Twitch, a Breath of Fresh Air?
An Analysis of Sexism on Twitch.tv

Jonathan Alklid
Abstract
The issue of sexism is arguably an important topic in modern society in several aspects of life. With the introduction of the Internet and communication over the Internet, additional potential sources of sexism have emerged. While there appears to have been a significant number of studies regarding sexism in cyberspace, Twitch.tv is a relatively new platform and seems yet to be properly explored. Therefore, while being limited in size, the present study aims to provide an introduction to Twitch.tv by performing a limited investigation of the extent of sexist behaviour and ideas expressed by users on the site, particularly against female streamers. To accomplish this, 30,000 lines of chat messages from six different chatrooms, three belonging to women and the remaining three to men, were examined for sexist behaviour, based on a variety of parameters such as differences in language complexity and instances of sexist remarks. The results suggested that several varieties of sexism existed on Twitch, and was directed at both men and women, where women seemed to be more heavily affected than men. The conclusion of the study is that Twitch does not seem to be a breath of fresh air in cyberspace as it appears to embody numerous sexist ideas. However, the author notes that Twitch could serve as a potentially useful source of data for future gender studies online.

Keywords
CMC, Gender, Online Communication, Sexism, Twitch
Contents

1. Introduction .......................................................................................................................... 1
   1.1 A New Frontier .................................................................................................................. 1
   1.2 Analytic Approach ............................................................................................................ 2
2. Theoretical Background and Previous Studies ................................................................. 3
   2.1 Gender and Sexism in Today’s Society ........................................................................... 3
   2.2 Gender and Sexism in the Gaming World ....................................................................... 4
      2.2.1 Gender and Sexism in Gaming Related Events ...................................................... 4
      2.2.2 Gender and Sexism in Games ................................................................................ 5
   2.3 Gender and Sexism in Other Forms of CMC ................................................................ 7
3. Data and Method .................................................................................................................. 7
   3.1 Twitch.tv & the Framework ............................................................................................ 7
      3.1.1 Welcome to Twitch.tv ............................................................................................. 7
      3.1.2 Framework ............................................................................................................... 8
      3.1.3 Applying the Framework ....................................................................................... 9
   3.2 The Data ........................................................................................................................ 11
   3.3 The Method .................................................................................................................... 12
   3.4 The Application ............................................................................................................. 14
4. Results and Discussion ........................................................................................................ 15
   4.1 The First Group: Language Complexity and Diversity ................................................. 15
      4.1.1 User Language Complexity ..................................................................................... 15
      4.1.2 User Language Diversity ....................................................................................... 17
   4.2 The Second Group: Sexism on Twitch ......................................................................... 18
      4.2.1 Parameter G1: Derogatory Comments Regarding Physical Attributes ............... 19
      4.2.2 Parameter G2: Gender-related Derogatory Terms and Comments ....................... 19
   4.3 Twitch, a Breath of Fresh Air? ...................................................................................... 20
      4.3.1 Hypermasculinity .................................................................................................. 20
4.3.2 Exploitation ........................................................................................................... 23
4.3.3 White-knighting .................................................................................................... 25
5. Conclusion ..................................................................................................................... 28
References ......................................................................................................................... 30
Primary sources ................................................................................................................. 30
Secondary sources .............................................................................................................. 30
Appendices ........................................................................................................................ 32
Appendix A ......................................................................................................................... 32
Appendix A1: Terms Used for the First Group ................................................................. 32
Appendix A2: Terms Used for the Second Group ............................................................. 32
1. Introduction

‘There are no women on the Internet’

This quote is a popular phrase in the world of CMC1 and Online Gaming2 (Herring, 1999; Taylor, 2006; Salter and Blodgett, 2012; Brehm, 2013), which is traditionally a male dominated territory. Contradictory to this quote, recent studies have shown that female participation is catching up to that of male participation (Herring, 1999; Brehm, 2013), but despite the increasing amount of women in the gaming sphere, the gaming community is said to be ‘[…]tenuously maintained within a community that most commonly reads female participation in sexualized terms […]’ (Taylor et al., 2009:1).

