A Sense of Community in Cyberspace: Defining New Forms of Community

on the Internet through the Observation of Social Interactions on Twitch.tv

A THESIS

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On my honor, I have neither given nor

received unauthorized aid on this assignment.

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ABSTRACT

   Technology has created new environments. *Cyber places* are places online where people can communicate with each other. Twitch.tv is an online live streaming platform centered around "streamers" broadcasting themselves playing video games. Although Twitch has grown in popularity and now a variety of content can be found there, from cooking shows to global esports tournaments. Twitch has a unique trait in the form of a live chat feature that allows viewers to communicate with each other while watching a stream. Like-minded people are able to find each other and connect while being entertained. Traditional social interactions like these lack the key face-to-face element that traditional social interactions possess. However, can traditional traits used to define communities be applied to Twitch.tv, so that it can be understood as a new form of community? A sample of Twitch streams will be observed for elements of community to see if they can be defined as new forms of community.

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In 2000, Robert Putnam observed that television pulled Americans into the privacy of their homes to spend their leisure time. He identified this as a leading factor in the downfall of communities in America. While in 2000, technology seemed to be the cause of the death of communities, technology has continued to advance since then, and with the invention of the internet and the creation of Twitch.tv, an online live streaming platform, private play is now being made public (Taylor, 2018). The use of the internet is often a substitute for TV, connecting people during leisure time instead of isolating them (Nie and Erbring, 2000). Communities are built through social interactions, creating networks of people; "we find community in networks, not groups" (Wellman, 2001). The social interactions that build communities with the aid of technology have drastically evolved. Traditional social interactions were based on close-knit familial ties. These relationships were built through shared histories, values, and territories, encouraging civic engagement (Tönnies, 1987; Putnam, 2000). Traditional social interactions like this have been made nearly obsolete by globalization. No longer do people reside and work in small villages, interacting with the same people every day. Now, social interactions have evolved to be based on the exchange of information (Tönnie, 1987; Wittel, 2001; Delanty, 2003). Technology like Twitch has helped these newer forms of social interaction flourish, keeping people connected in a seemingly expanding world. Because definitions of community like Robert Putnam's are directly tied to the old understandings of social interactions, communities in the traditional sense seem to be dying off. Through the observation of social interactions on the website Twitch.tv and the rhetoric they provide about their platform, how can traditional definitions of community be applied to new social networks?

LITERATURE REVIEW

A Sense of Community

        In order to have a community, there must be spatial boundaries that create intimate relationships (Park et al., 1967). This concept is the foundation of Robert Putnam's argument in *Bowling Alone* that communities are becoming relics of the past. Putnam's community is built off of interactions that build social capital. He understands social capital as social bonds that make people's lives better through fellowship, sympathy, and social support. Declining membership in national and local community groups, from the National Association for the Advancement of Colored People to local bridge clubs, provides evidence for Putnam to make this claim.

> "During the last third of the twentieth-century formal membership in organizations, in general, has edged downward by perhaps 10-20 percent. More important, active involvement in clubs and other voluntary associations has collapsed at an astonishing rate, more than halving most indexes of participation within barely a few decades" (Putnam, 2000:63)

These community groups encourage civic engagement and create social capital. Americans are becoming fewer doers and more watchers. Participation in sports and musical groups is down, while time spent watching sporting events or going to concerts is up (Putnam, 2000). However, it is uncertain how this affects social capital. Putnam argues that sitting in the bleachers at a football game might produce similar amounts of social capital as participating in a poker game with friends.

        Putnam's research led him to identify five factors for the decline in communities across America. Work and sprawl are two of these factors, and these categories encapsulate the pressures of time and money. The suburbanization of America created sprawl, and with that came longer commute times, making it harder for people in the

workforce to be active in local social groups. Although it is estimated that this only makes up 20 percent of the decline in civic engagement, he attributes the majority of the decline to generational change and the invention of television. There are naturally going to be differences between every generation, and more recent generations are not as keen on joining new social groups compared to the baby boomers. Additionally, the mass consumption of television in nearly every American household has shifted how Americans spend their time. "Television privileges personalities over issues and communities of interest over communities of place. In sum, television viewing may be so strongly linked to civic disengagement because of the psychological impact of the medium itself" (Putnam, 2000:242). For this mystery, there is still a missing chunk. However, for the scope of this study, that will be left unknown focusing instead on how the advancements in technology enhance the transition of community from "little boxes" to social networks (Wellman, 2001). Place and locality are no longer important in the conversation surrounding the community (Graham, 1998; Sassen, 2000). However, there is a new understanding of what community is that shifts its foundations from the importance of space to an understanding based on globalization.

