ranges of multimodal content and sensory stimuli [7, 53, 54]. For example, Race et al. [53] established guidelines for designing sensory-sensitive and informative earcons (distinctive sounds that convey an event or information [13]) for Twitter. Based on interviews with nine ND Twitter users, they recommended that earcons be designed with duration, purpose, repetition, intensity, and frequency in mind. The authors also developed sensory guides to help ND users "set expectations" for experiences in unfamiliar digital environments [54]. Additionally, Eagle et al. [21] found that ND people engaged in body doubling, a strategy of "*intentionally using the presence of someone (in the same room, online, via media) to help start, work on, or accomplish a task*." Participants often completed tasks while simultaneously engaging in video calls or watching videos on YouTube, suggesting the value of videos for social and motivational purposes.

Others have investigated video accessibility and viewers' experiences with attention, engagement, and understanding. Researchers

found that audio descriptions (AD) could help neurotypical children maintain focus over certain scenes [39], and AD and captioning could support Autistic viewers in understanding human emotions (e.g., characters' facial expressions) and processing multiple streams of audio (e.g., speech and loud background noise) [26]. Nevsky et al. [50] investigated video accessibility challenges for people with aphasia, a cognitive and language disability that impacts a person's ability to communicate. They found that people with aphasia had difficulty with understanding speech, staying engaged when watching videos, and following the narrative of videos. Although some prior studies motivate the need for greater video accessibility, they did not focus on people with ADHD, and there is limited insight into ADHDers' perceptions of these access measures.

As audiovisual components of videos can be especially unpredictable or overwhelming for ND people, our research builds upon prior work on making digital visuals, earcons, and other sensory stimuli more accessible. Given the similarities and overlap in neurodivergent conditions, we expand on preliminary studies on ND people's interactions — encompassing engagement, sensory experiences, and motivations — with all forms of digital content to inform our inquiry into video content for ADHD audiences.

### 2.3 Video Accessibility for People with ADHD

There is limited work on ADHD and video watching in the human-computer interaction (HCI) field. In a literature review with 181 papers relating to video accessibility and audiovisual media, Nevsky et al. [51] found that less than 4% of papers in the corpus focused on people with a cognitive disability of any kind. Here, we highlight studies focused on people with ADHD and their experiences with viewing educational or entertainment videos.

Some researchers have explored ADHDer attention and engagement while watching videos. For example, prior work uncovered that people with ADHD experienced greater difficulty with focusing on and continually watching videos than non-ADHD peers, ascribing these findings to traits of impulsiveness and shorter fixation times [29, 37, 67]. Yildirim et al. [72] studied how children with ADHD responded to distractors within a pre-recorded lecture video. They found that in-video distractors related to the instructor could guide attention, while other distractions generally reduced student attention. In an "in the wild" study, Hassner et al. [29] examined video action logs and identified that students with ADHD generally paused and reviewed videos more often than neurotypical students, indicating potential challenges with sustained focus when viewing academic material. Following the onset of the COVID-19 pandemic, researchers conducted interviews with 12 ADHDers, finding that they appreciated the flexibility and control afforded by lecture recordings compared to in-person synchronous lectures [42]. This increased level of agency supported ADHDers in navigating their variable attention and executive function. Regarding social media platforms such as TikTok and Instagram, ADHDers acknowledged that short-form video platforms were addictive and characterized them as "*dopamine slot machine[s]*" [22].

Others have investigated how platform tools and features can impact video accessibility for ADHDers. Lewis and Brown [43] found that two participants with ADHD received higher accuracy scores on a post-video questionnaire after watching videos with

captions compared to videos without. Their findings suggested that "redundant visual information," such as captions, can support information retention for users with ADHD. Simpson et al. [61] interviewed 15 TikTok creators (including six ADHDers) to understand their content creation practices. They found that ND creators committed to captioning their videos to make them more accessible to other ND social media users. As TikTok's auto-captioning feature generally lacked accuracy and control, the creators often sought out external captioning tools for better customization. Additionally, Cinquin et al. [15] directed a participatory co-design study with ND students, including three ADHDers, to propose accessibility guidelines for multimedia e-learning video players. They created an initial prototype of a web video player with additional features such as separate information streams, customizable spatial layouts, and timeline markers.

Despite these important initial findings, prior studies have only briefly discussed ADHDers' ongoing frustrations with videos and focused on a single platform, goal, or access measure. In this work, we investigate ADHDers' experiences when watching videos across different platforms, with different goals, and using different access measures. We take a holistic approach to understanding ongoing challenges and potential solutions that can support ADHDers in having agency and achieving their goals when watching videos.

## 3 Methods

When developing our study method, we engaged with critiques of prior ADHD research [63] and applied ability-based design principles [70]. Through a critical literature review on ADHD in HCI, Spiel et al. [63] found that many studies have failed to include ADHDers in user-centered design processes to inform the design and development of technologies. Prior research has also framed ADHD as a deficit, referring to ADHD as "*suffering*" or a "*burden*" to oneself or others and often proposing technologies to change user behavior [63]. In contrast, ability-based design principles center users' abilities and strengths rather than perceived weaknesses, and place the "*burden of change on the system, not the user*" [70].

In line with these works, in this study we aimed to (1) understand ADHDers' existing frustrations and goals when watching videos and (2) explore how videos and video platforms can be designed to meet ADHDers where they are.

### 3.1 Participants

We recruited 20 participants with ADHD through mailing lists, social media, and targeted recruitment through university and neurodiversity organizations. We included participants who (1) identified as having ADHD, (2) had experience regularly watching online videos (using a video platform such as Instagram, TikTok, YouTube, Netflix, etc. at least twice a week), (3) were at least 18 years old, and (4) felt comfortable communicating in English. Participants were not required to have an official ADHD diagnosis — similar to prior studies (e.g., [17, 61]), people who self-diagnosed or self-identified as having ADHD were welcome to participate. As we aimed to understand ADHDers' intersectional experiences, we did not exclude people with additional disability identities (e.g., Autistic, blind or low vision) as participants. This study and all recruitment materials were approved by our university's Institutional Review Board.

**Table 1: We present participant pseudonyms and demographics, including gender and ethnicity in participants' own words.**

Pseudonym	Age	Gender / Pronouns	Ethnicity	Disability Identity
Leo	22	Male (he/him)	White	ADHD, Anxiety, Depression, Chronic conditions
Paulina	52	Female (she/her)	Latina	ADHD, Dyscalculia
Adam	27	Male (he/him)	Middle Eastern	ADHD, Legally blind
Valerie	41	Woman (she/her)	White	ADHD
Tia	32	Female (she/her)	African American	ADHD, Anxiety, Depression, OCD
Peter	20	Male (he/him)	Indian	ADHD, Autism, OCD
Megan	34	Female (she/her)	White	ADHD, Bipolar disorder
Isha	27	Female (she/her)	South Asian	ADHD
Evan	25	Trans male (he/him)	White	ADHD, Chronic lung illness
Atlas	19	Female (she/they)	Black	ADHD, Autism
Camila	34	Female (she/her)	Mexican American	ADHD, Anxiety, Depression
John	21	Male (he/him)	White	ADHD
Chantal	26	Female (she/her)	Filipino	ADHD, Autism, PTSD
Red	30	Female (she/her)	Korean / White	ADHD, Autism, Anxiety, Chronic pain
Nick	19	Agender (he/him)	Pacific Islander	ADHD, Anxiety, Mild depression
Gabby	38	Nonbinary (she/they)	White	ADHD, Bipolar disorder
Hana	27	Female (she/her)	East Asian	ADHD
Rohan	26	Male (he/him)	Indian	ADHD, Autism, OCD
Jessie	33	Female (she/her)	White	ADHD, Autism, Anxiety, Depression
Kate	20	Female (she/her)	Asian	ADHD, Anxiety, Depression

As shown in Table 1, all 20 participants identified as having ADHD. A subset of participants also identified as Autistic (N = 6) and / or having anxiety (N = 7), depression (N = 6), OCD (N = 3), bipolar disorder (N = 2), and other disabilities (N = 6). Participant ages ranged from 19 to 52 years old (mean 28.7, SD 8.4). Twelve participants were women, six were men, and two were nonbinary or agender. At the end of each interview, participants were asked to provide a pseudonym; if they did not have a preference, the research team selected a pseudonym on their behalf.

