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Social Access and Representation for Autistic Adult Livestreamers

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ABSTRACT

We interviewed 10 autistic livestreamers to understand their motivations for livestreaming on Twitch. Our participants explained that streaming helped them fulfill social desires by: supporting them in making meaningful social connections with others; giving them a safe space to practice social skills like “small talk”; and empowering them to be autistic role models and to share their true selves. This work offers an early report on how autistic individuals leverage livestreaming as a beneficial social platform while struggling with audience expectations.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; **Empirical studies in collaborative and social computing**.

KEYWORDS

autism, livestreaming, Twitch, social interaction, online communities

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1 INTRODUCTION AND BACKGROUND

Autistic individuals often have difficulty building social relationships due to differences in how they experience and communicate during in-person interaction [9]. Online social platforms have provided new mediums and opportunities for autistic individuals to communicate in ways that fit their abilities and preferences. We look at the nascent medium of livestreaming as an online social space for autistic adults. We focused on Twitch.tv, a livestreaming platform where users stream video content to a live audience, often including a camera feed of themselves. Audience members

can interact with the streamer and each other through a text-based chat.

This initial work focuses on how livestreaming benefits autistic adult streamers. Livestreams have been described as a “third place”: somewhere outside of work, like a cafe, where people can gather to share stories, ideas, and thoughts [5]. Recent research has reported on both the advantages and risks when people from marginalized or minority communities livestream. For instance, Lu et al. described how livestreaming offered Chinese streamers a medium to share and promote their heritage [7, 8]. Gray-Denson reported on how Black streamers face marginalizing comments and harassment [4]. Our work builds on these by considering how another marginalized population—autistic adults—experiences livestreaming.

We interviewed 10 autistic adult Twitch livestreamers about their streaming experience. We found that livestreaming presented opportunities for creating and deepening their relationships with others and provided them with a safe space to practice and develop social skills. Our participants found new value in their autistic identity, but also encountered new challenges with others’ expectations of their behaviours. This paper provides a first account of autistic perspectives on livestreaming as a video-based social platform.

2 INTERVIEWS WITH AUTISTIC LIVESTREAMERS

We performed semi-structured interviews with autistic livestreamers about their experiences as streamers. Our interview guide explored several aspects of their experience, including: their motivations for performing on livestreams, characteristics of their autistic behaviours or traits while livestreaming, and things they enjoyed and found challenging about livestreaming.

2.1 Participants

We recruited 10 streamers through ads posted on social media and purposive sampling. We contacted potential participants directly through their publicly posted Twitch.tv profile information, when streamers both identified themselves as autistic and as someone willing to be contacted.

All participants were adults between the ages of 25 to 38, with 5 from the United States of America, 2 from the United Kingdom, 1 from Canada, 1 from South Africa, and 1 from Finland. Participants had all been streamers on Twitch for multiple years (range: 2-5 years). As described in Table 1, participants’ streams covered a wide range of content, including various games, co-working and

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co-study, just chatting, crafts, and performing arts. Of these ten participants, nine elected to have their responses attributed to their Twitch handle. Participants were remunerated with a \$30 CAD gift card.

2.2 Interviews and Interview Guide

We provided participants with an overview of our interview guide before the start of the interview. We constructed the guide in consultation with two members of the autistic livestreaming community who provided feedback on the guide, though they did not participate in the interviews. The guide provided some structure for the interviews, though participants were free to discuss topics related to livestreaming and autism.

Participants chose the medium for the interview. Seven chose video chat (platform: Zoom, Discord); one chose to use a voice-only interview (platform: Discord), and two chose to participate by text-only (platform: Discord, Twitter DM). The eight audio/video interviews averaged 1h:55m (range: 1h:41-2h:31m) and the text interviews took place over several days and were 3081 words and 5985 words in length each.