While globalization might have destroyed the traditional idea of community, it has also opened the doors for a new understanding (Delanty, 2003). The shift away from the understanding of community in relation to place and space also comes with a shift in understanding social relations as informational rather than narrational (Tönnies, 1987; Wittel, 2001). Social relationships based on the exchange of information rather than those of shared histories were first expressed by the German sociologist Ferdinand Tönnies, who observed that with industrialization, the social interactions of old,

"*gemeinschaft*" centered around shared histories, values, religion, and territories, gave way to "*gesellschaft,"* impersonal interactions based on the exchange of information that is mutually beneficial. Because of the modernization of social interactions, theories of new alternatives to the understanding community arose.

An alternative is the concept of "Network Sociality," created by Andreas Wittel. Similar to the Gemeinschaft-Gesellschaft dichotomy introduced by Tönnies, Wittel offers an alternative understanding of modern social interaction. Rather than using the term community, Wittel refers to social interactions that are driven by an exchange of information as "network sociality." Community, as Wittel understands it, is built on long-lasting ties built through close proximity and the narrative of the collective that creates a sense of belonging and stability. Network sociality is not about a shared history with a sense of belonging, but rather the integration of the premise of an exchange or catching up (Wittel, 2001). Relationships within a network sociality are ephemeral and intense, while the construction of the individual is left to themselves, "lifted out of the contexts and reinserted in largely disembodied social relations, which at the same time they must continually construct" (Wittel, 2001:65). Trust in these relationships is not built on long-lasting ties where the character of someone can be judged, but rather on short-term interactions where someone's resources can be utilized. The advancement in communication-based technology has made it easier to exchange information. Alongside the invention of the internet, these advancements might have created more questions than answers in our understanding of community, which has forced sociologists to adopt new definitions of community.

Wellman's evolution of face-to-face, place-to-place, and person-to-person communities is a product of the advancement in technology. Interactions based on the exchange of information gave way to person-to-person communities. Technology aided in the change of communities built off of narration to information, and now technology is shifting the understanding of communities from physical places to cyberspace (Wellman, 2001). Networked individualism does not replace physical places and interactions with cyberplaces and interactions over the internet. The internet, rather than being supplementary, fills the gap between physical interactions (Wellman, 2001). Online communities should not be understood as replacements for communities; they should be seen as counterparts to physical communities.

Understanding Twitch.tv

Twitch has entered the chat. Twitch.tv is an online streaming platform that was started in 2011 as a spin-off website from Justin.tv. Justin.tv is a website created by Justin Kan so that he can stream his everyday life. Twitch branched out to create a website where individuals could stream themselves playing video games for a live audience that could react to the gameplay and interact with each other through a live chat. Twitch now brings in 35 million unique monthly viewers, tuning in to view 7.1 million streamers (TwitchTracker.com). Video games are no longer the only thing streamed on Twitch. From live cooking streams to people just sitting and interacting with their chat, categorized as the "just chatting" section, there is not much that one cannot stream on Twitch. It is safe to say Twitch has grown in popularity on the internet, but it is still fairly new and unstudied in academia, so it is important that some of Twitch's vocabulary is described.