That cultural definitions of femininity and masculinity are prevalent in modern society and permeates almost every aspect of life should come to no surprise. One of these affected aspects is video games and gaming. Yet, with the introduction of the anonymous modes of communication using computers, it would seem feasible that gender barriers would also break. However, this does not appear to be the case. Susan C. Herring writes that ‘[c]ontrary to popular claims that computer-mediated communication breaks down traditional gender hierarchies by rendering social status invisible […], empirical research has found that females tend to enjoy less success than males in mixed-sex computer-mediated interaction.’ (1999:152).

This could be for a variety of reasons, and plenty of research regarding gender equality (or rather, inequality) in gaming and CMC has been conducted in order to understand and raise awareness of the issue (for instance, see Brehm, 2013, Herring, 1999, and Taylor et al., 2009). Despite this, many say that sexual harassment is still a prevalent issue in the gaming community (O’Leary, 2012 in Fox and Tang, 2014:314; Brehm, 2013; Herring, 1999) and that further studies regarding female participation online are needed as it appears to be an understudied area (Brehm, 2013:1; Salter and Blodgett, 2012:414).

The present study is an attempt to remedy this lack of research by examining gender in the gaming sphere, or more specifically, examining female participation in an otherwise male-dominated community and how the chiefly male audience responds to such a presence, on a new and previously unstudied CMC platform.

1.1 A New Frontier

The subject of Internet discourse and gaming is a vast plain with plenty of crevices and one of those crevices is a website known as Twitch.tv. This website belongs to a relatively new type

---

1 Computer-mediated communication (Herring, 2007: 1).
2 The term ‘gaming’ generally refers to a somewhat more serious mentality towards playing video games.
of CMC platform, namely streaming. Streaming is a media platform that combines CMC with gaming, without being an actual game itself.

Due to this platform being relatively new and lacking in gender studies, it remains to investigate whether or not this new medium adheres to the arguably standard sexist demeanour of the Internet. To do this, Twitch.tv has to be compared to the findings on other, similar, platforms. An example is Brehm’s (2013) article regarding sexism in a popular MMORPG\(^3\), which is used to relate the findings of this study to those of a ‘standard’ gaming platform. More information of what will be compared can be found in section 2.

As for Twitch, it is often praised by many as a revolutionary concept\(^4\). However, it has earned itself a rather notorious reputation over the years on the Internet and is said to be infested with illiteracy and sexism. The present study aims to investigate the validity of the claim about sexism, to either attest or contradict it, and answer the following questions:

- How, if at all, do users express themselves differently between chatrooms held by males as opposed to those held by females? Do women appear to enjoy less success than men as Herring (1999) suggests?
- How, if at all, does sexism manifest itself in Twitch chatrooms? Is female participation seen in sexualized terms as Taylor et al. (2009) suggest?
- How, if at all, do the findings on Twitch relate to that of other platforms?

Emphasis has to be put on the limited size of this paper, and that the main aim is to provide a somewhat representative image of the situation on Twitch, based on a limited amount of chatroom data. However, it has to be acknowledged that this paper is in no way extensive enough to provide an even remotely general report for Twitch as a whole. It merely wishes to provide a limited idea of the situation on Twitch and introduce a potentially great source of data for future studies regarding online sexist behaviour.

1.2 Analytic Approach

As stated above, this paper aims to investigate the presence of sexism in Twitch.tv chatrooms. To do so, the data will be analysed based on a variety of parameters. Most of those parameters describe general user characteristics and aim to provide an idea of how users behave. The remaining parameters are focused on the gender aspect of this study, and aim to find out how sexism manifests itself on Twitch.

---

\(^3\) MMORPG is a Massively Multiplayer Online Role-Playing Game (The Oxford Dictionary, 2014).

\(^4\) For instance, see Heaven’s (2014) take on Twitch in section 3.1.1.
Additionally, a specific –yet slightly modified – framework is to be used in order to describe the platform itself. This framework is the Classification Scheme for CMC, proposed by Herring (2007), and will be described in greater detail in section 3.1.

2. Theoretical Background and Previous Studies

In order to conduct a study such as the present one, a few aspects of the background of studies within this area have to be covered. Due to size restrictions, not all aspects will be covered. The first aspect to be covered is what gender and sexism actually mean, in a very limited sense, the second aspect is as short account of how gender and sexism relates to the gaming world, both in events related to gaming and in games, and the third aspect is a very brief account of how gender and sexism elicits itself in other forms of CMC.