### 3.2 Procedure

Our study consisted of a virtual 60-minute interview conducted via the Zoom video conferencing platform, and participants were compensated with a \$25 gift card for their time and contributions after completing the study. Prior to participating in the interview, participants completed a screening survey and provided information about their neurodivergent identity, their video watching habits, and links to one video that they “*really like*” and one video that they “*find frustrating*.“ We intentionally left the video selection criteria vague to avoid biasing participants’ video choices, but we did communicate that they should be comfortable watching and talking about their chosen videos with the research team.

The interviews consisted of three primary sections: (1) a discussion of participants’ prior experiences watching videos and using video access measures, (2) an initial co-watching session with researcher-selected probes, and (3) a participant-led co-watching

session. We modeled our method on prior video accessibility papers, such as Jiang et al.’s [35] study on context-aware video accessibility.

We first asked participants about their video watching experiences (e.g., frequency of watching videos, goals when watching videos) and engaged them in recalling a recent video watching experience. We aimed to better understand how ADHDers currently navigate and watch different videos, given that limited research has explored their experiences with video watching across the domains of education, social, and entertainment videos. We allowed participants to describe their viewing habits before probing about their experiences with attention, engagement, and information retention while watching videos.

Then, we showed participants clips from two researcher-selected videos. These videos served as probes to explore ADHDers’ usage of and reactions to existing accessibility measures such as captions and audio descriptions. Prior work has shown that ADHDers value reading captions while watching videos [43, 61]. Similarly, numerous anecdotes from online communities highlight how ADHDers find audio descriptions helpful for noticing visuals that they missed while watching, focusing on video content without actively viewing it, and adding another layer of auditory stimulus.<sup>2</sup> Therefore, we chose two videos, one with captions [65] and the other with audio descriptions [33]. We chose these videos as they represented different video types (a content creator’s comedic cooking video vs. the opening musical number of a box office movie). Both

<sup>2</sup>To protect user privacy, in line with prior work (e.g., [6, 22, 24]), we paraphrase comments and exclude usernames.

featured professionally created access measures and were hosted on YouTube. For each probe, the interviewer shared their screen, played 30 seconds of the video, and then asked questions such as:

- How often do you use [access measure]?
- Why do you choose to use, or not use, [access measure]?
- What stood out to you when watching this video?
- If you were to watch another video similar to this, would you choose to use [access measure]? Why or why not?

For the third section of the interview, we co-watched two videos shared by the participants (one they liked and one they found frustrating). This helped us ground participants' responses in concrete examples, based on contextual inquiry and the critical incident technique [25]. We asked participants to share their screens and co-watched approximately 30 seconds of each video, which allowed us to observe how participants navigate video platform tools and identify potential subconscious habits or workarounds. After watching, we asked participants to explain why they liked or were frustrated by the videos they shared. We also probed about their experiences with attention, engagement, and information retention. Of our 20 participants, two did not provide a link to a video they found frustrating as part of the screening form. When probed to think about videos that were inaccessible or frustrating to them, they had difficulty thinking of concrete examples as they naturally avoided watching these types of videos. As a result, these participants generally described their challenges but did not ground their responses in a particular video.

Following this, we asked participants to think creatively and explore different methods to make the videos more accessible. We first encouraged participants to state any modifications they could think of and share more about strategies they already used. Then, based on prior work [35, 36, 56, 61], we prompted them with questions about existing access measures (e.g., AD, captions), audio or sound effects (e.g., earcons), visual enhancements (e.g., editing style, visual cues), tactile elements (e.g., haptics), and platform changes (e.g., more video speed adjustments). We concluded with questions about platform design changes and AI for video accessibility to explore ideas beyond the scope of a video itself, such as:

- In relation to the conditions you disclosed in the beginning, how do they impact your viewing experience?
- How do you imagine that AI can impact your experience of seeking an accessible video experience?
- Are there other capabilities that AI cannot yet do that you would like for it to help with in the future?
- Based on your personal preferences and different scenarios you might experience, how would you envision a completely ideal accessible video experience? This can include changes to video formats, video platforms, and more.

### 3.3 Data Analysis

We audio recorded and transcribed all interviews. Four researchers analyzed the data using inductive coding [12, 16]. The first and second author individually coded two transcripts, then discussed code discrepancies and developed a codebook, which the team used to code the remaining transcripts. The team then conducted a thematic analysis, following guidance from Braun and Clarke [12, 16], to convert our 63 codes and data into key themes.

### 3.4 Positionality

Some members of the research team identify as neurodivergent (either self-identifying or officially diagnosed) and have contended with the complexities associated with ADHD diagnosis and treatment with regards to gender and race in the United States [23]. Some low vision and sighted team members regularly use captions and audio descriptions when watching videos.

## 4 Findings

Like neurotypical viewers, participants with ADHD watched videos for a variety of purposes, including education, entertainment, escapism, relaxation, and sharing videos with friends and family. During our interviews, participants discussed how their ADHD traits impacted their video watching experiences and illuminated the importance of video accessibility across multiple domains.

In this section, we first describe ADHDers' experiences with attention, engagement, and information retention. Many participants had additional neurodivergent identities in addition to ADHD, and we highlight ADHD-specific findings when applicable. Then, we detail participants' current frustrations and corresponding strategies for video watching, desired video accessibility features, and thoughts about video platform design. We also share findings about the misalignment between platform, creator, and viewer goals, and briefly present insights on the importance of video accessibility for people with ADHD.

### 4.1 Experiences with Attention, Engagement, and Information Retention

Participants were often frustrated that they faced more challenges than their neurotypical peers when watching videos. Nine participants expressed that they were "*easily distracted*" and four described themselves as impulsive and impatient, both of which made it more difficult to stay engaged with videos.

As such, for ADHDers, both content and presentation were important. Peter shared, "*the content has to be more stimulating for me to stay engaged*," and Atlas mentioned how a video's presentation could impact her experience: "*sometimes, even if I'm interested in the topic of discussion, if it's not formatted in a way that's easier for me, my attention may just naturally drift*." When videos were less engaging, whether in content or presentation, participants engaged in stimming, self-stimulating habits such as "*fiddling with a pen*" (Rohan), to avoid becoming distracted. For example, Red found doodling effective for maintaining attention: "*there's a physical element of it... I am drawing in order to process*."