There is a certain dialect on the Twitch platform and a group of common words and phrases used by most people on the platform. Firstly, the roles of individuals on Twitch are divided into two groups. *Streamers* are the people actually playing the game and broadcasting it on Twitch. The *viewers* are the people watching and interacting with each other on Twitch. The viewers are often referred to as "the chat" by streamers because of the way in which the viewers interact with the streamer through a running chatbox on the side of the stream, as shown in figure 1.
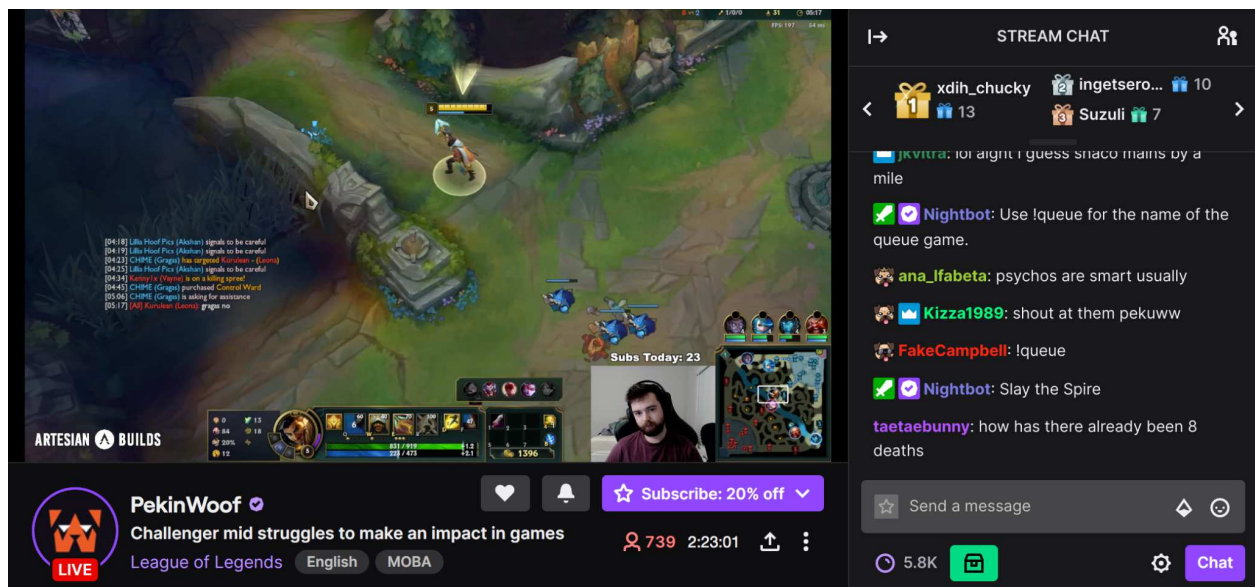

Figure 1: Layout of a Twitch Stream

Chatting is not the only way viewers can interact with the streamer. There are a variety of ways viewers can donate money to the streamer. The most common way people show support for a steamer is by subscribing. Subscribing to a steamer costs five dollars, and the subscription lasts one month. A subscription grants access to one-of-a-kind custom emoticons that can be used in any Twitch chat, not just in the one where the subscription was purchased. A badge or icon will also appear next to someone's username in chat, denoting that they are a subscriber. In Figure 1, this can be

seen as a little dog in front of a viewer's name. Along with perks that can be set by the steamer like ad-free viewing of the stream. Another way to show support is through gifting subscriptions. This is a process where someone who is already subscribed to a stream can buy more subscriptions. These subscriptions are gifted to random unsubscribed viewers in the stream. Next to subscribing on one's own, this is by far the most common and beneficial way to show support as it gives money to the streamer as well as grows that streamer's following, which could lead to a partnership on Twitch for the streamer and allow them to make more money on the platform. Partnership on Twitch will be explained further in a later section. When a certain number of subscriptions happen in a short period of time, it triggers a 'hype train' that incentivizes people to subscribe to keep the train going and often creates excitement in the chat. In addition to subscriptions, viewers can purchase 'bits' which are Twitch's form of virtual currency that can then be donated to a streamer. When bits are donated to a streamer, it is called a 'cheer.' Figure 1 shows a "cheer" at the bottom. Twitch is a free website, and while most support comes in the form of donations to a streamer, there are ways to freely support someone. Following a streamer is free and offers no benefits to the viewer, but helps show Twitch that a streamer has a following and could lead to a partnership on Twitch.

There were 7.1 million active streamers in November 2021 (TwitchTracker.com). How do streamers separate themselves from each other to acquire audiences to create a community? Three categories of Twitch streamers have been identified through prior research done by Enrico Gandolfi. The *challenger or professional streamer* is the first of Gandolfi's categories; these types of streamers attract audiences through their high level

of gameplay. The second category identified is the *exhibition or hedonist streamer,* focusing more on entertainment than a high level of gameplay. These streamers will interact more with the viewers while playing, taking suggestions on what and how to play something. Streamers in this category use their personality and the quality of the stream to attract viewers rather than pro-level gameplay. The final category of Twitch streamers is the *exchange or companion streamer,* letting the gameplay take a back seat. These streamers focus on the social interactions that happen between themselves and the viewers.

