

University of Nevada, Reno

**Video Game Participation and Livestreaming: A Model of Media Engagement Between Streamers, Chatters, and Viewers**

A thesis submitted in partial fulfillment  
of the requirements for the degree of

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by

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We recommend that the thesis  
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## **Abstract**

This study will attempt to answer three research questions in regard to the social communities that form around video game livestream chatting. What elements of livestreaming in video game chatting are most popular among chatters? How do livestream chatters describe how they use chat on Twitch.tv? What do chatters do with the experiences and knowledge obtained while chatting? These questions will be answered using two different direct research methods, content analysis and survey research. The results of this research will provide insight into the world of video game livestream chatters and what their experiences using this technology mean to them.

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## **Introduction to the Research**

As the field of technology has rapidly progressed over the last several decades, so too has the ability of media companies to transmit ideas to the public. In the past, traditional media channels such as newspapers and television were the sole option for media companies to try and reach target audiences, today the internet allows these same companies to reach audiences instantly (Wikström, 2014). One of the most prolific media technologies that has arisen during the digital age is livestreaming. When an individual livestreams an event, he/she broadcasts video and sound of an event over the internet as the event happens (Cambridge University Press, 2017). While some websites and other online platforms have capitalized on the media engagement opportunities presented by livestreaming technologies, many traditional media companies have failed to capitalize on these same opportunities (Burroughs & Rama, 2015). The intent of this study is to better understand the social engagement surrounding livestreaming as well as what influences viewers of livestreams to participate in chat-based systems.

## **Introduction to the Problem**

Video game livestreams are a popular form of online entertainment where viewers gather together to watch one person play a video game in real time. The largest current provider of video game livestreams is found at [www.Twitch.tv](http://www.Twitch.tv), a website allowing users to chat with one another, fostering a sense of community within the various channels of its website. I will examine the factors that influence why users are likely to chat while watching video game livestreams. The goal of this research is to evaluate what those same users do with the experiences gained while chatting.

Over the past five years, video game livestreaming has grown to become one of the most popular destinations of internet users (Burroughs & Rama, 2015). Video game livestreaming consists of one individual, known as the streamer, playing a video game live for an audience of virtual spectators. The viewership numbers for each streamer's channel can vary from dozens of viewers to tens of thousands. The leading provider of video game livestreaming is the website Twitch.tv. In 2015 alone, 241,441,823,059 minutes of content were streamed on Twitch.tv, which equates to 459,366 years (Twitch.tv, 2015). Due to the high volume of viewership on livestreaming sites such as Twitch.tv, there is a large market based around advertising on these platforms (Logan, 2013). However, advertising is not the only significant source of revenue that arises from the video game livestreaming industry (Burroughs & Rama, 2015).

What makes livestreaming unique compared to other media platforms such as television and radio is its viewer participation "chat" system. This system, usually shown as a text window on the right side of the website, allows viewers to converse with one another, as well as with the streamer, in real time. This feature is significant because this chat system can lead to the proliferation of strong communities of viewers around one streamer (Hamilton, Garretson, & Kerne, 2014). Another feature of Twitch is that it allows viewers to subscribe to a streamer. A subscription consists of a viewer paying a monthly fee to receive benefits such as increased chat privileges while in the streamer's channel (Twitch.tv, 2015).

Burroughs and Rama (2015) concluded that audience viewership habits are shifting globally, and livestreamed videogames on websites such as Twitch will continue to rise in popularity. As the researchers point out, the digital giant Amazon purchased

Twitch.tv for 970 million dollars in 2014. The Amazon acquisition of Twitch.tv represents a seminal moment in the maturation of streaming technology and gaming. Traditional industry gatekeepers vie for top position within this burgeoning media industry space (Burroughs & Rama, 2015). Such actions by powerful media corporations certainly convey the relevance of livestreaming technologies, as well as the opportunity for integration between media platforms in the near future. However, research investigating why livestream viewers are likely to chat with one another and form social communities has not been conducted.

### **Statement of the Problem to Be Researched**

Even though Twitch is a popular platform for gamers, it is not known how Twitch chatters use the experiences gained while viewing and/or chatting within a streamer's channel.

### **Purpose and Significance of the Problem**

The purpose of this case study is to examine the social communities surrounding specific livestream channels on the online platform Twitch.tv. The intent of this study is to analyze why viewers are enticed to participate in chat and ultimately integrate themselves within livestream communities. In turn, this data will determine what the chatters do with what they learn and observe.

After debuting in 2011, Twitch.tv has grown from a simple livestreaming website to a social video platform that highly encourages viewer-streamer interaction (Twitch.tv, 2017). Such progression points to the fact that social elements of livestreaming platforms are inherently beneficial to an increase in viewership. As Consalvo (2017) notes, live streamers work hard to build a name for themselves—a brand—and to then attract a

community that recognizes them for what they do. Securing niche audiences through social methods such as chatting is a priority for many streamers, yet the driving factors behind why a viewer integrates him/herself into a streamer's community have yet to be examined by the academic community.

Although some traditional media companies such as the sports television network ESPN have shown reluctance to incorporate livestreaming platforms such as Twitch.tv into their operations (Burroughs & Rama, 2015), there is documented evidence of smaller media institutions using such technologies effectively. Waits (2015) notes how livestreaming technologies were successfully integrated into a college radio program. In her study of the 90 year history of college radio at Haverford College, Waits found how unsuccessful the program was in the years directly prior to the advent of livestreaming music. However, by transitioning the program from a traditional radio station to a web-based collective of audio content and multimedia, students relaunched the station and successfully increased participation and audience numbers. This research points to the fact that many traditional forms of media are quickly becoming obsolete and by integrating new technologies such as livestreaming, these media channels can be improved via ease of access and pave the way for social communities to be built.

The media are an integral part of today's world. As consumers continue to demand information on an instant basis, it is predicted that livestreaming technologies will continue to rise in popularity (Burroughs & Rama, 2015). Because all media companies are constantly vying for the attention of consumers, the need to adapt to modern trends is essential. Social media platforms such as Twitter and Instagram have developed their own livestreaming features to fill this need. As Stewart and Littau (2016)

note, these remote livestreaming platforms break down the previous lag between information collection and information distribution. Furthermore, media professionals must have an understanding of why members of the public choose to use specific platforms. If the underlying reason so many people use livestreaming platforms is due to social aspects such as chatting, media companies can benefit from this information.