Participants' information retention varied based on their experiences with attention and engagement. When videos were more attention-grabbing, engaging, or relatable, participants generally felt that they retained more. John noted that his level of retention was related to his level of interest: "*if it's just something that my brain clicks with, I'll be more inclined to remember it*." However, others described their difficulties with staying attentive throughout a video and how that impacted how much information they could take in: "*a lot of times I don't have the patience to sit through something... I end up missing out on the message*" (Isha).

Videos also played a role in the social interactions of five participants. For example, Hana typically preferred to watch videos from

her own feed when using Instagram: “*if my friend has sent [it to me], then it’s not really something that I chose to watch. Then I also feel the sense of, ‘I gotta react to it in some way or show appreciation,’ whereas otherwise I could just mindlessly scroll and not really mind what other people are thinking or hoping for*” (Hana).

While executive dysfunction, a common experience associated with ADHD, is usually understood to apply to routine everyday tasks, participants also felt that their executive dysfunction impacted their video watching experiences with regard to “*task initiation, transitioning, and staying focused*” (Megan). For task initiation and switching, participants found it difficult to begin watching videos; however, once they started, it could be equally if not more difficult to stop watching videos due to the addictive designs of video platforms. Seven participants had frustrations with how “*trying to get that dopamine rush [and going] into these rabbit holes*” (Adam) led to mindless scrolling and binge-watching habits. Overall, participants paid either not enough or too much attention to videos, subsequently influencing their degree of information retention.

## 4.2 Current Frustrations and Strategies for Video Watching

Participants often used videos as a way to modulate sensory stimulation. Fifteen participants watched videos in the background or while multitasking (e.g., while doing the dishes, working, or commuting). In these cases, participants used videos as “*white noise*” (John) to avoid understimulation. Jessie felt that “*if it is too quiet, then my mind will just explode*,” and she would “*almost always have Netflix on... even if I’m not actually paying attention*” because “*it allows me to block out some of the household noises that really bug me, like the... buzz of the dishwasher*.” Atlas also acknowledged how “*the stimulation from the video helps me engage with my other task more easily*.” As a student, Leo often watched videos while going between classes, and used noise-cancelling headphones to “*block out*” overstimulating noises from the large crowds during passing periods. Two participants also used videos as a proxy for experiences rendered sensorily inaccessible due to ADHD, Autism, and anxiety; for example, Tia and Red preferred watching others playing horror video games instead of playing the games themselves.

However, many felt audio and visuals could sometimes overcorrect and cause sensory overstimulation. In the following sections, we present specific sensory challenges for video accessibility and describe participants’ existing strategies.

**4.2.1 Auditory Content.** Participants shared frustrating experiences with non-speech audio. Four participants disliked videos with unpredictable volume changes, where “*at some points, it’ll be very quiet and then at some points, the volume level will randomly go up*” (Atlas). For some, the erratic volume in YouTube videos would just catch them by surprise, but for others it could put them “*in a bad mood*” (Jessie) and “*would frustrate [them] enough to stop watching it and not be engaged*” (Peter).

Four participants expressed frustrations about videos with competing sounds and overly loud background music. While participants were generally understanding that amateur videos might not be mixed to professional standards, they found videos with “*too many sound effects, too much dialogue, and too much background*

*stuff going on [to be like] audio mush*” (Red). Additionally, Red disliked when videos crossed her “*threshold of ‘too many noises, all noises now bad’... [as she would be] too overwhelmed to take in anything else*.” Tia also disliked “*competing sounds*” of differently-paced music, as it reduced her ability to listen to the speech in a video and would leave her feeling “*emotionally spent*.”

Participants also experienced challenges with sensory overload for specific noises or audio frequencies. Rohan, who is an Autistic ADHDer with OCD, described his experience as feeling like “*being stabbed in the ear with a needle, it’s that violent*.” Gabby characterized this discomfort as being “*like petting a cat up towards the head instead of towards the tail*.” Jessie experienced sensory challenges with both high- and low-quality audio in videos: “*deep timbre and bass of [low voices captured on high-quality microphones]... really grate on me in a sensory way... [but] the crappy iPhone video would hurt my ears in a different way*.” Specific noises could also impact information retention: “*I could be watching a video on content that I absolutely love. But if there’s a sound that is getting to me, I couldn’t tell you anything about that video*” (Jessie).

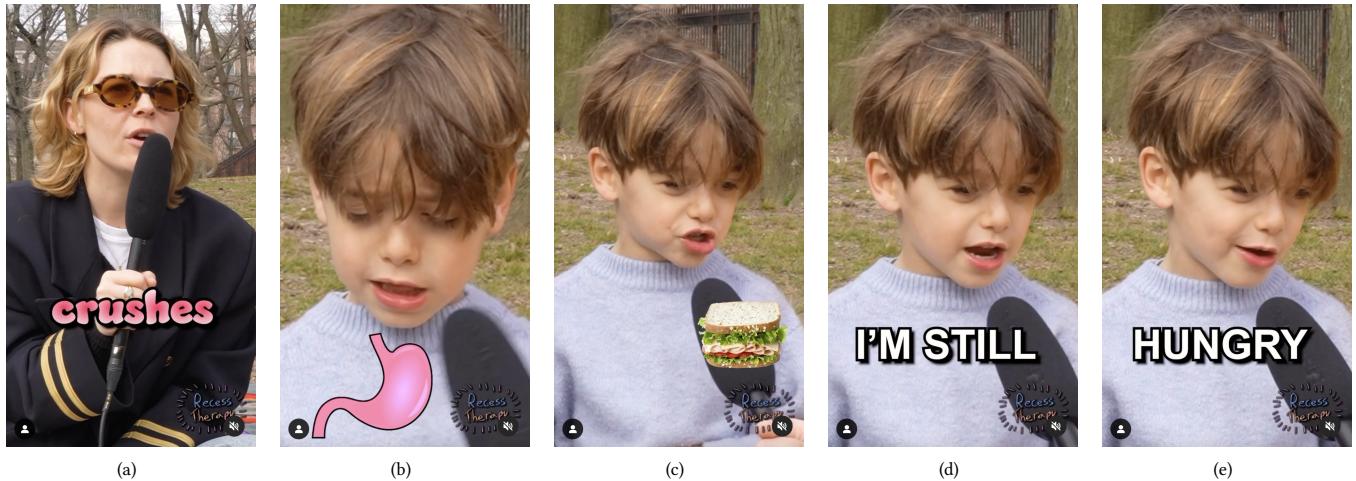
While auditory discomfort is often associated with Autism, five participants who mentioned this trait were not Autistic. However, most still had additional neurodivergent identities (e.g., anxiety, depression) that, in conjunction with ADHD, could have influenced the severity of their auditory discomfort. For example, as ADHDers with anxiety and depression, Camila shared that she experienced sensory overload in noisy situations and Leo mentioned that he had “*a tendency to get overwhelmed by sounds, especially more complicated sounds*.” Similarly, John and Hana, who did not have additional neurodivergent identities beyond ADHD, found loud and raucous videos overwhelming and frustrating.

Participants did not have many strategies for managing this sensory overload. While some chose to watch videos without sound, most were “*inclined to disengage with things that are too harsh audio-wise*” (Red) and ended their viewing sessions early. When the only accommodation was to disengage, ADHDers were forced to limit their exposure to videos that they wanted to watch.