Twitch is a relatively unstudied space, and while similarities can be made between a Twitch stream and turning on the TV, there is one key element that puts Twitch in its own category. That is the ability to interact in real-time. As explained above, TV has been a source of the downfall of communities, pushing Americans' leisure time into the privacy of their homes (Putnam, 2000). Twitch is pulling leisure time back into the public domain of cyberspace. Twitch's rise to popularity in recent years has helped to introduce video games to new people and connect gamers (people who play video games) looking for others who share their passion, as well as creating an entirely new job market.

NETNOGRAPHY

Netnography, derived from ethnography, is a qualitative research method aimed at the study of social interactions on the internet through participant observation. Through the observation of naturally occurring interactions on the internet, researchers can gain an understanding of the social phenomena that happen through digital communication (Kozinets, 1998). Kozinets suggests a set of guidelines for conducting netnographic research that will be described and followed in this paper. These guidelines suggest that

there is a regular flow between a diverse group of active communicators and that these communications carry with them an energy that provides rich data. The interactions that happen between streamers and their viewers through chat meet these criteria and will be discussed further in the analysis section.

METHODS

Selecting Streamers

The content on Twitch varies drastically, with different styles of content producing different interactions within the chat between viewers and the streamer. There are 7.1 million active streamers on Twitch with no database listing them all, producing a random sample of streamers to observe was not a feasible option in the time frame of this study (TwitchTracker.com). Additionally given the varying content and viewership of streams a quota sample allows this study to include most categories of content on Twitch. Table 1 shows the sample of streamers that were observed for this paper.

Table 1: Categories of Streamers

Streamer	Type	Primary Game	Average Viewership
GMHikaru	Challenge	Chess (RTS)	11,358
Pekinwoof	Challenge	League of Legends(MOBA)	709
PaulEhx_	Challenge	Call of Duty(FPS)	55
DisguisedToast	Exhibition	Variety	12,334
TenacityTV	Exhibition	Rocket League(MMO, Soccer)	382
ALittleSugoi	Exhibition	Minecraft(sandbox)	100
Pokimane	Exchange	Just Chatting	16,712
ParallaxStella	Exchange	Apex Legends(FPS)	161
StrawHatJoey	Exchange	Pokemon Trading Card Game(TCG)	35

The sample of streamers was selected based on these guidelines, using Gandolfi's categories of streamers (*Challenge, exhibition, exchange)* as the foundation for the sample, each category was then broken down into three subcategories based on viewership. These categories are *large streamers* with 1,000 to over 10,000 average viewers, *moderate streamers* with 100 to 1,000 average viewers, and finally *small streamers* with 0 to 100 viewers. In addition to the sub-categories based on viewership each streamer that was observed primarily played a different game or activity on stream. Streamers playing first-person shooters (FPS) or a multiplayer online battle arena (MOBA) are required to focus while playing 10-45 minute matches against real opponents(PvP), interacting with chat in between these matches. Streamers playing sandbox or role-playing games(RPG),[1] these types of games do not have a PvP aspect, allowing streamers to play and interact with the chat at their own pace. This is not a perfect system; almost anything can be broadcasted on Twitch and they can't all be encapsulated in this paper. Focusing on the different games and activities broadcasted on Twitch is a topic for a future study.

Defining Community

Similar to types of streamers the concept of community has varying definitions in order to make the concept of community objective. Aspects of communities from different sociologists will be combined into a composite definition of community that can then be applied to Twitch streams. I feel combining aspects of community from older and newer research is the best to gather a full understanding of community. Older definitions

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[1] Sandbox games are designed with an open world format allowing the player to do whatever they can imagine.

serve a strong foundation but do not account for the advancement in technology. Networks built on the exchange of information will be combined with traditional aspects of community; shared territory, history, and values. Elements of social capital will be the final trait used in this composite understanding of community. This is not an all-encompassing definition and just like the preceding research will have its faults. This does however give objective traits that can be observed in new territories.

Each stream was observed for a total of two hours, field notes were taken during the observation of each stream. Events and interactions that were meaningful and displayed aspects of community were later transcribed with chats happening in between interactions with no significance removed. Interactions between two or more members of the chat were transcribed as is with the removal of the viewers' username for anonymity although usernames on twitch are anonymous already. Twitch owns the rights to all content produced on the website, streamers apart of the sample were contacted for consent to observe their streams for academic purposes because of this their usernames were left unchanged. When interactions took place with the streamer their speech was transcribed and time-stamped as accurately as possible.