### **Research Questions**

This research was designed as a case study that examines how social communities form around livestream channels and the potential impact such communities may have on traditional media platforms in the near future. The following questions guided this research:

1. What elements of livestreaming in video game chatting are most popular among chatters?
2. How do livestream chatters describe how they use chat on Twitch.tv?
3. What do chatters do with the experiences and knowledge obtained while chatting?

### **Definition of Terms**

#### **Livestream:**

To broadcast video and sound of an event over the internet as it happens, or to be broadcast in this way (Cambridge University Press, 2017).

#### **Twitch.tv:**

Founded in June 2011, Twitch is the world's leading social video platform and community for gamers, video game culture, and the creative arts. Each day, close to 10 million visitors gather to watch and talk about video games with more than two million

streamers. Twitch is more than a spectator experience; it is social video that relies on audio and chat to enable streamers and their audiences to interact in real-time about topics from gaming and pop culture to life in general. (Twitch.tv, 2017)

**Streamer:**

One who engages in the act of livestreaming video game play or other events (Twitch.tv, 2017).

**Channel:**

A webpage within Twitch.tv that is specific to a single streamer. Users can visit this page to watch the streamer and/or participate in chatting.

**Viewer:**

One who watches a livestream but does not actively participate in chat.

**Chat:**

An interactive system, usually shown as a text window on the right side of a livestreaming website, that allows viewers to converse with one another in real time (Twitch.tv, 2017). The chat system also allows stream chatters to interact with the streamer in a variety of ways (Consalvo, 2017).

**Chatter:**

A livestream viewer who also uses the chat window to communicate with others either through words, phrases, or images.

**Subscription:**

A service offered by livestreaming websites such as Twitch.tv that lets viewers pay a monthly fee to receive special benefits and privileges in specific channels (Twitch.tv, 2017).

**Moderator:**

An individual that a streamer appoints to watch over the chat window in his/her Twitch channel. Moderators are tasked with removing intrusive or unwanted messages as well as banning problematic Twitch chatters.

**Bots:**

Automated chat moderators that are meant to perform various functions within a streamer's channel without the need for human interaction.

**Emotes:**

Small images Twitch.tv has integrated into its chat system. Most emotes consist of faces that chatters use in reaction to an event or occurrence within the stream. Some emotes are specific to a single streamer while others are global. Global emotes are used by any chatter in any stream.

**Digital Age:**

The present time, when most information is in a digital form, especially when compared to the time when computers were not used (Cambridge University Press, 2017).

**Traditional Media:**

Media formats popularized before the internet and digital age. Magazines, music, film, books, television, radio and newspapers are all examples of traditional media (Wikström, 2014).

**Assumptions and Limitations of the Study**

As a student of journalism and business who has studied various media channels, as well as an active video game player and user of the livestreaming website Twitch.tv, the researcher holds several assumptions that may influence this study.

*Four Assumptions Made by the Researcher*

1. Live stream viewers are drawn to channels in which the streamer constantly interacts with viewers through the chat system.
2. A viewer who actively participates in chat is more likely to subscribe to a channel than a viewer who does not participate in chat.
3. The personality of the streamer influences how viewers engage with one another in chat.
4. Viewers are drawn to livestream channels filled with likeminded chatters.

These assumptions were recognized and the researcher worked to minimize their influence on his analysis of data.

One limitation of this study may be found in the researcher's choice to only collect data from a single livestreaming website. While it is true Twitch.tv is by far the largest online livestreaming platform (Burroughs & Rama, 2015), it should be noted that there are other platforms which could provide similar data. Due to the researcher's unfamiliarity with alternative livestreaming websites, as well as the fact that such websites would likely not contain a sample size of users even remotely close to Twitch.tv, the research questions were crafted to target this single platform. However, the researcher recognizes the limitation of collecting data from a single source, and will therefore exercise caution when analyzing such data and forming a conclusion.

## Summary

As technology has advanced during the digital age, livestreaming platforms such as Twitch.tv have incorporated social aspects such as a chat window that allows streamers, viewers, and chatters to interact with one another. However, the relationship between these three parties that arises from chatting has not been extensively researched. A case study approach was used to gain insights into why livestream viewers and chatters are attracted to specific channels. This research sought to determine how livestream chatters use the experiences they gain while chatting in a livestream setting.

## Literature Review

### Chatting

Chatting is not a new phenomenon in the digital space. As the internet paved the way for users to transmit information instantly to other unique users, so too did it allow the same users to send simple messages by chatting. There were many online chat platforms that preceded those used as part of livestreaming services such as Twitch.tv. A look at how chat platforms have developed over time is needed in order to understand how Twitch.tv's chat system influences its viewers.

One of the earliest examples of online chat communication stemmed from AOL chatrooms. Largely used in the late 1990s, these chatrooms allowed internet users to interact with one another and join communities based on common interests, hobbies, geographic location, etc. (Diers, 2003). In his research, Diers describes how nonverbal communication through typing was used in these chatrooms to make chat conversations seem more authentic and free flowing. Moreover, Diers goes on to state that the development of this nonverbal communication is indicative to the creation of its own culture. If an individual who solely used the internet to check email and perform other everyday tasks visited a chatroom for the first time, many nuances of the online language would be lost upon the user. This phenomenon is similar to a non-native speaker visiting a foreign culture (Diers, 2003). As methods of online nonverbal communication have evolved over approximately two decades, platforms such as Twitch.tv contributed to this phenomenon of a unique language system. However, while the nonverbal cues formed in AOL chatrooms were based around a variety of topics, those found within the various

channels of Twitch.tv stemmed from a culture of video games and gamers who played them.

Instant messengers are a chatting platform that paved the way for current technologies. Instant messengers, or IMers, refer to a specific social platform in which a user is signed in to chat with others. Although users of IMers may not be chatting the entire time they are signed in to the service, there are still incentives for users to remain signed in (Vandeen Abele & Roe, 2009). One incentive is the continuous potential for social interaction. Even though users of IMers are not physically close to their online communities, a sense of symbolic proximity is generated when a user is signed in, regardless of whether he/she is actively chatting (Vandeen Abele & Roe, 2009).

Furthermore, the ability to view which friends or buddies are also signed in means an IMer user is never alone in this virtual space. The potential for instant social interaction at any given moment is certainly a benefit for users of IMers or similar types of chatting technologies. This research does not correlate to a chat system such as text messaging through a cell phone in which a user is effectively always signed in. However, when compared to a system such as Twitch chat in which a user creates an account (online identity) in order to participate in any sort of discussion, this research holds relevance and may play a role as to why viewers are likely to engage in chat participation.