**4.2.2 Captions.** All 20 participants leveraged captions for understanding speech, focusing attention, and catching up on a video after getting distracted. Multiple participants referenced how captions could help them manage sensory processing issues caused by their ADHD. Many also ingrained captions into their everyday watching habits and viewed them as a “*neurodivergent, ADHD thing*” (Peter). They found captions helpful for understanding speech in videos with bad audio quality, hectic background noises, or speakers with unfamiliar accents. For example, Jessie expressed:

“I just cannot retain audio information if I don’t have some other way to also take it in... I know there’s the joke [where] people say they can’t hear their shows without their captions, and that’s so, so, so true for me.” (Jessie)

Captions helped ADHDers with staying on track, catching up, or even capturing information in anticipation of forgetting it later. Some highlighted how captions were more engaging, as “*watching tends to be more passive, but reading [captions] is more... active*” (Leo). To catch up on missed content, Red would “*pause things [on YouTube] and read the [captions] slowly*.” When watching videos she



**Figure 1: Screenshots from a Recess Therapy video about childhood crushes, shared by Megan. This demonstrates the dynamic captioning style, with (b) through (e) providing examples for how they captioned: “my stomach has a crush on food... even if I eat a lot of lunch, I’m still hungry.”**

wanted to recall later, Megan used captions “*to retain information and hear every word*,” and she sometimes took screenshots with captions on screen to “*take notes*” for later. Six participants also found full transcripts valuable for educational content. Jessie mentioned that if they got distracted, they could “*go back, reread [a transcript] really quickly, and get caught up*” instead of rewinding the video and bothering others who might be watching with them.

Participants also valued the visual presentation of captions. They preferred captions that avoided obscuring the action on screen (Hana, Leo), did not “*take up too much space*” (Megan), and did not have too many or too few words on a screen at once. For Atlas, font and color changes to captions, similar to lyrics on karaoke videos, would “*cause more distraction... if they move [too quickly], if there’s too few words, or too many words at once, it’s counterproductive*.” Leo also preferred reading captions that stayed in one spot on screen, as captions that moved around the screen caused him to miss visual cues and could demotivate him to finish watching a video. On the other hand, Megan preferred such “*dynamic captions*” and praised a video she shared with us, created by Instagram account Recess Therapy (Figure 1) – their successful synchronization of speech and captions no longer made it “*a choice between reading and listening; it [was] both of those senses carried together at the same time*.”

Though captions were generally helpful, eight participants expressed frustrations with automatically generated (auto-generated) captions, as they found them to be more detrimental than having no captions at all. Hana, who liked “*captions because they help me read it before it’s actually said*,” thought that minor timing discrepancies in auto-generated captions made them ineffective and distracting. Other participants felt irritated by auto-generated captions with typos and pauses, as they impacted their attention and engagement: “*if there’s a disconnect, my mind will catch onto that... and that will break my focus*” (Gabby). Furthermore, a vast majority of participants harbored concerns about AI accuracy for video accessibility. Red acknowledged that auto-generated captions could catch the

“*most general parts... but [AI] is unable to capture any of the important nuances of something*,” especially for videos outside of the western contexts in which many AI systems were trained.

**4.2.3 Visual Content.** Many participants preferred visuals rather than audio for absorbing information from videos, often linking this preference back to their experiences as ADHDers. Nine participants felt that they were “*much better at retaining or gaining information through reading than listening*” (Hana), and multiple described themselves as “*visual learner[s]*” (Valerie). Due to difficulties with auditory processing, participants appreciated videos which used text popups or visuals, such as title cards, text overlays, or related B-roll, to emphasize key points. For example, B-roll helped Isha conceptualize unfamiliar architecture vocabulary: “*a lot of times I’m like, ‘Oh, I have no idea what you’re talking about when you say that,’ but what’s nice about it is that they show it visually*.”

Visuals were not only helpful for conveying points or explaining ideas, but also for capturing attention and improving retention. Participants appreciated videos with complementary auditory and visual content, such as “*something on the screen or in the audio that’s relevant to whatever they’re talking about*” (Atlas). Additionally, Atlas mentioned how “*videos that don’t have a lot of visuals and rely too much on auditory aspects... [are] just harder to maintain focus on*.” Visuals could range from “*drawing[s], or just images, or just a lot of changing scenes... [to] stay engaged in the video*” (Atlas). Valerie, who was learning how to play accordion through YouTube tutorials, shared: “*I remember things much better or learn things from videos a lot better if they have any sort of visual*,” demonstrating the educational value of combining verbal instructions with visuals.

Videos were often inadequate without enough visual stimuli. Most participants disliked dimly lit videos and videos without vibrant colors, especially videos “*in black and white*” (Gabby). Talking head videos, which typically feature one person on screen speaking to the camera, were also perceived as boring, unstimulating, and

*"not captivating"* (Kate). Additionally, Evan expressed his frustration at the lack of visual stimuli in an informational video:

"I have tried six times to watch this video, because it keeps getting recommended to me, and I have failed every time within 10 minutes. I cannot f\*cking focus on this video... I feel like I should be able to watch this one, but I can't. ... Just in these 30 seconds, I think there [are] not enough things on the screen for me to look at for me to get hooked into it." (Evan)

However, videos could also be inaccessible if they had overwhelming visuals. While some participants appreciated vibrant colors because they were *"stimulating but also soothing"* (Kate), others felt annoyed by *"too many colors or too much flashing stuff"* (Paulina). Constantly changing camera angles or poor camera work could also be *"visually disturbing"* (Gabby), making it more difficult for ADHDers to focus. Rohan found such camera work *"very, very difficult to look away [from]... [because] it feels like my eyes are glued onto a screen that I don't want to [be]."* Red also shared: *"trauma triggers [like flashing light sequences] tend to be either reinforced or exacerbated by ADHD."*

When participants encountered inaccessible visuals while watching videos, few had strategies to make them more accessible. Adam, who has a vision disability, preferred to invert colors for easier viewing, but this strategy did not work for all videos. Additionally, to regulate her attention and level of stimulation, Atlas adjusted brightness and other settings: *"if I need to engage in something more, I may put on a color filter [to] make the hues more contrasted. Or if it's too overstimulating and I want to pay less attention to it, then I may put it in grayscale."*

Three participants routinely used audio descriptions to make visuals more accessible. Red, an Autistic participant, found AD helpful *"to parse through what's supposed to be going on... audio descriptions help convey intent"* (Red). Others felt AD could refresh them on key information they had missed: *"I totally retain the information way more when there's audio description"* (Valerie). As a blind ADHDer, Adam appreciated that audio descriptions conveyed enough visual information for *"[him] to enjoy it in [his] own little way."* Similar to how captions could help viewers relax and feel assured about their absorption of content, some participants felt that AD *"directs my attention [and] also alleviates my attention a little bit"* (Valerie). However, after watching the AD probe, a majority of participants ( $N = 14$ ) explicitly stated that they would avoid AD as they found it distracting and detrimental to their viewing experience — Paulina felt that *"it really destroy[ed] the movie"* and Gabby thought the AD *"cluttered the experience."*

#### 4.2.4 Speed and Pacing

Video pacing was also a common frustration among participants. Eleven participants sped up videos due to impatience with slower speaking speeds or to preview a video before watching it fully. Some preferred to read transcripts rather than watch videos, with Adam even utilizing his screen reader to condense *"someone [droning] on for 30 minutes [into] 10 or 15 minutes."* Multiple participants preferred videos with quicker paces due to their generally faster processing speeds, which they often attributed to ADHD. Two participants used external plugins or browser extensions which could *"go up to 16x speed... [but they usually used] it at 3 or 4x"* (Nick). Megan noted that her brain was *"always going*

*really fast anyway, so 1x often feels slow already."* However, not all participants shared this speed preference — Isha often needed to rewind videos that she sped up due to *"zon[ing] out a lot,"* causing her to spend more time than desired to watch a video.