2.1 Gender and Sexism in Today’s Society

In modern society, gender is an arguably complicated term. Generally, gender refers to the relations between women and men (Bradley, 2013:1). However, this description fails to capture what the essence of gender really is. Therefore, Bradley offers a more in-depth account for what gender represents in the modern world:

Gender refers to the varied and complex arrangements between men and women, encompassing the organization of reproduction, the sexual divisions of labour and cultural definitions of femininity and masculinity. (Bradley, 1996 in Bradley, 2013:1)

However, as Bradley (2013:1) notes, the meaning of the term is very slippery, due to being used in many different contexts and for many different purposes.

In modern society, the issue of cultural definitions of femininity and masculinity that Bradley speaks of, and the inequality between the two, is indeed a major concern to many. Throughout time, there have been a variety of aspects of life that have been deemed more fitting for men, and others that have been deemed more fitting for women. The housewife versus the working man is a good example of this.

Many of these aspects can be seen as outdated today, as women in the Western world have basic rights, such as the possibility of participating in leisure activities with men or promoting their femininity by means of revealing clothes (Bradley, 2013:xi). The possession of these rights contrasts that of women in many other areas of the world who are fighting for the very same basic rights (Bradley, 2013:xi). Yet, these rights, Bradley (2013:xi) notes, are in danger of being lost and she points out that there appears to be a type of delusion in the Western world where young women mistake these basic rights for equality between the sexes.
This suggests that the issue of gender is a lot more profound than what many may believe. In order to fully comprehend this concept, it has to be stressed that gender and sexism go hand-in-hand to an arguably great extent.

Sexism, in itself, is often seen as ‘the practices whereby someone foregrounds gender when it is not the most salient feature’ (Vetterling-Braggin, 1981 in Mills, 2008:1). This could manifest itself in ways similar to that of racism. For instance, if a person makes a mistake, the mistake is blamed on the person’s race or sex, rather than the actual person, an unfortunate situation or similar.

However, an excessive focus on gender where it is not relevant is not the only thing that constitutes sexism (Mills, 2008:2), but rather a variety of statements that can in some way exhibit suppression of a gender. Mills points out a few more examples of statements that may be considered sexist, such as statements that are based on gender stereotypes or outdated beliefs or imply that male activities and experiences are worth more, or are more ‘proper’, than female ones (2008:2).

This issue is prevalent enough that some would argue that regardless of how a woman approaches a subject, the abuse would come anyway if she were to venture into what is considered to be traditional male territory (see Beard, n.d. in Mead, 2014). Judging by what has been discussed, it is apparent that there is a rather broad issue at hand. Regardless, hopefully this section has shed some light on the issue of gender and sexism in today’s society and will not be further developed due to space restrictions. In the next section, we will see how this has been applied to the world of gaming in previous studies.

2.2 Gender and Sexism in the Gaming World

2.2.1 Gender and Sexism in Gaming Related Events

It is said that the world of gaming is largely a world created by males, for males and promotes a hypermasculine subject position (Taylor et al., 2009:240; Salter and Blodgett, 2012:402; Fox and Tang, 2014:314). Hypermasculinity refers to ‘an overemphasis upon masculine-gendered physical traits and/or behavioural patterns, particularly dismissal or hostility towards feminine displays’ (Mosher and Anderson, 1986, Mosher and Sirkin, 1984, Parrott and Zeicher, 2003 in Salter and Blodgett, 2012:402), and correlates to what Beard (Mead, 2014) argues.

The belief that the world of gaming is the man’s world is what Taylor et al. (2009) investigated by conducting a gender study in a professional digital gaming industry that they described as an ‘[…]interconnected series of organisations and leagues [that] host competitive
gaming tournaments (often televised) in which young, mostly male participants compete for increasingly lucrative prize money and sponsorship contracts’ (2009:239).

In this newly emerged industry, Taylor et al. wanted to investigate the roles that participants, mainly women, had in events such as these. By attending a number of tournaments, they discovered that most gender roles were ‘[…]tenuously maintained within a community that most commonly reads female participation in sexualized terms: female players risk being labeled as “Halo[^5] hoes,” mothers at [gaming]events describe themselves as “cheerleaders,” and promotional models become “booth babes”’ (2009:239). These roles are all ‘supportive, subordinate roles’ that ‘support the dismissal of women as gamers’ (Brehm, 2013:2).