Text messaging, otherwise referred to as texting, has long been an influential service used by millions of people in the digital age. In fact, as Shuter and Chattopadhyay (2010) report, over one trillion text messages were sent in 2005. As cell phone usage has developed tremendously over the last decade, so too have the unique cultures surrounding text messaging as a chat platform. For example, users in India choose to send text

messages from a semi-private location such as a house or apartment, whereas users in the US text most often from public social settings (Shuter & Chattopadhyay, 2010). Although both cultures possess the same technology, the manner in which they use text messaging is quite different. Individuals of many nationalities use Twitch.tv as an entertainment livestreaming service, yet it is unknown whether their cultures influence how they utilize the platform to interact with one another.

One important aspect of online chatting is that individuals can come together to discuss niche topics. The platforms which these individuals choose to communicate on have the ability to increase how easily such information can be accessed. An example of this is professionals in the field of education using a microblogging community to share ideas and connect with one another (Gao, 2017). By forming a community around a specific hashtag on Twitter, these professionals are able to check if any ideas had been recently discussed instead of using outdated and archaic methods. Professional development is not the most apparent function of a social media platform such as Twitter. However, the simplicity this microblogging chat community provided the educators served to cross geographic boundaries and enhance collaboration of ideas (Gao, 2017). Although it is unknown if a platform such as Twitch.tv would be able to sustain professional development, it is certainly not outside the realm of possibility.

The development of professional communities is not the only perceived benefit of online chat systems. Enticing group participants to engage with peers when they would not ordinarily do so in a face to face setting can be achieved through the use of online chatrooms (Freiermuth, 2002). One way this is apparent is through hierarchies and leadership roles within a group setting. When students or other learners are faced with

small groups, a leader may sometimes arise who is domineering and controls the flow of the discussion. If the same group was placed in an online setting, however, this phenomenon would be less likely to occur (Freiermuth, 2002). It is unclear whether a system such as Twitch chat fosters participation amongst those that would not choose to communicate in a real life setting. Many Twitch channels host tens of thousands of viewers, with the possibility of hundreds of messages being sent in the same instant. However, in a small setting where only a few chatters are active, it is feasible that unlikely chatters are drawn out due to the lack of complex signals needed to participate in a face to face conversation.

Although the internet can be a useful tool for increasing social interaction amongst users, negative effects can manifest themselves as well. Communication through the use of anonymous online identities has been of concern to researchers for years (Hu & McDonald, 2008). According to such researchers, anonymous identity users may be able to hold skillful conversations in a virtual setting such as a chatroom or online game, yet would find it difficult to converse in a face to face situation. This lack of ability to communicate and connect with other humans such as friends and family members is especially prevalent amongst adolescents (Hu & McDonald, 2008). Furthermore, excessive internet use negatively impacts mental well-being by promoting feelings such as loneliness. Due to the fact that online users may seek social communities and websites to create a feeling of belonging, Twitch.tv and its chat system may be an ideal location for such users to attempt to mitigate loneliness.

## **Gaming**

As the vast majority of content streamed on Twitch.tv is focused on video games, it is necessary to look at the social implications gaming can have on both viewers and players. Video games have been a topic of scholarly discussion for many years, yet most sources tend to focus on the behavioral influences they provide. The purpose of this study is not to research the link between gaming and certain behaviors. However, research that does examine this relationship offers a better understanding of why livestream viewers may find video game spectatorship so appealing.

An antiquated viewpoint on gaming is that it is solely the hobby of antisocial individuals locked in their homes. In fact, much of the recent research done on video game players points to the opposite. Out of all American adults, 53% play a video game of some sort (Domahidi, Scharkow, & Quandt, 2012). Moreover, 76% of adolescents report that they game with friends either in person or online (Domahidi et al., 2012). These statistics are significant because they portray how common of an interest gaming is becoming in today's society. Each day, close to 10 million viewers gather on Twitch.tv (Twitch.tv, 2017). Such a large community is a hub of social relationships, and deserves to be examined in order to gain a better understanding of viewer participation habits.

A large portion of literature written on the topic of video games points to the fact that playing violent games increases the chance a person will behave violently in the real world (De Simone, 2014). Moreover, being a frequent game player relates to antisocial behaviors while being a less frequent or non-game player relates to prosocial behaviors. (De Simone, 2014). This correlation makes sense, as any time a person spends playing a video game is time not spent interacting with other humans in a face to face scenario.

However, a study regarding how watching another person play violent video games in a live setting is related to violent and/or antisocial behaviors has yet to be conducted. As Twitch.tv is as much a social community as it is an entertainment website, it may not have the same effect on social behaviors that is derived from simply playing video games.

Online gaming has rapidly gained popularity as the digital age has progressed. During a case study, it was found that adolescents are drawn to online games because they must work together with friends or teammates in order to meet a common goal (Muros, Aragón, & Bustos, 2013). According to respondents, talking and listening is a highly important aspect of social online games, which amplifies both the risk and fun (Muros et al., 2013). Spectators of a video game livestream may experience emotion while watching a streamer play. It is currently unknown exactly what these viewers feel when a streamer succeeds or fails while gaming, yet this may be a key factor in determining why they are enticed to participate in chat.

### **Livestreams**

Due to the fact that livestreaming is such a new technology, minimal research has been conducted detailing viewership habits. Furthermore, studies examining the link between live streamers and chatters who choose to participate in the livestream itself are just as difficult to find. Despite this, researchers in the communications field have focused their studies on how livestreaming can be utilized to relay information on an instant basis. This information is quite useful for learning how livestreaming works as well as which direction the technology is likely to head in the future.

Although in many respects the capabilities of livestreaming and social chat communities have yet to be paired, other disciplines have begun to integrate these technologies. Many academic institutions use livestreaming technologies in a successful manner. For example, Barone (2012) mentions how 30 undergraduate students paired livestreaming technologies with traditional media channels in order to create an election-coverage program which won two awards. The students streamed four hours of live election coverage successfully on November 6, 2012 that simultaneously aired over TV, FM radio, and the Internet (Barone, 2012). This research showcases how livestreaming technologies may be integrated into unlikely settings such as a collegiate classroom environment. Social platforms such as Twitch.tv focus more on the entertainment aspect of livestreaming, yet research such as that conducted by Barone (2012) truly highlights the large amount of possibilities the creative use of this technology can provide.