Participants also used other controls to better understand videos. Similar to chapters in a book, chapters and sections in videos provided signposting to viewers. Using chapters helped with gaining *"context about what is happening and how the video is progressing"* (Peter). For Isha, the skipping function helped her *"cut to the chase... [and] get to the part that [she needed], instead of having to sit through all this stuff."* Tia, *"a known skipper if things are going really slow,"* shared her screen during her interview and explained how she used YouTube's view peak feature (Figure 2): *"right here is most replayed, so I know something exciting or... good is happening here because people [went] back to replay this area... [it] kind of lets me know where I want to skip"* (Tia).

In contrast, three participants reported slowing down videos to align speaker speed with their preference, catch missed words, or better follow tutorials. For example, quick talking speeds made it difficult for Camila to *"keep up with what's being said and what's going on."* Additionally, slowing down videos helped Gabby with processing information: *"the experience of watching the video guide was so painful and unhelpful, I had to watch it three or four times before I could get what I needed to get out of it."*

### 4.3 Desired Video Accessibility Features

Across the board, participants wanted more end user control for content consumption. They wished for expanded offerings of existing features and proposed a variety of new designs to support attention, engagement, and information retention. With the exception of audio descriptions and tactile enhancements, features in this section were proposed organically by participants. We describe the most common desired video accessibility features mentioned by participants and expand on why they would be helpful.

**Chapters, sections, timestamps, and transcripts:** Though some videos already had them, participants ( $N = 7$ ) wanted chapters to become standardized or required for all videos. Participants found chapters especially helpful for how-to videos, because they often needed to skip back and forth to follow tutorials. Similarly, four participants found transcripts helpful for finding precise spots in a video for skipping: *"I'm able to just utilize my attention on the transcript, which I find to be [less] distracting... And then, when needed, I can transition to the video"* (Adam).

**Additional information in a text format:** Six participants wanted additional information to aid with retaining information from the video, given their challenges with attention and engagement associated with ADHD. This additional information could take the form of *"key points in a text format"* (Hana), most commonly provided in the video's accompanying caption or description box. Valerie thought adding auxiliary information should be a common practice: *"imagine if you watch a cooking video, and they didn't give you the recipe below... What are you supposed to do?"*

**Video summaries:** Previewing video content also helped with engagement ( $N = 7$ ). For example, Megan preferred watching videos that gave *"some structure instead of just rambling on... those little cues are helpful for my brain [to get] in gear to engage or disengage,"*



**Figure 2:** Screenshot from our caption video probe, a cooking video by Tom Scott, showing translucent view peaks and the “Most replayed” label above the video progress bar.

and Tia felt that previews and summaries alleviated her anxiety about having to constantly pay attention. As a proponent of video summaries, Hana referenced her positive experiences with Twitch Clips, a feature allowing viewers to “clip the last five seconds of the stream... [such as] really funny parts or highlights.” She wished that more platforms could release similar functionalities, as the Clips helped to inspire organic community involvement. Additionally, Kate appreciated how a TV show effectively summarized the first four seasons in one episode and reminded viewers of “the most important things [they] need to remember to keep up with this.”

**Adjustable sound channels:** Eight participants wanted greater flexibility to customize a video’s audio. Adjusting and isolating audio streams could reduce sensory discomfort from specific frequencies or general overwhelm from too many speakers. Participants generally preferred better audio quality, which encompassed “audio clear of any distractions... like people speaking in the background [or] someone moving a chair” (Isha). They also appreciated having videos that were “softer on the ears, especially since people are wearing headphones... all the time now” (John). Leo mentioned that some professionally produced television shows offer “dialogue-forward mixing,” and wished for this feature on YouTube videos as well. Lastly, having warnings about a video’s audio features could preempt sensory discomfort and help ADHDers determine if a video might be inaccessible, even before watching.

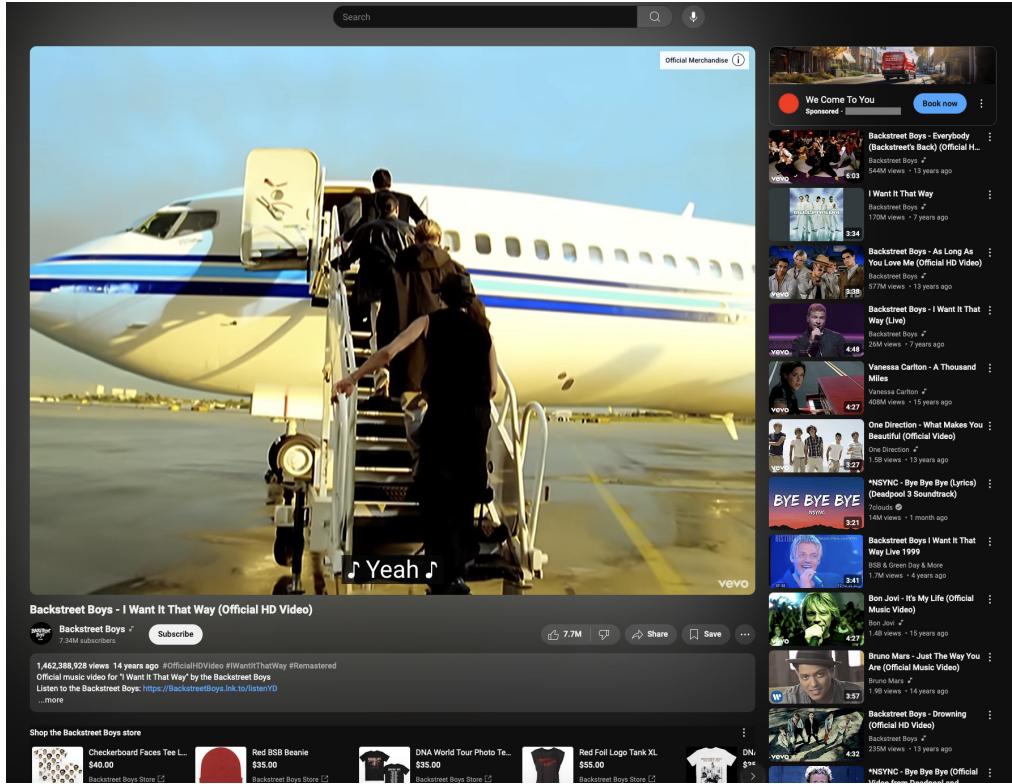
**More accurate captions and greater customization options:** Participants suggested distinguishing speakers and changing the font, size, and color of captions. Nick found “captions that are different colors, or [a] caption [that] prefacing who’s talking,” to be helpful for videos with overlapping speech. Red also discussed specific typefaces because different fonts impacted her “ability to keep track and read and parse things easily.” Some advocated for dynamic captions (Figure 1) or highlighting spoken words in a sentence. While these were more popular on short-form platforms, some (Megan, Nick) wished they could be implemented on all videos to support their attention. Others generally preferred maintaining standard caption styles to avoid distraction, but acknowledged the benefits of customization: “if a word is particularly important or notable, maybe sizing it differently could help with receiving the point of the video. But I think one-by-one stuff is better for lyric videos rather than all types of content” (Atlas).