We used reflexive thematic analysis [1, 2]. The first author transcribed all interviews, performed repeated readings of the interviews, open coded the interviews using NVIVO 12, and developed potential themes. Through repeated discussion of potential themes with co-authors, we developed a set of candidate themes; this work describes two of those themes in our initial findings. This paper reflects our initial analysis of autistic livestreamers' experiences; we are continuing to perform additional iterations of the thematic analysis process on our data.

3 INITIAL FINDINGS

Livestreaming allowed our autistic participants to practice social interactions and to participate in live online social situations. Furthermore, the skills gained through this experience were transferable to in-person scenarios. For our participants, Twitch also fostered relationship building where the streamers' autistic traits and characteristics might have made in-person opportunities impossible or challenging to engage with. Finally, livestreaming provided an opportunity for our participants to represent themselves and become comfortable with their autism. We explore these themes in greater detail below.

3.1 Practicing Social Interactions

Several streamers (6 of 10) felt that streaming helped them to develop their social skills. They described using social interactions on stream as a safe place to practice social skills like engaging in "small talk", talking about topics outside their special interests, and talking with people they did not already know. Those skills gained through streaming also transferred to other online and offline interactions.

NeroKoso: *"So many random people would come and talk with me, and I noticed it was way easier to talk with random people now versus, like, three years ago. [...] Only because of the streaming."*

Years of streaming experience helped our participants change how they interacted with others. NeroKoso explained how his comfort in social situations outside his home had grown because of

needing to practice interactions on stream with his audience. He told us that before streaming, he avoided social interactions because of social anxiety. In the past, if he had heard someone in the staircase outside his apartment, he would wait inside to avoid having to talk with them. Now he does not wait, because he feels far more comfortable with the possibility of speaking casually in person.

Because streams are publicly broadcast, streamers regularly interact with a potentially diverse audience. Our autistic streamers reported benefiting from this, as it forced them to interact with a wider variety of people about a broader range of topics than normal. Aymart told us that before streaming, he would struggle with in-person conversations when the topic of discussion was outside his interests.

Aymart: *"Different communities talk about different things. So, really it's helped me improve being able to talk about multiple topics."*

This practice from streaming has even impacted Aymart's social interactions with his wife. By being exposed to different topics through streaming, he felt he had gained the ability to "talk about anything that she's talking about" where before, he would "just kind of ball up."

3.2 Building Relationships

Most of our participants (8 of 10) told us that they established substantial relationships through streaming.

RowanAster: *"I have made easily the most meaningful and impactful relationships with people through this platform in my entire life. I've been able to receive support from people and feel cared about and seen in ways that I didn't think was possible. [...] I didn't know that that's what friendships and relationships with people could be like because I'd never had them before. I never really knew that there was a way for me to be so open and communicative with people and feel as though I have an honest connection with them."*

This echoes Sheng and Kairam's previous findings [12], where they described how Twitch viewers established important in-real-life friendships through their shared experiences on the platform. However, for our autistic streamers, streaming presented them with a way to build relationships that they felt were not typically available to them due to difficulties with communicating in person. Other streamers, like ruthy0nfire, also agreed that streaming let them fulfil their desire to build social relationships and friendships, where they had challenges forming those relationships before streaming. Ruthy0nfire told us she wanted to make friends but found it difficult in-person: *"I was really trying to understand people and make friends. I desperately wanted to be social and have friends, and I just never connected with people that way."* Through streaming, she fulfilled her desire to build meaningful friendships with long-time viewers: *"Very close friends, very precious people."*

3.3 Presentation and Identity

Autistic users benefit from online platforms as they can represent themselves through alternative mediums like text (Twitter [3, 6]) or

**Table 1: Interviewed participants. Streams viewable at [https://twitch.tv/\[Streamer\]](https://twitch.tv/[Streamer])
*Streamer 6 wished to remain anonymous.**