Another aspect of livestreaming to be examined is how various groups have utilized these technologies for purposes other than entertaining audiences. To determine how various aspects of livestreaming websites such as Twitch.tv can be integrated with traditional media channels, it is necessary to connect research that details this type of usage for such technologies. Thorburn (2014) examined how participants in the Quebec student strikes of 2012 utilized livestream technologies to bring light to their situation. By broadcasting the protests live, the students were able to display unfiltered images of police brutality to nearly anyone in the world. This objective viewing of such a landmark event provided a large amount of power to the protesters, and showcased how formidable livestream technologies can be when utilized in a creative manner, and in a way that it was not initially intended for.

Similarly Gregory (2015) examined how in recent years, a phenomenon known as “citizen journalism” has arisen due to the availability of video recording technology. By utilizing devices such as smartphones and handheld cameras, civilians are easily able to capture newsworthy moments and upload them to the internet within moments.

Livestreaming technology has added to the speed to which citizen journalists can share such occurrences. Specifically, Gregory (2015) found cases where on-the-scene witnesses in locations such as Brazil, used livestreamed video to document human rights and justice violations. Without these technologies, victims of such transgressions have few options to shed light on their situations (Gregory, 2015). As ease of access to video recording and livestreaming technology continues to rise, more power will be placed in the hands of everyday people. This research provides a clear example of how communities of viewers can form around livestreams and influence each other as well as outside groups.

## Methods

### Content Analysis

The method of content analysis was used to collect data over the course of this study. This systematic procedure was used to examine the content of recorded information (Wimmer & Dominick, 2006) for Twitch.tv's chat window because it is essentially a brief archive of recorded text and images. Content analysis was surmised to be advantageous in determining why chatters may be enticed to participate in their respective social communities.

The researcher spent a period of approximately two weeks observing various channels on Twitch.tv to locate a feasible community in which to record chat logs. Since the researcher is a regular user of the platform, he observed that more viewers who are tuned into a channel means a higher concentration of chat messages. Since messages can move so quickly up the screen, the researcher determined manually recording and analyzing them would be difficult. However, a channel with too few viewers would not be able to produce a large enough sample size of chat messages to analyze. Therefore, a medium-sized channel of approximately 2,000 to 10,000 viewers was an effective measurement size from a content analysis perspective.

Once an ideal channel size was found, the researcher searched for a streamer whose viewership met these specifications. After another period of observation, the streamer Dyrus (channel name TSM\_Dyrus) was selected. During the observation period, Dyrus' channel ranged from approximately 3,000 viewers to 10,000 viewers. However, the chat window on Dyrus' channel moved at a steady and measurable pace, meaning it provided the ideal platform to record and analyze the content of Twitch chat.

On three separate occasions over the course of a two week period, the researcher recorded the chat data in Dyrus' channel. The researcher selected three separate days and times to record the content. For the purpose of this study, these three occasions have been labelled Interval 1, Interval 2, and Interval 3. During each interval, the researcher took screenshots of the chat window for exactly five minutes. Due to the fact that the most recent chat messages appear at the bottom of the window and move up as they are offset by newer messages, it was simple to determine when a new set of messages had replaced the previous one. An example of one full set of messages recorded during Interval 2 has been provided below.



**Figure 1.1 Full window of Twitch chat messages**

After all content was recorded, the data were organized into separate locations for each correlating interval in preparation to be analyzed. After the collection process was complete, 25 screenshots were collected totaling approximately 480 Twitch chat messages.

### **Survey Research**

Survey research was the second method used to collect data for this study. This method was chosen to allow data to be collected from a variety of firsthand sources regardless of geographic boundaries. The survey created for this study was a descriptive survey because it attempted to describe or document current conditions or attitudes regarding chat participation habits (Wimmer & Dominick, 2006). The researcher designed the survey around which questions were likely to provide insight into the three research questions.

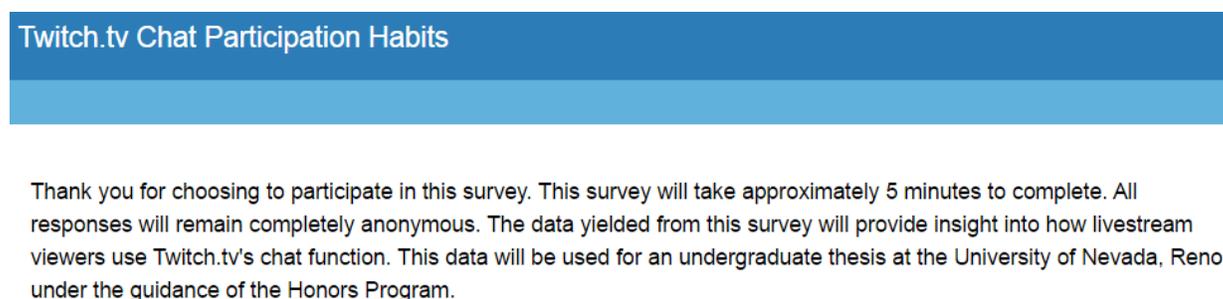
In total, six questions were included in the survey. Each question allowed a participant to select from five different options, with the final three questions using a Likert scale. A Likert scale is perhaps the most commonly used scale in mass media research (Wimmer & Dominick, 2006). Participants can strongly agree, agree, be neutral, disagree, or strongly disagree with the statements presented. Overall, the use of the Likert scale was determined to be an effective measurement tool for this study.

After crafting the survey questions, the researcher created an anonymous account on Twitch.tv to distribute the survey. All questions regarded Twitch chat participation habits. To protect the anonymity of respondents, no questions regarding personal information were asked aside from an approximate age indication. The researcher also

utilized an option to not record IP addresses of responses in order to further protect their anonymous identities.

The survey distribution process began by selecting three different channels that ranged from 200 to 13,000 viewers. For four consecutive weekdays in March, the researcher distributed the survey amongst randomly selected livestream viewers. To further vary the sample size of respondents, the survey was distributed three separate times during each day, once in the morning, once in the afternoon, and once at night. Once an individual enters a stream, an option is presented to view the entire list of viewers currently tuning in to that channel. By utilizing this list, the researcher randomly selected 20 viewers from the stream and distributed links to the survey using Twitch.tv's private messaging function.

It should be noted that with each distributed survey the researcher also included a statement detailing the purpose of the survey, how the data would be utilized, which academic institution the researcher belonged to, and the approximate length of time the survey would take to complete. This statement was again repeated inside of the survey itself. An example of this statement within the confines of the survey has been provided below in Figure 1.2.