FINDINGS

Even with a composite understanding of community, it can be hard to apply this to a budding system of social interactions that are taking place over the internet. Twitch streams lack the key element of face-to-face interaction that inherently would lead previous researchers such as Putnam to dismiss these interactions as a form of community. However, Putnam also dismissed the internet as being able to take over

newspapers as a platform to inform the public. I think it is safe to say the advancements made in technology, specifically on the internet, have surpassed most expectations. There is no denying the validity of Putnam's research that the introduction of televisions into the majority of American homes decreased our sense of community. Platforms like Netflix, Hulu, and Youtube follow in a similar path, isolating people during leisure time. Twitch and other streaming platforms' real-time chat box separates them from these other forms of entertainment. The chatbox allows people to interact and make connections much like one would at a friend's dinner party or a book club.

Social interactions on Twitch are not universal, and anyone with access to a computer and the internet can create an account and stream on Twitch. Twitch's growing popularity has seen an increase of 2.4 million unique streamers from 2020 to 2021 (TwitchTracker.com). Viewership in a stream can vary from 0 people with newer streamers to well over 100 thousand in broadcasts of global tournaments. There also exists a variance in the style of stream in these global tournaments streams that are set up and viewed like any sports broadcast found on tv. They can include broadcasters, an analyst desk, camera crews, and a plethora of special effects. The addition of the chat combines the comfort of watching a sporting event in the comfort of one's own home with the social connectivity of a stadium of fans cheering for a big play. On the other end of the spectrum, there are plenty of new streamers on Twitch waiting for their first viewer.

Types of Streamers

The versatility of the platform allows for all kinds of creative content that entertains but also inspires interactions to draw in new viewers. Diversity on the platform

makes it hard to study. That is why Gandolfi's categories of streamers were used to help select which streams were observed. Understanding what common interactions occur in each category of streamer first will help to how community can be applied to each stream.

Starting with the *challenge* streamer. These streamers are often pro-players for their respective esport, streaming their practice to showcase the game and interact with fans. People tune in to learn from the best, similar to how traditional athletes watch game film, viewers can gain a better understanding of how the game should be played and in-game mechanics.[2] Generally, there is less streamer-viewer interaction because the streamer is focusing on playing the game at a high level, and in between matches, or levels, the steamer will answer questions that were asked and thank people for subscriptions and donations that happened during the previous game.

Figure 2: Stream Overlay and Vstreamer

Next, the *exhibition* streamers. Their personalities are their biggest tool to entertain. Some *exhibition streamers* will put on a persona to help drive the stream. In

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[2] In-game mechanics are the actual mechanical response a game has in its code when certain buttons are pressed.

addition, the quality of their streamer is a tool used to help attract viewers. This might

mean having catchy graphics that pop up on stream when a viewer donates or subscribes.

A collection of customized emoticons that can be used by subscribers in their chat that

often follow a theme or reference a memorable or historic moment in a past stream. Akin

to a late-night show, these streamers will play a variety of games and often take

suggestions from the chat. This can best be seen through ALittleSugoi's streams.

ALittleSugoi is a Vstremer meaning that instead of having a facecam there is an animated

representation of themselves.[3] Figure 2 displays how the combination of an extreme

character and high-quality stream graphics are used by *exhibition streamers* to attract

viewers.

Finally, *exchange streamers,* the last of Gandolfi's streamer categories. These

streamers prioritize interacting with their chat instead of gameplay. Most exchange

streamers can be found under the "just chatting" section on Twitch. This is Twitch's

largest sub-category of streams, but it is quite simple to understand; it is just chatting.

Streams are based entirely on interactions with the chat, and while some games are

played, the majority of the time it is just the streamer reading questions or comments in

the chat and responding. A comparison could be made to a book club where there is a

general topic to talk about, but as people interact, the conversation naturally flows to

different topics. Over the week of December 5th, 2021 the "Just Chatting" section had

357,678 viewers who watched a total of 60 million hours making it Twitch's

most-watched category by a large margin.

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[3] Facecams are live camera feeds of the streamers face allowing the viewers to see their
reactions when playing adding a personal aspect to a stream. V streaming allows
streamers who are not yet comfortable showing themselves on stream to still have an
identity to help connect with viewers.