Streamer	Pronouns	Camera Presence	Stream Content
ArenEternal	she/her	On camera	Plays rhythm music games.
ruthy0nfire	she/they	On camera	Plays a variety of games. Just Chatting
Ayymart	he/him	On camera	Performs speed runs of role-playing games (RPGs). Commonly runs charity drives on stream.
JaneTheMessage	she/her	On camera and virtual banana avatar.	Streams autistic support groups, feminism discussions, and performance art.
KennethIaian	he/him/they	Virtual squirrel avatar	Mostly plays the game Dead by Daylight but also plays a variety of other games.
Streamer 6*	she/her	On camera	Host virtual co-working and co-study groups.
NeroKoso	he/him	On camera	Typically plays the games Lost Ark and Blade & Soul.
psoy milk	they/them	On camera	Plays a variety of games. Also does artwork crafts such as knitting.
ThatWelshKaren	she/her	Occasionally on camera	Plays a variety of games.
RowanAster	they/them	On camera	Streams reading a variety of materials including books and articles. Also streams RPGs.

virtual avatars (Minecraft [10, 11]). Streaming offers autistic users mediated presentation of self through video and audio.

Our participants (7 of 10) felt that the Twitch audience viewed them as different from typical streamers. Psoy milk explained that differences in how they conveyed emotion could be a challenge for in-person communication with neurotypical people, but they were surprised that these challenges carried over to streaming.

psoy milk: *“Like I wasn’t really prepared on the push-back on how non-expressive I am. I would have never expected that like people watching me stream would expect me to smile more or expect me to very much convey my emotions on my face.”*

Psoy milk explained that in their early streaming experience, they felt pressure to change how they expressed themselves. However, as they gained experience, they became more comfortable advocating for themselves and tackling that push-back. They could be *“open and explicit”* and tell people directly how they felt while streaming if their facial expressions or voice did not match the viewers’ expectations. Psoy milk also told us how their audience regulars helped create a supportive space regarding their presentation: *“They always validate me and always tell me that I don’t owe people expressiveness.”*

NeroKoso and Streamer 6 also encountered similar experiences with audiences in their streams. NeroKoso explained that he made unexpected noises or would play music at very high volumes and that *“for new viewers, it’s definitely strange.”* Streamer 6, and her viewers, were less sure about precisely what differences she displayed, but it was still a topic of discussion.

Streamer 6: *“I didn’t start off streaming disclosing ASD or my diagnosis until... until it would sort of come up in*

stream and with chatters being like, you’re different. I can’t really pinpoint it, but like, you’re a little bit weird and little bit quirky.”

These discussions with the audience were not necessarily negative, as they allowed our streamers to incorporate their differences into their stream. Streamer 6 used these audience interactions to feel more comfortable about her autism. Through repeated discussion of neurodivergence and autism stemming from viewers’ questions and comments, she eventually became comfortable disclosing her diagnosis on Twitch: *“I sort of started slowly but surely, changing my About section or the tags that I would use to include that of neurodivergent or ASD or ADHD, and that sort of started to make me more comfortable talking about it while I was live.”* NeroKoso noted that, over time, discussing his *“stupid noises”* helped bring his community together through joking and a shared history participating in the stream: *“Once you have the viewers that are kind of on the same level as you, then there is all the jokes, and we will understand each other.”*

4 CONCLUSION

The autistic livestreamers we interviewed were enthusiastic about their use of livestreaming and how it contributes to their lives. Our findings suggest that livestreaming presents fulfilling opportunities for autistic adults, and there may be ways that the experience can be improved for both the streamers and audience members.

The scope of our study extends far beyond the results reported here. While the focus of this work is on the social experiences of our participants, our interviews addressed other aspects of self-presentation, as well as differences between their experiences and allistic livestreamers. We also consider autistic streamers’ reactions

to the affordances of livestreaming platforms, and how livestreaming technologies can be improved for autistic streamers. Our future work includes presenting the full findings from our interviews, and applying lessons from this livestreaming context to other computer-mediated communication for autistic users.