**Figure 1.2 Disclosure statement**

In total, 17 completed surveys were collected with four being thrown out due to incomplete data. This data was analyzed to determine correlations between the research questions and the answers that survey participants provided.

## Findings

### Content Analysis

By analyzing the data collected through the content analysis method, three significant trends emerged. These trends — commands, viewer interaction, and emotes — all provided evidence for why stream viewers would be compelled to participate in Twitch.tv's chat system. Each trend was analyzed in depth in an attempt to provide insight into chat participation habits.

### Commands

One trend that was revealed through data analysis was the use of commands by chat participants. In order to execute a command, a chatter must enter an exact word or phrase preceded by an exclamation point. Many commands are unique to various channels on Twitch.tv, and are set up by either the streamer or channel moderators. An example of a command being executed through Twitch chat has been provided below.



**Figure 2.1 Example of a Twitch chat command**

In this particular example, the chat participant used a roulette command to gamble virtual points he/she had accrued over a set period of time. As seen in Figure 2.1, after the command was entered into the chat window, a bot instantly informed the chatter of the

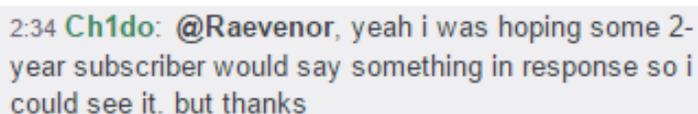
outcome of his/her command. Bots are automated chat moderators which perform various functions within a streamer's channel without the need for human interaction. While there are many bots that solely moderate the chat window and eliminate unwanted messages, the bot portrayed in Figure 2.1 obviously performs a set of more complex functions.

The decision by the streamer to include a bot command that allows roulette-style gambling of imaginary points is a means of trying to keep chatters entertained through alternate methods. However, the fact that a chatter such as the one shown in Figure 2.1 decides to use this command is interesting. Essentially, the chatter is choosing to play a game within the stream's chat window while simultaneously watching the streamer play a different game. If one assumes that the chatter is interested in the game that the streamer is playing, it raises the question of why the chatter would not just play the game himself. By choosing to participate in chat while idly gambling imaginary points, the chatter is making a statement that in this instance, watching someone play a video game is more important than playing a video game. One conclusion that can be drawn from the relationship of chatters and interactive commands is that for many chatters, being a part of a social community on Twitch.tv is more important than simply enjoying video games.

### **Chatter Interaction**

The tendency for viewers to interact with one another by chatting was another trend that was shown to be highly prevalent through content analysis. Although many chatters conversed with one another in an indirect manner, many instances occurred where chatters would directly reply to one another. To do this, a chatter would precede

his/her message by listing the account name of the chatter he/she was replying to paired with an “@” symbol. Figure 2.2 provides an example of this type of exchange.

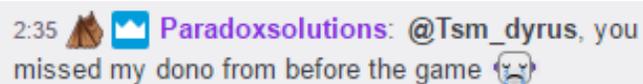


2:34 Ch1do: @Raevenor, yeah i was hoping some 2-year subscriber would say something in response so i could see it. but thanks

### **Figure 2.2 Example of a chatter directing his/her message to another chatter**

In the case of Figure 2.2, the chatter is thanking another chatter for providing an answer to an inquiry made earlier. This phenomenon of side conversations occurring within the larger, ongoing conversation of the channel implies that social engagement is a key reason for chat participation. Twitch.tv can be viewed as a largely instructional website where viewers tune in to learn tips and tricks on how to play video games directly from the streamer. However, side conversations such as the one shown in Figure 2.2 denote that the social relationships that form within stream channels play a role in chat participation as well as viewer retention.

Another apparent trend regarding viewer interaction that emerged was the tendency of chatters to try and converse with the streamer directly. Similarly to the example of chatters conversing directly with one another, this event was symbolized by a chatter listing the streamer’s account name paired with an “@” symbol. Figure 2.3 portrays a chatter attempting to converse directly with the streamer.



2:35 🦉👑 Paradoxsolutions: @Tsm\_dyrus, you missed my dono from before the game 😞

### **Figure 2.3 Example of a chatter directing his/her message to a streamer**

This particular example of viewer interaction is notable due to the fact that the chatter is expressing his/her displeasure at the streamer for missing the chatter’s donation,

abbreviated as a “dono” in this instance. A donation occurs when a viewer gives a denomination of money to the streamer through a third party website. In most cases, the viewer attaches a message to the donation which the streamer will usually read aloud. After reading the contents of the message, the streamer will express gratitude for the donation by thanking the viewer. The message in Figure 2.3 conveys that the chatter was seeking attention from the streamer by making a donation. After the streamer did not respond, the chatter was compelled to try and converse with the streamer directly through the chat system. During the allotted time period of observation, the streamer did not reply to a single chat message directed at him. However, this did not seem to have an effect on the rate of messages directed at the streamer. This phenomenon of chatters constantly seeking the streamer’s attention with little success was perplexing, yet ultimately seemed to play a large part in chat participation.