Applying a Definition of Community

Now that the different kinds of content and how they insight differing interactions are understood, how can aspects of community be found in these interactions? The issue of having a shared territory has been a point of contention in recent community research. I believe that Twitch and the individual streams on Twitch can be viewed as territories. As communication on the internet became facile, it allowed individuals to construct their own individualized networks and with it the creation of cyberplaces (Wellman, 2001). On Twitch the website can be viewed as cyberspace; it is only until the page changes to an actual stream can the website be considered a cyberplace. This is because there is no feature on Twitch's home page that allows users to connect with each other and create the ties necessary to transition from cyberspace to a cyberplace as described by Wellman. This distinction allows each of the nine streams observed for this study to be classified as their own cyberplaces.

Another characteristic used to classify traditional communities is a shared belief system (Tönnies, 1987; Putnam, 2000). As part of Twitch's website design, they place a set of text boxes underneath each stream titled 'About.' Streamers can then customize these text boxes to match the aesthetic of their stream. These boxes often contain short bios of the streamer, their other social media handles, perks of subscribing to them, their top donors, and rules of the stream.

A chat rules section sets clear guidelines and values that are to be followed when using the streamers' chat. Another option streamers have is to have a chat rules text box pop up whenever you click to enter something into their chat. This box contains a button that says 'okay, Got It!' and acknowledges that whoever would like to chat has read or at

least seen the rules before they begin chatting. Out of the nine streams observed, eight of them had chat rules either underneath their stream or as a pop-up before anyone could chat. Four of the nine streamers had chat rules in both locations, and one of the nine streamers had no chat rules listed. Based on this sample of streamers it is common for streams to have a set of shared values that the viewers follow.
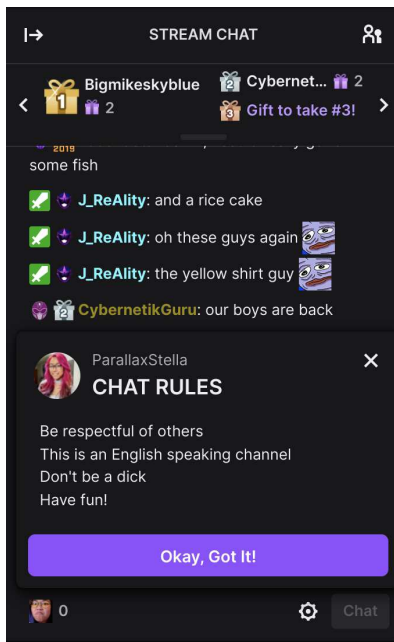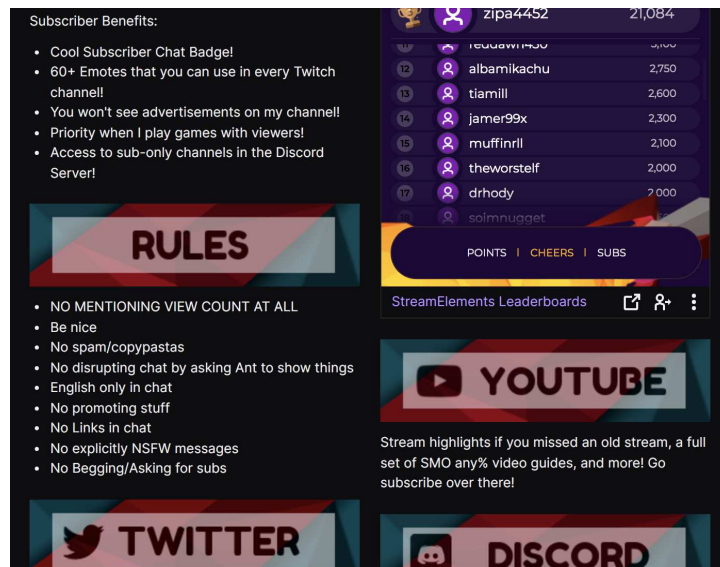