**Audio descriptions:** While most participants had not used AD before, six thought it could enhance their viewing experiences. Three proactively mentioned AD as an existing strategy. Participants found AD helpful for videos with dim lighting or occluded visuals, especially if they were hoping to learn from the video: “[AD] might be really helpful... if they’re just showing you and not explaining it, it doesn’t sink in as well for me” (Gabby). AD could be helpful for “calling out specific things that are worth paying attention to within the scene” (Red), and could benefit “people with ADHD, [regardless of whether] they were paying attention, or even people without ADHD, if they were on their phone the whole time” (Chantal).

**Tactile augmentations:** Participants shared mixed perceptions on the usage of tactile elements, such as vibrations from a mobile phone or tactile graphics on a refreshable Braille display. Five thought that tactile elements could be annoying, or worse, “a sensory nightmare” (Jessie). Adam, a screen reader and Braille display user, mentioned: “I don’t know if I could handle that. That just seems like sensory overload.” Others believed that tactile augmentations, such as vibrations, could emphasize key points or guide focus. Haptics could serve as “a little reminder, like ‘Hey, come back. Come back. You’re spacing out’” (Camila), or they could be something to keep a viewer’s “hands occupied, [to help them] focus on what [they were] seeing” (Gabby). Despite not wanting tactile guidance for a whole video, Adam was enthusiastic about having a tactile graphic of a single frame within a video, noting that it could be valuable for gaining access to visuals that lacked descriptions.

#### 4.4 Video Platform Design

Beyond frustrations and strategies for individual videos, participants shared their experiences navigating different video platforms. Participants used platforms such as YouTube, Instagram, Netflix, Disney+, TikTok, Facebook, Reddit, and Twitch. However, they were wary that platforms enraptured people through their addicting algorithms and dark patterns, which subtly led users into engaging more than they intended. For example, TikTok was synonymous with addiction and dark patterns among participants, with four explicitly avoiding the application because of its addictive nature: “I do not have TikTok on my phone because I have been told by so many people that it is just the rabbit hole to end all rabbit holes... it’s like commercial garbage” (Gabby).



**Figure 3:** Screenshot of YouTube’s web interface, showing a variety of visually cluttering elements: over 10 suggested videos, the like and subscribe buttons, the description box, a popup at the top right corner of the video, an advertisement, merchandise listings, and the search bar.

Dark patterns reduced participants’ autonomy over their time and energy, which was particularly important to ADHDers who struggled with managing both. Participants often felt that platforms “tricked” and “manipulated” (Hana) them into watching content they did not want to. Hana occasionally engaged with frivolous content, but made a distinction: “sometimes I’m on Instagram for that brain rot, but I would like that to be a conscious decision.”

“It’s built in a way where you don’t even realize that you’re going into it, which is really tough if you have ADHD, because your impulse control’s already kind of impaired. I think it’s in the same theme, too, [as] clickbait-y titles. ... [Social media platforms are] designed to get more people to view it. I think that puts people with ADHD at more risk of, I don’t want to say addiction per se, but losing track of time or wasting time. ... I think things will continue to get more and more sensational, and it’s concerning for people with ADHD especially, and kids.” (Hana)

Additionally, participants were overwhelmed by the visual experience of using video platforms. Several participants described TikTok and YouTube’s interfaces as “cluttered” due to the excessive number of distracting elements, such as suggested videos, comments, autoplaying thumbnails, advertisements, popups, and merchandise (Figure 3). For Valerie, the busy visual design and abundant

recommendations exacerbated her tendency to mindlessly consume content: “*You Tube sucks me right back... it’s just too many threads, too many rabbit holes to go down.*”

Participants tried to remove user interface distractions by entering YouTube’s full-screen mode and TikTok’s clear-view mode, but these solutions were not satisfactory. For example, Isha felt that enabling clear-view was sometimes not worth the hassle, given that it needed to be re-enabled for each video. YouTube users desired a streamlined process to access a distraction-free interface, similar to Safari’s Reader Mode (a feature which removes visual clutter from online articles). The barriers that users faced when trying to make platforms accessible made participants feel that platforms were “*trying to take advantage of [them]*” (Adam).

#### 4.5 Misalignment between Platform and Creator vs. Viewer Goals

Participants often faced frustrations with video platforms and recognized that platforms’ goals did not align with their own. Gabby desired interfaces with fewer distractions, but noted: “*I know that’s counter to what the platform wants, because they want me to look at the other things [and] click on the other [video] and stay on the platform.*” Participants felt that platforms incentivized creators to maximize views rather than create high-quality content, ultimately at the expense of viewers.

Participants also disliked unskippable platform-imposed advertisements, creator self-promotion (e.g., asking viewers to “like and subscribe”), or sponsorship segments embedded in a video. While they recognized that creators adopted these practices in response to algorithmic uncertainty, participants found advertisements distracting, inauthentic, and unappealing. For example, Rohan thought ads were especially disruptive to his flow when trying to learn: “*my information retention goes out the window*.” Gabby believed creators intentionally made it difficult to access key information through captions and descriptions so users would rewatch their content, and Nick described this phenomenon as “*holding someone hostage*.” Leo was also frustrated that some streaming platforms, which were designed to promote exploration, made it difficult to find shows that he had started watching. Due to his ADHD, he faced challenges with starting or resuming tasks: “[if] I reload the app, and it doesn’t show me, ‘Hey, this is what you were previously watching’ and [if I’m not] in the exact mood to start watching that again, I will not pick it up, I will not finish it, and I will never know how it ends” (Leo).

Given these frustrations, participants developed strategies to reclaim their attention and find the content they wished to consume. Ten participants specifically gravitated towards certain videos due to a creator’s energy or “vibe” (Jessie). Many preferred engaging with creators who “*felt more natural*” (Chantal) and videos which felt purposeful rather than created simply for views. While participants were not always effective at avoiding binge-watching and overly-continuous scrolling, they often aimed to be selective and intentional when deciding which videos to invest their time into: “*because attention deficit is a thing, I try to... know that my time and attention isn’t going to be wasted*” (Rohan).

When videos did not live up to their initial promise, ADHDers’ dissatisfaction and frustration could be more pronounced than their neurotypical peers. For example, Hana felt particularly let down by a misleading video because she felt her time and motivation was wasted: “*it already took me so much energy to get in the mood to watch this YouTube video.*” She also mentioned “*concerns, especially for generative AI... [and] mass produc[ing] videos and content in ways that are mass appealing and sensational*” (Hana).

In general, participants were dissatisfied by the prevalence of dark design patterns, sensationalized content, and mounting incentives to maximize views rather than create high-quality content. They felt that platforms prioritized revenue over user well-being, resulting in sensory overload, low-quality content, and reduction of viewer autonomy.