### **Emotes**

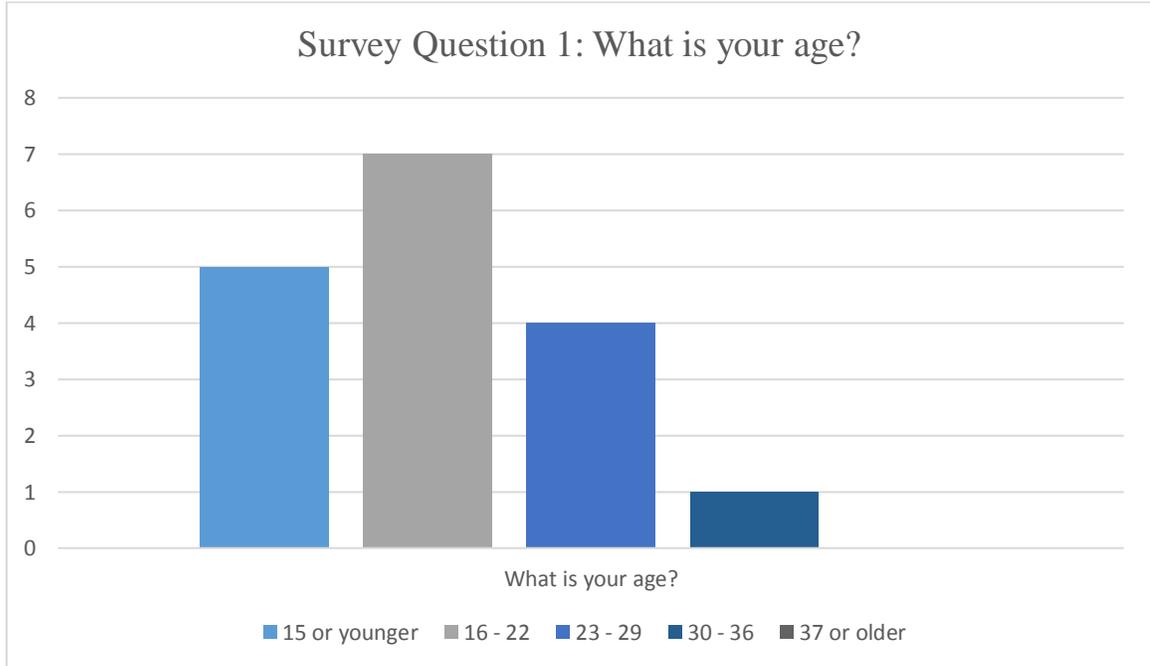
One of the most prominent trends to emerge over the course of the content analysis research period was the use of emotes by chatters. Emotes are essentially small images Twitch.tv has integrated into its chat system. Most emotes consist of faces that chatters use in reaction to an event or occurrence within the stream. An example of many chatters using emotes is provided in Figure 2.4.



**Figure 2.4 Use of emotes by Twitch chatters**

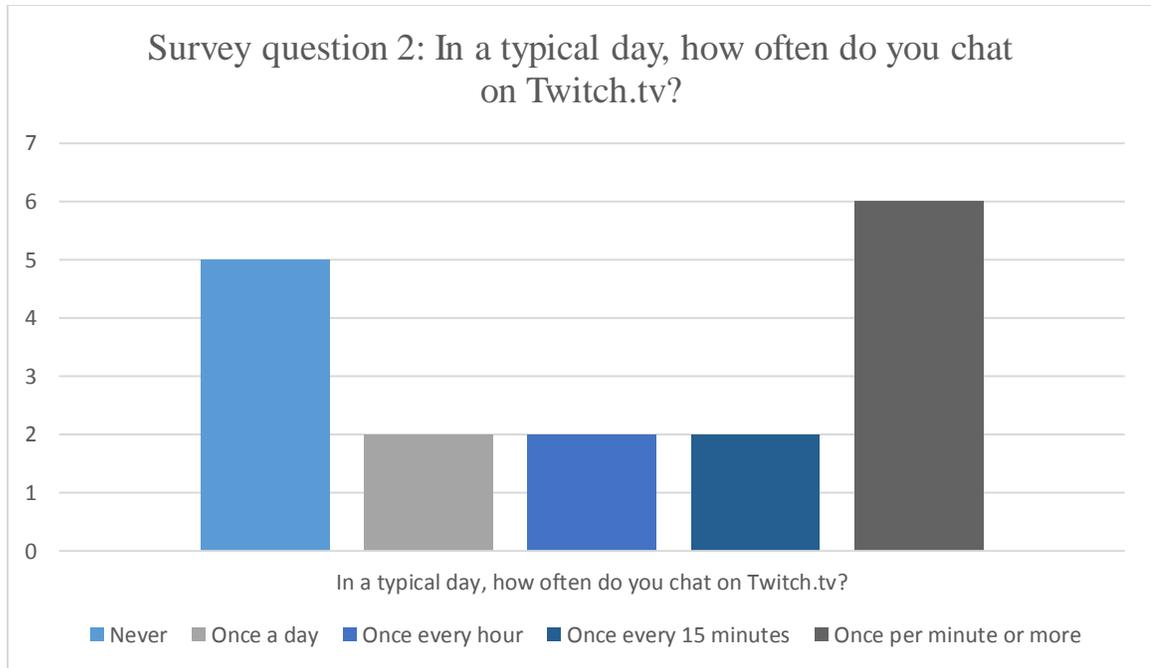
Twitch emotes are triggered in the chat window by inputting a particular keyword or phrase. Each emote represents a different emotion or idea, with some being more widely used and recognized than others. In the example shown in Figure 2.4, the majority of chatters are using the “PogChamp” emote. This emote is used to symbolize positive surprise or amazement. Prior to the wave of emotes portrayed in Figure 2.4, the streamer had executed a particularly skillful play in the game he was playing. The need for chatters to express their opinions on how the streamer performs was prevalent throughout all three intervals of content analysis. Emotes assist in this need by providing a simplified language of images for viewers to use and share with one another. This trend of chatters using emotes on a reactionary basis leads to spikes in the rate of messages being sent, and is certainly a large influencer of chat participation.