What should be noted here is that Twitch is very similar to this approach to gaming, as it, while being a digital platform rather than an industry that hosts real-world events, offers monetary rewards to players for ‘playing well’ (see section 3). However, whether or not Twitch supports hypermasculinity and men are favoured is unknown. Looking at the discoveries of Taylor et al., it also raises the question whether this way of viewing female participation conforms to that of Twitch. Therefore, as stated in section 1, an investigation of how female participation is seen will be conducted.

2.2.2 Gender and Sexism in Games

As previously discussed, women are often confined to a rather limited selection of roles within the gaming community. However, this mentality is not restricted to this area alone (Taylor et al., 2009), but rather extends to many other areas within the gaming sphere. One of those areas is the actual games, where Brehm decided to perform a study of sexism and gendered play in the MMORPG World of Warcraft, in hopes to discover whether the players of the game find aspects of the game to be sexist and, if they do, what they would suggest in order to remedy the problem(s).

By using an anonymous survey, Brehm collected data over the course of a month from World of Warcraft players. The results were diverse, but were essentially split into two parts: sexism originating from players in the game and sexism elicited in game features. As this study deals with interaction and sexist behaviour of users on Twitch, the second part regarding sexist game features will not be covered. However, many do seem to agree that fictional female characters in video games are often depicted in ways that appeal to a male

[^5]: A ‘Halo hoe’, is a derogatory term used by organisers and players to describe women who, according to them, only show up at these tournaments to flirt with and ‘pick up’ successful or victorious male gamers (Taylor et al., 2009:245).
Female characters are ‘[…]often displayed in clothing or armor that is considered to be seductive or objectifying’ (Beasley and Standley, 2002 and Kennedy, 2002 in Brehm, 2013:3), and unplayable female storyline characters are often limited to roles such as a weak princess that needs rescuing or as a highly sexualized dominatrix (Burgess, Stermer, and Burgess, 2007, Downs and Smith, 2010, Ivory, 2006 in Fox and Tang, 2014).

According to Brehm, player-to-player sexism in World of Warcraft appears to be a prevalent issue, and according to one respondent it would seem as if men think that they own the game and the gaming experience, and that they do not want to have any women around (2013:6). Brehm continues by presenting a variety of examples of comments from the respondents that suggest hostility towards women. An example of this is the following, which was given to a woman who asked the leader of a group in World of Warcraft to make another member of the group stop sexually harassing her: ‘[…]boys [will] be boys and if [you] want[…] to be treated like an equal [you] ought to[…] pretend to be male.’ (Brehm, 2013:6). Comments such as these, according to Brehm, ‘[…]suggest[…] the normative maleness of the World of Warcraft environment [and] support the previously discussed idea of hypermasculinity’ (2013:6).

Yet, this kind of sexism is not always clear-cut abuse, but rather could appear to be friendly. This is, what the respondents call, ‘[…]the OTHER kind of sexism[…]’ (Brehm, 2013:7). This type of sexism is often referred to as ‘white-knighting’ (Brehm, 2013:8) and revolves around how male players provide undue gifts and help for female players. The reasons for this are many and are highly speculative. Some respondents believe that it is because ‘male players assum[e] that if they give us stuff, we’ll be their girlfriends or send them naked pictures’ (Brehm, 2013:7), or because of the stereotypical belief that females are inherently bad at the game and need help (Brehm, 2013:8). However, the most likely reason appears to be the ‘belief that males would help and provide gifts in order to gain something from the female character such as cyber-sex’ (Brehm, 2013:8).

Additionally, some respondents claim that females will exploit white knights in order to get an unfair advantage over others. However, Brehm reports that no female out of the survey reports having attempted something like that, and therefore it cannot be confirmed (2013:7). Due to Twitch functioning somewhat differently, this type of exploitation will be explored in this study. However, just as with white-knighting, both male and female broadcasters are subjected to this investigation.

These examples suggest how the community in World of Warcraft support the hypermasculine position, and, as Brehm says (2013:6), how other identity traits other than
masculinity are often seen as unwanted. Additionally, the harassment of female players seems to occur in a multitude of ways, and often causes female players to conceal their identities in order to avoid negative attention (Brehm, 2013:7).