#### 4.6 The Importance of Video Accessibility for People with ADHD

Video accessibility was important to participants, especially as videos were used for a wide variety of applications such as education, employment, entertainment, and socializing. Many participants would simply stop watching videos if they became too frustrated with their inaccessibility. Tia attributed this to her experiences with ADHD: “*patience and emotional regulation is kind of tough with ADHD... if I get frustrated [so] that I’m super close to just giving up, then I can’t watch any videos.*”

Most participants were students, and they felt that greater video accessibility could help them in learning contexts. Peter expressed

frustrations about how the shift to remote learning impacted his information retention and engagement in class: “*I’ve taken some courses where the recorded lectures had no captioning, no visual cues, just the professor speaking. And I would not be able to understand anything*” Furthermore, Kate acknowledged that current educational models had long-term impacts on neurodivergent students. She advocated for greater video and lecture accessibility as it could make “*kids that have learning disabilities and ADHD and neurodivergence feel more comfortable in the classroom, and feel like they’re not disadvantaged*” (Kate). Videos were also used for learning information and skills outside of the classroom. As a beginner accordion player, the inaccessibility of tutorial videos impeded Valerie’s enjoyment of engaging in her hobby: “*this is something I want [to do] – I’m trying to learn, and it’s stressful that it’s so impenetrable.*”

Having more accessible videos could also help participants in terms of reducing the time required to understand content and find high-quality videos. Isha shared: “*I rely on videos for more than just entertainment. Even if I’m just cooking, I rely on it for recipes a lot too... [accessibility] would help a lot with saving time, with how much I’m able to engage with it, and be able to retrieve information from it.*” Others also emphasized that it was difficult to find videos that resonated with them and were accessible. Megan felt that she had to “*suffer through the garbage to try to find the good things.*” Nick noted that, though he has now found his “*niche of what [he] like[s] to watch,*” he wished for greater platform support in identifying videos that were accessible to him.

“*Accessibility and trying to find better ways for different people to consume media is definitely an important issue. And [it’s] definitely something I wish I knew more about when I was younger, as opposed to just trial and error, watching tons and tons and tons of videos.*” (Nick)

## 5 Discussion

In our study, we answer the question: What challenges do people with ADHD experience when watching videos, and what patterns and practices do they develop as a result? We found that ADHDers experience accessibility challenges such as inattention and sensory discomfort when watching videos, but use strategies such as captions and adjusting video speed to maintain attention and engagement. To improve accessibility, participants desired features such as greater captioning support, more speed flexibility, and text resources for information retention. Some findings aligned with prior work — for example, captions are known to help ADHDers focus on videos [43, 61] and altering time and modality can also improve a video’s accessibility [35, 42]. However, our interviews illuminated the diversity of ADHDers’ challenges, strategies, and desired features for a wide array of videos and goals.

In this section, we present design recommendations for ADHD video accessibility, acknowledging that they may conflict with platforms’ current business models of capturing viewers’ attention for advertisers. We also recognize that these recommendations may not apply to all genres of video (e.g., horror videos with flickering lights and eerie background music meant to make viewers uncomfortable). We then discuss principles underscoring ADHD-inclusive design and address study limitations.

## 5.1 Design Recommendations for Video Platforms and Creators

Based on our findings, we argue for departing from techniques for ensnaring users' attention. Instead, we encourage designing with and for people with ADHD to improve organic and sustained engagement. Both platforms and creators have a responsibility to create accessible content. We offer the following design recommendations for video platforms and creators to improve accessibility and agency for viewers with ADHD.

### 5.1.1 Platforms.

**Allow users to personalize their auditory and visual experiences for videos and platform interfaces.**

- Participants expressed frustration with auditory overstimulation from loud videos, videos with unpredictable volume changes, and specific high or low frequencies. To mitigate sensory discomfort, platforms should **(1) allow users to set a volume or decibel threshold for a video's audio tracks, (2) visualize audio peaks and valleys so viewers can preview volume changes, and (3) filter out user-specified frequencies**. To ensure that users are not losing information or affect, platforms could include visual indicators of loud volumes or specific noises. For videos using sensory disturbances as an aesthetic choice, we recommend clearly warning users of this in a video's title to inform decisions about whether to click into a video at all.
- Participants' preferences for caption presentation varied. Some preferred having one line at the bottom of the screen for consistency, while others favored "dynamic" captions that highlighted one word at a time to emphasize key ideas, similar to karaoke lyric videos. Prior work shows a growing appreciation for varied captioning styles, including "dynamic" captions popularized on short-form video platforms, though some still prefer "standard" styles for their familiarity and predictability [46]. At present, "dynamic" captions are usually open (burned into the video itself), and users cannot turn them off if they find them too distracting. Platforms should **support closed captions in both "standard" and "dynamic" styles**, allowing users to choose their preferred captioning style depending on the video.
- Some participants valued having haptic and tactile feedback to support user focus. In line with prior work on haptics for supporting attention and engagement (e.g., [36, 69, 74]), we recommend platforms to **integrate multimodal feedback mechanisms to subtly nudge viewers** when they wish to maintain attention on a video that is naturally understimulating to them.
- Video speed was also highly contextual and personal. Many participants sped up videos, and some used external browser plugins for more granularity and faster speed options. Others preferred slowing videos down to better absorb content. Participants felt that some creators already spoke at a fast enough rate that they did not need to adjust a video's speed to maintain engagement. At present, video speed adjustment is not available on all short-form platforms. We encourage video platforms to **(1) allow users to set default video**

**speed settings for different creators or video types** and **(2) create keyboard shortcuts to easily change a video's speed if the default is not satisfactory**.

- Lastly, platform design was also important for accessibility. For example, participants noted that dark design patterns exacerbated ADHDers' heightened tendencies to mindlessly scroll or binge-watch. Building on prior work on video platforms and user agency (e.g., [44]), we recommend platforms to **allow consumers to more easily switch between a leisure or relaxation mode** (which leverages autoplay and other design patterns to promote frictionless engagement) and **a more conscious or focused mode** (which eliminates recommendations to support greater user control).

**Provide WCAG-mandated accessibility mechanisms, such as captions and audio descriptions, for all videos.**

- Multiple popular platforms (e.g., YouTube, TikTok, Netflix) support captions, which can be auto-generated or creator-uploaded. While participants appreciated how captions could complement auditory information with visuals and text, the inaccuracies laden in auto-generated captions were often distracting. Furthermore, participants found captions helpful for assisting with note taking and information retention. Especially as a wide range of audiences (including but not limited to d/Deaf and hard of hearing people and people with ADHD) use captions to support understanding and have full access, it is critical to ensure that captions are accurate. Platforms should **(1) incentivize creators to create and upload their own high-quality captions and (2) improve automated captioning accuracy**. While creator-uploaded captions are the gold standard, auto-generated captions can provide access to older videos by creators who may no longer be active on the platform.
- Fewer platforms support audio descriptions, which are most commonly used by blind and low vision viewers. In 2021, TikTok and Instagram rolled out text-to-speech features to read out text annotations added by creators [30, 45]. In 2023, YouTube launched an audio description feature, which was a toggle in the settings menu (similar to captions) [38]. However, text-to-speech only narrates text annotations instead of capturing all of the visual action on screen, and AD is only an option on select YouTube and streaming content. In our study, we found that some ADHDers appreciated having AD for guiding attention and identifying key elements of a video, especially when multitasking. We advocate for platforms to **provide more content featuring AD and text-to-speech** to improve viewer engagement and information retention.