## Survey Research



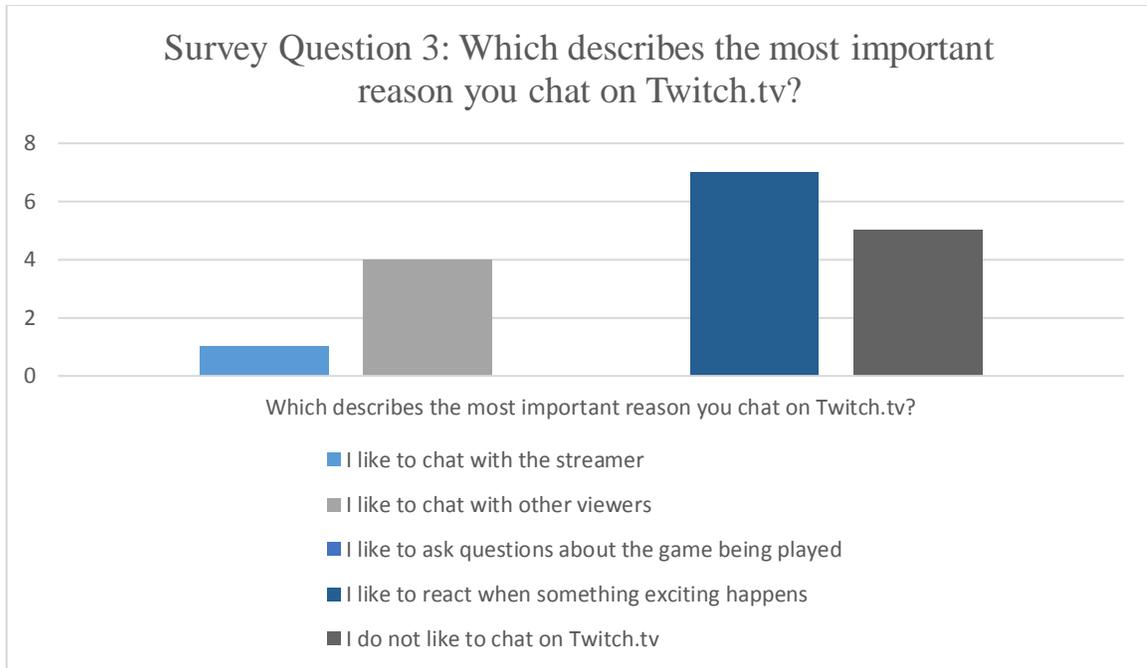
**Table 1.1 Survey question 1 results**

In regard to the age of survey participants, the majority were between the ages of 16 and 22. In total, 41% of participants fit into this age range. Additionally, another 29% of survey participants were 15 or younger. These percentages were largely to be expected, as adolescents and young adults likely make up a large portion of the video game industry market.



**Table 1.2 Survey question 2 results**

In total, 35% of participants answered that they chat at a rate of once per minute or more on Twitch.tv. However, 29% answered that they never chat on Twitch.tv. The remainder of responses fell evenly between both of these extremes. This result was surprising because the number of participants that never chat was the second most popular option. Prior to the results of the survey, the researcher assumed a small minority of viewers never participated in chat. However, this result makes more sense when considering that viewers were randomly selected from a list of total stream viewers, not just those already participating in chat.



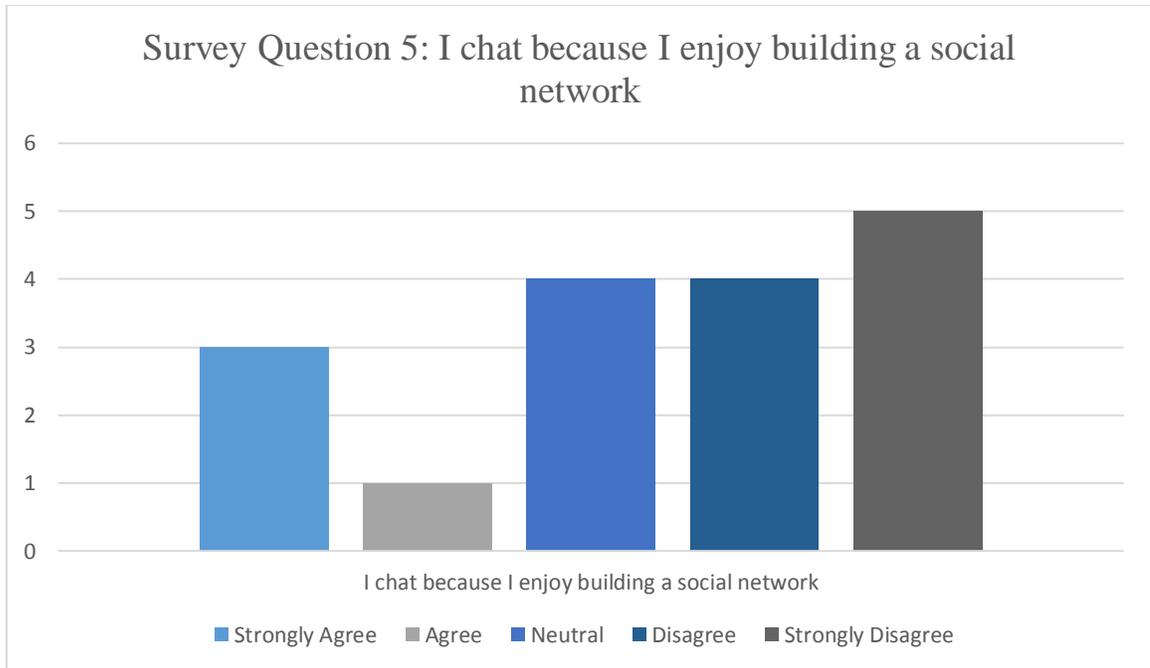
**Table 1.3 Survey question 3 results**

When presented with five options regarding the most important reason for chatting, 41% of participants answered they like to react when something exciting happens. In hindsight, splitting this response into two different options would have likely yielded more accurate results. If there was one response option for the streamer achieving success and one option for the streamer failing, more insight could have been gained into why exactly chatters like to react to excitement. In similar form to the previous question, 29% answered they do not like to chat on Twitch.tv while 23% answered they like to chat with other viewers. These results were also unexpected, as the researcher hypothesized chatting with other viewers would be the main reason most viewers choose to participate in chat.