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REFERENCES

- [1] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2 (Jan. 2006), 77–101. <https://doi.org/10.1191/1478088706qp063oa> Publisher: Routledge _eprint: <https://www.tandfonline.com/doi/pdf/10.1191/1478088706qp063oa>.
- [2] Virginia Braun and Victoria Clarke. 2019. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health* 11, 4 (Aug. 2019), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806> Publisher: Routledge _eprint: <https://doi.org/10.1080/2159676X.2019.1628806>.
- [3] Kristen Gillespie-Lynch, Steven K. Kapp, Christina Shane-Simpson, David Shane Smith, and Ted Hutman. 2014. Intersections Between the Autism Spectrum and the Internet: Perceived Benefits and Preferred Functions of Computer-Mediated Communication. *Intellectual and Developmental Disabilities* 52, 6 (Dec. 2014), 456–469. <https://doi.org/10.1352/1934-9556-52.6.456>
- [4] Kishonna Gray-Denson. 2016. “They’re just too urban”:: Black gamers streaming on Twitch. In *Digital Sociologies*. <https://doi.org/10.2307/j.ctt1t89cfr.28>
- [5] William A. Hamilton, Oliver Garretson, and Andruid Kerne. 2014. Streaming on Twitch: Fostering Participatory Communities of Play Within Live Mixed Media. In *Proceedings of the 32Nd Annual ACM Conference on Human Factors in Computing Systems (CHI '14)*. ACM, New York, NY, USA, 1315–1324. <https://doi.org/10.1145/2556288.2557048> event-place: Toronto, Ontario, Canada.
- [6] Nelya Koteyko, Martine van Driel, and John Vines. 2022. Autistic sociality on Twitter: Enacted affordances and affiliation strategies. *Discourse & Communication* (March 2022), 17504813211070655. <https://doi.org/10.1177/17504813211070655> Publisher: SAGE Publications.
- [7] Zhicong Lu. 2019. Live streaming in China for sharing knowledge and promoting intangible cultural heritage. *Interactions* 27, 1 (Dec. 2019), 58–63. <https://doi.org/10.1145/3373145>
- [8] Zhicong Lu, Michelle Annett, Mingming Fan, and Daniel Wigdor. 2019. “I Feel It is My Responsibility to Stream”: Streaming and Engaging with Intangible Cultural Heritage Through Livestreaming. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. ACM, New York, NY, USA, 229:1–229:14. <https://doi.org/10.1145/3290605.3300459> event-place: Glasgow, Scotland Uk.
- [9] Eve Müller, Adriana Schuler, and Gregory B. Yates. 2008. Social challenges and supports from the perspective of individuals with Asperger syndrome and other autism spectrum disabilities. *Autism* 12, 2 (March 2008), 173–190. <https://doi.org/10.1177/1362361307086664> Publisher: SAGE Publications Ltd.
- [10] Kathryn E. Ringland. 2019. A Place to Play: The (Dis)Able Embodied Experience for Autistic Children in Online Spaces. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery, New York, NY, USA, 1–14. <https://doi.org/10.1145/3290605.3300518>
- [11] Kathryn E. Ringland. 2019. “Autosome”: Fostering an Autistic Identity in an Online Minecraft Community for Youth with Autism. In *Information in Contemporary Society (Lecture Notes in Computer Science)*, Natalie Greene Taylor, Caitlin Christian-Lamb, Michelle H. Martin, and Bonnie Nardi (Eds.). Springer International Publishing, Cham, 132–143. https://doi.org/10.1007/978-3-030-15742-5_12
- [12] Jeff T. Sheng and Sanjay R. Kairam. 2020. From Virtual Strangers to IRL Friends. *Proceedings of the ACM on Human-Computer Interaction* (Oct. 2020). <https://doi.org/10.1145/3415165> Publisher: ACM PUB27 New York, NY, USA.