Figure 3: Chat Rules Pop up   Figure 4: Stream About section with Chat Rules

Commonly, viewers chatting with each other are respectful of the streamer and other viewers. A list of rules is a good start to creating an inviting and friendly environment to build a community. However, a list does not enforce the rules it states. Enforcing rules is the job of the moderators or mods in chat, and traditionally these are people who have supported a streamer since the beginning. They are normally in the chat and know how the streamer would like things to operate. Mods are found in almost every stream and were present in all nine of the streams observed. The number of moderators a streamer can have varies depending on the size of their following, frequency of streams,

and personal preferences. A moderator's job requires them to be present in most streams, not just casually watching. They have to be actively reading the chat to interact with viewers. If someone does happen to violate the rules of the chat, the mods will either time that viewer out or, in a sense, give them a time out. This is normally used as a warning method for new viewers of the stream who do not understand how to interact within the chat. Mods will ban accounts from being able to enter a stream if they make comments that are egregious or are in direct violation of the rules of the chat. Bans are not uncommon, however, no viewers got banned in any of the chats while observing them.

Twitch chat moderators are a perfect transition to present how Twitch chats can have shared histories. As stated in the paragraph above, moderators are usually viewers who have been around since the streamers' start. Mods establish trust and relationships with streamers by participating in the majority of the streams and maintaining an active and positive presence in the chat. Eventually, if the stream starts to gain a larger following and they can no longer maintain the chat themselves, they will appoint moderators. Each of the nine streamers having mods speaks to every streamer having shared histories with their viewers and a desire to keep their chats a positive space.

1:40:21
Viewer21 - %timesViewer21

1:40:21
Nightbot - @Viewer21 has spent 1 year, 1 month, 6 days in chat
|| 1 month, 2 weeks, 3 days, 6 hours Offline || 11 months, 2
weeks, 4 days, 18 hours Online FeelsOkayMan TeaTime

In the Twitch chats, commands can be typed that will prompt the information to pop up in the chat itself. A symbol like % preceding a word is the format to prompt a

command in a chat as shown above. Commands can be anything the streamer creates. The chat above depicts a user checking their total amount of time in Pokimane's chat. Since Pokimane started streaming in 2013, this viewer has spent just over a year in her chat. That is a significant amount of time to spend in one place and depicts how shared histories can be created on Twitch.

Building a following on the platform is required for a streamer to have a history of consistent streams. Through the observation of nine different streams, with varying start times on Twitch and varying viewership levels provides further evidence that shared history can be created on Twitch between a streamer and their audience. There is a sense of loyalty within Twitch streams with viewers understanding the power they hold when they decide to tune into a stream. "Complete the Path to Partner achievement or demonstrate large, engaged viewership/following on other services," this is the first requirement to be eligible for Twitch's partnership program that allows streamers to monetize their stream run ads and gain access to other perks that can help grow their stream. (Twitch.tv, 2021). Streaming is a large time commitment and expensive hobby to get into if there is no intent to make money. That being said, streamers market themselves and the content they provide openly and because of this, viewers understand the power they have when tuning into a stream or deciding to subscribe. Understanding this power creates a sense of loyalty with viewers causing them to hang out in generally the same streams. Histories can be built through this loyalty.

Social interactions have transformed, an exchange of information is now the core of most interactions (Tönnies, 1987; Wittel, 2001). The interactions that take place on Twitch are no exception and in every stream observed, information was being exchanged

in some capacity. Viewers ask a variety of questions about the game on stream, streamers' opinions on current topics, and about the streamers' personal life. In PaulEhx_'s, a *challenge streamer,* this interaction was observed to best showcase how streamers offer information to their viewers. While the information itself in this exchange is not important. The flow of knowledge from a pro-player who is required to be an expert in the best settings to stay competitive to the viewers.

33:51
Viewer78 - @PaulEhx_ yo my monitor does the same thing

34:52
Viewer78 - like my monitor makes my pc settings go to 144 Hz and so does my Nvida control panel and wont give me the option for 240 until i restart my pc

35:20
PaulEhx_ - I know man it's so frustrating, I've found that if you go to your Nvidia control panel and select custom refresh rate and set it to 10 frames below your monitors max it will help with the screen tearing.

35:40
Viewer42 - !sens

35:40
Nightbot - 6-6 1x Deadzone: Left 0-99 Right 5-99 | Dynamic aim assist | Default Tactical -

38:12
Viewer78 - is it just the ASUS TUF monitors that do that

38:40
PaulEhx_ - I'm not sure it is what we have to play on for the CDL so it's the only one I use

Social capital was defined previously as bonds of fellowship, sympathy, and support. Through the observation of the sample streams, there exists a fellowship between viewers. Through experiences like hype trains, receiving a gifted sub, and viewers making connections in chat finding out they have more in common than tuning into the same stream, social capital can be built through Twitch chats. I do not think that social capital can only be built through Twitch chats; however, there is no denying the need to have face-to-face experiences. These bonds act as a supplementary way to build social capital. In GMHikaru's chat, an American chess grandmaster, I was able to observe

two viewers who connected and discovered they had attended the same university in

Germany. Connecting people across countries and allowing them to communicate like

friends have never met before is the power of Twitch chats.