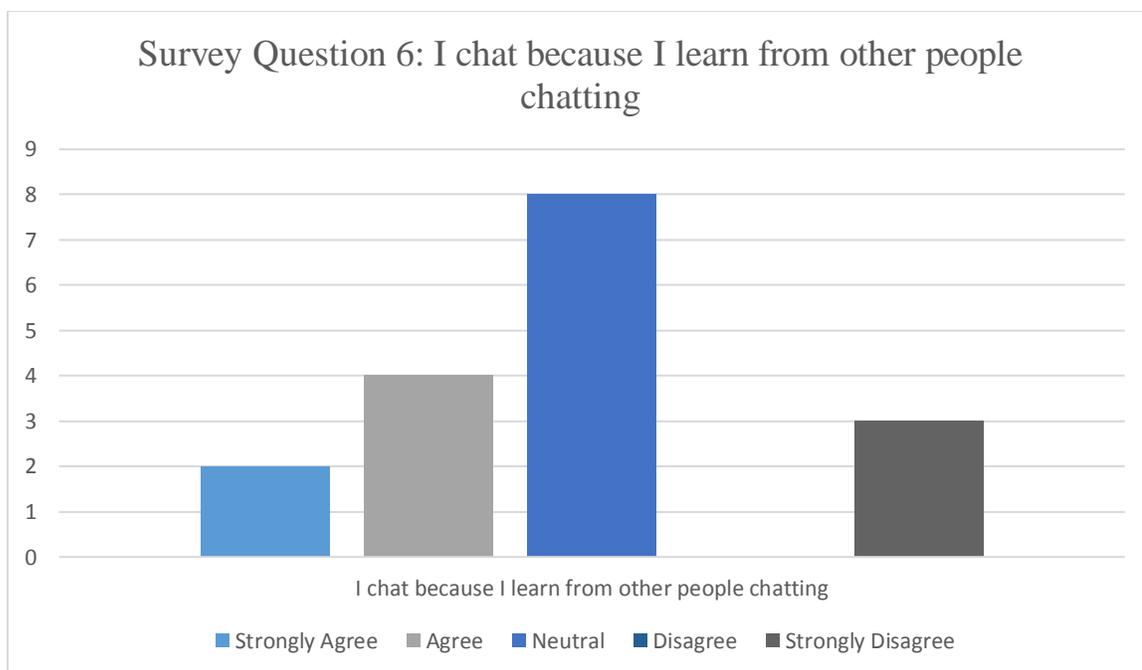
**Table 1.4 Survey question 4 results**

The final three questions included a Likert scale measurement system, meaning participants were asked to rate a statement using options such as strongly agree, agree, neutral, etc. When presented with the first statement: I learn how to game from streamers, 64% of respondents either agreed or strongly agreed. These results were expected due to the fact that the majority of content on Twitch.tv consists of a streamer playing video games.



**Table 1.5 Survey question 5 results**

When presented with the second statement: I chat because I enjoy building a social network, 53% of respondents either disagreed or strongly disagreed. Additionally, 23% chose the neutral option. The responses to this statement were especially surprising due to the fact that 23% of respondents in question 2 answered that they like to chat with other viewers.



**Table 1.6: Survey question 6 results**

Finally, when presented with the third statement: I chat because I learn from other people chatting, 47% of respondents chose the neutral option while 35% either agreed or strongly agreed. This response did not yield very clear results due to the large number of neutral responses. However, the fact that over one third of respondents chose a positive option denotes that there is some semblance of chatter to chatter teaching occurring in Twitch chat.

### **Conclusions and Recommendations**

#### **Research Question 1: What elements of livestreaming in video game chatting are most popular among chatters?**

The answer to the first research question can largely be answered through the content analysis method of data collection. As stated previously, three major trends emerged, namely commands, viewer participation, and emotes. Being able to go through

lines of text and analyze specific messages was invaluable in determining these trends. However, the most popular trend by far was the use of emotes by chat participants. This is quite interesting to the researcher, as many emotes represent certain emotions such as surprise, sadness, horror, etc. If this information is paired with the fact that the majority of survey respondents choose to chat when something exciting happens in the stream, it creates a fascinating relationship that describes which elements in video game chatting are most popular.

**Research Question 2: How do livestream chatters describe how they use chat on Twitch.tv?**

The survey research method of data collection was integral for gaining insight into the second research question. It was a surprising realization that 29% of respondents never use Twitch.tv's chat function. The researcher expected this number to be quite a bit lower, yet the fact that 35% of respondents chat at a rapid rate of once per minute or more means there is still a significant amount of chatter participation within Twitch.tv's various channels.

The figure of 41% of respondents noting they chat on a reactionary basis when something exciting happens is beneficial information due to the fact that it directly answers the second research question. The researcher's own bias made him hypothesize that chatting with other viewers would be the main reason for chat participation, yet the data indicating otherwise are promising and allows more specific questions to be asked if a follow up study is ever designed.

### **Research Question 3: What do chatters do with the experiences and knowledge obtained while chatting?**

The final questions of the survey answer the third research question by determining which statements livestream viewers aligned with the most. The majority of respondents indicated that they learn how to game from streamers. On the other hand, the majority of respondents did not agree with the statement that they enjoy building a social network by chatting. Therefore, the results indicate that viewers use the experiences and knowledge they gain while chatting to become more skilled at video games whereas they do not actively seek to build a social network, even though one may form of its own accord.

### **Recommendations**

If tasked with performing the same case study again, the researcher would make several recommendations. Firstly, finding a way to increase the response rate of survey participants would likely be advantageous in collecting more data. Messaging randomly selected Twitch users through the website's private inbox function worked in obtaining a marginal amount of responses, yet some form of compensation would likely be needed in order to entice more viewers to participate.

The researcher would also recommend crafting survey questions and statements using more precise dialect. As mentioned in the survey research section of the findings chapter, a few responses provided information that was definitely helpful yet also slightly vague. By including more response choices, or perhaps even a text box for participants to type their own responses, more insight may have been gained into the social communities formed by chat participants.

A notable problem that livestreaming platforms such as Twitch.tv are facing is the fact that many traditional media companies have been slow to integrate this new technology. Some media companies have taken steps to use livestreaming, yet audiences of these traditional media channels can be resistant to change. In their study examining the future of streaming, Burroughs and Rama (2015) describe how the television sports network ESPN has already broadcast programs directly from Twitch. They found some backlash can be seen by proponents of traditional sports, who view video games as nothing more than a pastime, and certainly not deserving of television coverage. As livestreaming technologies continue to grow in popularity, it is likely traditional media outlets will wish to capture a portion of the viewership numbers by appealing to the audiences of these platforms. If the researcher were to continue down this path of study, he would likely begin by examining which traditional media channels have been accepting of livestreaming and what steps they are taking to adapt to the future.

Overall, this study was quite enjoyable because gaming and livestreams are both things the researcher enjoys. At times, it was difficult to translate research on such a new technology into an academic study. However, working on this project was quite rewarding, and the researcher believes the data gleaned from this study can be used by both the academic and media professional community to better understand target demographics of video game livestream communities.

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## Appendix

### Survey used during research

#### Twitch.tv Chat Participation Habits

Thank you for choosing to participate in this survey. This survey will take approximately 5 minutes to complete. All responses will remain completely anonymous. The data yielded from this survey will provide insight into how livestream viewers use Twitch.tv's chat function. This data will be used for an undergraduate thesis at the University of Nevada, Reno under the guidance of the Honors Program.

#### 1. What is your age?

- 15 or younger
- 16 - 22
- 23 - 29
- 30 - 36
- 37 or older

#### 2. In a typical day, how often do you chat on Twitch.tv?

- Never
- Once a day
- Once every hour
- Once every 15 minutes
- Once per minute or more

#### 3. Which describes the most important reason you chat on Twitch.tv?

- I like to chat with the streamer
- I like to chat with other viewers
- I like to ask questions about the game being played
- I like to react when something exciting happens
- I do not like to chat on Twitch.tv

4. Do you agree with the following statement: I learn how to game from streamers



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

5. Do you agree with the following statement: I chat because I enjoy building a social network



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

6. Do you agree with the following statement: I chat because I learn from other people chatting



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Done

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