### 5.1.2 Creators.

**Keep the accessibility of visuals in mind when filming and editing videos.**

- While many participants found visuals helpful for processing and retaining information, they had varied levels of attention for different types of visual stimuli. They appreciated having visuals that corroborated auditory information, and enjoyed vibrant and changing visuals. However, videos on the two extremes of movement and color could be more distracting and

disorienting than helpful. We suggest that creators **avoid too much or too little movement** (e.g., spinning or extremely fast camera shots, talking head videos) and **avoid oversaturated or undersaturated visuals** (e.g., only bright colors, grayscale) during both production and post-production.

- For educational or informational videos (e.g., lecture recordings, how-to videos), we recommend that creators **include text in the video to highlight key points** as these were helpful for ADHDers. Text in the video can include short phrases overlaying the video itself or short title card cut-aways to emphasize switching gears. This text should also be included in video description boxes to allow users to revisit or process the information on their own time, supporting viewer satisfaction and information retention.

#### Prioritize authentic and organic engagement over artificially sensationalized content.

- As with many others, ADHDers disliked sensationalized or misleading content. This content often takes the form of short-form videos where creators draw viewers in with a compelling hook but only state key points until the end of a video, or long-form videos with clickbait thumbnails and titles. ADHDers do not necessarily have a deficit of attention; instead, they have the abilities to (1) hyperfocus on things that are important and valuable to them and (2) process multisensory media in different ways [58, 63]. As a result, we strongly encourage creators to **prioritize creating content that viewers will find worthwhile and enjoyable to watch from start to finish**. We found that people with ADHD are likely to gravitate towards specific creators that they trust, so building rapport with viewers can lead to greater engagement in the long term.

By specifically designing for people with ADHD, researchers can uncover critical frustrations that are often more pronounced than neurotypical people's experiences. Similarly to other examples of the "curb cut effect" [9], we hope that these design recommendations can not only support attention, engagement, and information retention for people with ADHD, but also be valuable to all users.

## 5.2 ADHD-Inclusive Design Principles

In this section, we present three ADHD-inclusive design principles, building on prior articles and research discussing digital design for people with ADHD (e.g., [14, 53, 68]), inclusive or participatory design (e.g., [41, 57]), and ability-based design principles [70]. The principles are as follows:

- (1) Designs should **adapt to ADHDers' levels of focus**, understanding that goals, motivations, and abilities may vary depending on time of day and external factors,
- (2) Designs should **utilize multisensory elements to support engagement**, while offering flexibility to adjust to each individual's threshold of sensory overstimulation and understimulation, and
- (3) Designers should follow participatory design principles and **involve people with ADHD throughout the design process**, especially as building trust with end users can lower critical motivational barriers.

**Principle 1** focuses on adaptation and flexibility based on the wide range of focus levels experienced by people with ADHD. Prior work has described how ADHDers' attention can depend on variable motivating factors, such as their mood and the content [63]. When ADHDers are in a state of hyperfocus or have extremely high motivation to complete a task, they will likely require different levels of stimulation than non-hyperfocus periods. We orient this principle towards designers, rather than ADHDers, as this places the burden of adaptation on the technology and there already exists guidance to people with ADHD to direct their hyperfocus away from unintended outlets and towards their goals (e.g., [2, 49]).

**Principle 2** addresses ADHDers' unique abilities of processing multisensory media. A majority of participants expressed that having multiple information streams (e.g., captions, visuals, audio) was especially helpful for information retention and maintaining attention. Many participants also had the ability to process information at a faster speed than the original media. Rather than avoiding "distractions" altogether, in alignment with prior work on sensory-sensitive design [53], designs should allow users to adjust and customize multisensory and stimulating elements to their preferences (e.g., video saturation, earcons for notifications on social media sites, toggling animations on or off, etc.).

**Principle 3** highlights a core tenet of inclusive and participatory design – that disabled people should be involved in the design and development of technology at every step of the process. By engaging and building trust with ADHDers and other neurodivergent users, designers can reduce motivational barriers to adopting new technologies, adjusting to new interfaces, or watching recommended videos from unfamiliar creators.

While these principles focus on supporting people with ADHD, these experiences do not occur in a vacuum and the ADHD community is not monolithic. Many of our participants identified as having additional disability identities with variable experiences and preferences (e.g., Autism, anxiety, depression, chronic pain). Given the prevalence of co-occurring neurodivergent conditions [3], we advocate that researchers and designers should consider intersectional and neurodivergent experiences as a whole.

Our design principles can apply to both independent and social viewing situations. Multiple prior studies have addressed the importance of improving access to entertainment and informational video content due to social and cultural implications (e.g., [35, 46, 50]). In particular, Nevsky et al. [50] discuss the tension between personalized content and social viewing. Adding personalization, such as supporting users in accessing media in nonlinear (skipping forwards and backwards in a video), compressed, or extended time, can be important when making videos accessible for all audiences. However, if two ADHDers wish to watch a video together (i.e., synchronously) but they have different speed preferences, how can designs support both viewers' preferences? While our work focused on improving experiences for independent viewing, we recommend future work to consider the social dynamics associated with video watching to make videos even more accessible to ADHDers [8, 60].

In summary, ADHD-inclusive design should aim to eliminate mismatches between ADHDers and technology by considering variable focus and hyperfocus states, sensory preferences, and inclusive design practices.

### 5.3 Limitations and Future Work

Our study has a few limitations. First, we did not implement any of the suggested accessibility mechanisms for participants to evaluate; a prototype could have elicited deeper insights. Future work could develop a system to assess video accessibility experiences in-situ and across a longer period of time. During the co-watching sessions, participants shared videos on short-form platforms such as Instagram and standard video platforms such as YouTube. However, technical limitations with screen sharing on streaming services and time constraints did not allow us to observe participants' naturalistic interactions on streaming service interfaces. Furthermore, we did not specifically investigate whether participants use speakers or headphones to watch videos, nor did we measure participants' varied preferences for video speed and chapter usage across platforms or video types. Future work could focus on specific platforms to better understand ADHDers' preferences for short-form or long-form content and account for more environmental contexts.

Given that we only recruited people above the age of 18 and participant ages ranged from 19 to 52 years old, future work could consider the preferences of children or older adults with ADHD to identify if there are any meaningful differences in frustrations with and strategies for video watching. Additionally, 13 participants were students; as a result, they could discuss their experiences with videos in educational contexts but were less familiar with videos in professional or employment settings. Lastly, though we observed participants' video watching habits from their shared screens while co-watching, we acknowledge that researcher presence may have influenced their behavior. For example, some participants mentioned that they would have stopped watching the researcher-selected probe videos within seconds if they were not in the study. Future work could use less obtrusive observational methods, such as video action logs [29], to capture ADHDers' organic strategies and behaviors for video watching.

## 6 Conclusion

With the growing ubiquity of videos, it is critical that they are accessible to all. To our knowledge, our study is the first to understand ADHDers' general patterns and accessibility challenges when watching videos. We found that people with ADHD had diverse video watching goals. They experienced frustrations with audiovisual content, video pacing, and platform design, causing overstimulation or understimulation and thereby affecting attention, engagement, and information retention. Participants devised strategies to help process information and stay engaged, but current platform features remained inadequate — they desired additional features to support their goals and agency when watching videos. We highlight the importance of video accessibility for all, present design recommendations for video platforms, and discuss the broader impacts of ADHD-inclusive design.

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