2:23:40
Viewer349 - what are you studying in Tubigen actually

2:24:22
Viewer57 - in the simplest terms ml artificial intelligence

2:25:38
Viewer349 - oh nice pog

2:25:55
Viewer57 - machine learning is the name of the program

2:26:08
Viewer394 - ya that makes sense did you do your B.A. in your home country or also in germany

2:26:31
Viewer57 - nah, home country german B.A. needs german lang kekw

2:27:24
Viewer394 - yeah true lolw not a lot of B.A. programs here are in english

2:28:20
Viewer57 - also a lot of people take informatik and drop it within 1 semester omegalul

2:28:34
Viewer394 - I did as well but only after I finished my B.A. in business tried one semester omegalul

2:29:03
Viewer57 - yeah, interesting its the main thing and a little bit of intelligence next

2:29:59
Viewer394 - drop out after 1 semester is good lulw

2:30:23
Viewer57 - well there are good and bad things with socialized education mostly good though

Ultimately, the social interactions that could lead to community building happen

in the live streams, but it is important to acknowledge the rhetoric Twitch puts forward

that shapes how streamers use the platform. "Twitch is where millions of people come

together live every day to chat, interact, and make their own entertainment together".

This quote can be found on Twitch's "about" page. Similar to the streamers section, this

page is a place for Twitch to market itself and promote what is happening on its platform.

There is a lot happening on Twitch and it attracts people for different reasons. Attracting

new streamers is, of course, the main focus as they are the ones that will promote the

website. Through this quote, it is made clear that a sense of community is what Twitch is

striving for in every stream, no matter the content. "Your creative content thrives here. Bring your passions; we'll help you build a community around them" (Twitch). Twitch has a clear objective and that is the creation of communities on their platform.

DISCUSSION AND CONCLUSION

Not everything could be accounted for in this study and there are some factors that could have had an influence. It is worth noting that the timing of this study happened to be in conjecture with multiple AAA game releases. [4] Halo Infinite, Call of Duty Vanguard and Warzone Caldera, and New World having these games released could have increased viewership and interactions on Twitch. Specifically, in *Challenge streamer*'s chats, viewers ask about game settings, opinions, and strategies on how to play the game. While these interactions will still happen normally there is a definite increase right as the game launches. December was the month in which a majority of the streamers were observed. This month often has an increase of advertisements due to the holiday season. An increase of ads means that there are more incentives for streamers to stream because they can make money off of ad revenue. Lastly, only English speaking streams were observed. None of these factors would change the result of the study, however, they are worth mentioning for transparency.

Through the observation of interactions that took place on Twitch.tv and the analysis of textual data put forward by the company, Twitch streams can be considered communities. Online communities do not need to take the place of traditional communities but do need to be acknowledged. Traditional traits of communities can be

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[4] AAA games are games released by large studios with lots of resources; these games are often played by millions.

found on Twitch. Although not physical, understanding Twitch streams as a shared

territory through the frame of cyberspaces. This creates the foundation for history to be

made through the exchange of information with guidelines set through a set of shared

values. Gifting subscriptions on Twitch not only provides someone the perks that come

with subscribing, gifted subscriptions support the streamer allowing them to continue to

pursue their passion for entertaining others. This is a production of social capital. With

the exception of one stream without a set of shared values, every stream observed

contained every aspect of the community set forth.

FUTURE RESEARCH

There exists a few social processes that were outside the scope of this study that

would be worth investigating in future research. The use of gender as a separating

variable to analyze the differences of cis male to cis female to transgender stream

communities. There has been plenty of research on what factor gender plays in video

games and video game culture, it could have an effect on Twitch. Twitch also hosts a live

event called Twitchcon, a convention centered around live streaming culture that gives

viewers an opportunity to meet the streamers they support. I believe this would provide

further evidence that Twitch streams can be considered communities however it did not

fit within the time restaurants of this study.

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