2.3 Gender and Sexism in Other Forms of CMC

However, *World of Warcraft* does not appear to be the only platform containing this type of behaviour. Rather the contrary, as several other real-time CMC modes\(^6\) have been observed to contain harassment against women (Herring, 1999:152). This appears to be a prevalent issue, as Reid (1994 in Herring, 1999:152-153) reports an arguably extreme event where a male character shouted graphic sexual abuse at users in a MUD\(^7\) for sexual abuse survivors.

To sum up this section, it is safe to say that gender and sexism are noticeable issues of modern society, the gaming sphere, and in CMC. While this short account does not provide a full picture, it hopefully provides some insight into the issues that will be dealt with in the present study.

3. Data and Method

3.1 Twitch.tv & the Framework

In this section, Twitch.tv will be described and the previously mentioned framework will be accounted for in greater detail. The framework will be applied to Twitch.tv in 3.1.3.

3.1.1 Welcome to Twitch.tv

The website Twitch.tv, previously Justin.tv, is run by Twitch Interactive, Inc. and is a platform where broadcasters (or ‘streamers’) are able to share (or ‘stream’) their video gaming experiences in real time over the Internet. As Twitch puts it, they want to ‘[…]connect gamers around the world by allowing them to broadcast, watch, and chat from everywhere they play’ (2014b). Originally, Justin.tv was created in 2007 and allowed people to stream their every-day lives, starting with the co-founder Justin (Justin.tv, 2014). According to Justin.tv, as the market for live streaming developed over time, Justin.tv turned into Twitch.tv and changed focus to supporting video gaming content only (2014).

Douglas Heaven, a writer for the *New Scientist* magazine, explains that Twitch.tv is a website or platform that ‘turns bedroom gamers into internet superstars’ (2014). However, as Lucy James, a member of Ginx TV\(^8\), says in Heaven’s article, ‘an important feature of [Twitch](#)

---

\(^6\) Real-time CMC modes are platforms such as *World of Warcraft* or *Twitch.tv*.

\(^7\) MUD stands for Multi User Dungeons or Multi User Dimension and represents an often textually based game where players from across the world can play together.

\(^8\) Ginx TV is ‘an international TV channel based in London dedicated to covering video games.’ (2014)
streaming is the live chatroom that accompanies videos[...]’ (2014). Heaven then points out that this allows the viewers of the stream to engage with the broadcaster, and all of the other concurrent viewers, in real-time text chat (2014). The broadcaster then has the opportunity to respond to comments and adjust their content, based on user request. There is no doubt that this feature is well-used, as Twitch Status reports that Twitch constantly processes around 200-300 chat messages per second (Twitch, 2014d) and this is only taking the 3,000 most popular streams into account.

3.1.2 Framework

Herring’s CMC framework is called ‘computer-mediated discourse’ (or CMD; 2007:1) and is used to classify ‘[...]CMC for research purposes[...]’ (2007:1), focusing on a variety of different aspects of contexts. Analysing data using the CMD scheme is referred to as ‘[...]computer-mediated discourse analysis (CMDA)[...]’ (Herring, 2007:3).

This framework was included in the present study due to its ability to provide a variety of variables used to describe the complex and diverse nature of CMC platforms (such as the present one). These variables can then be used when, for instance, comparing Twitch.tv to other platforms. However, it should be noted that this framework is not extensively used in this study, and was solely included in order to provide a deeper understanding of Twitch.tv as a platform and to provide potential future studies with a framework for platform comparison.

The variables offered by Herring’s framework are split into two categories: technical (medium) variables that describe and identify the platform and social (situational) variables that describe and identify the communication taking place on the platform (Herring, 2007:6). Due to space constraints, the variables will only be briefly covered. If a more extensive description of the variables is desired, see Herring (2007:7-12).

The technical variables, or ‘medium factors’, contain variables such as a ‘synchronicity’ to account for whether or not the chat is in real-time and ‘filtering’ to account for whether the chat is moderated or if users can say whatever they wish.

The social variables, or ‘situational factors’, contain variables such as ‘participant characteristics’ to account for users’ proficiency, experience of CMC, ‘purpose’ to account for the purpose of the chat, and ‘norms’ which accounts for, for instance, any Netiquettes9 of the website.

---

9 A Netiquette is the same thing as an etiquette, but on the net. This can refer to specific codes of conduct that platforms require their users to follow.
3.1.3 Applying the Framework

3.1.3.1 Technical variables
The Twitch chat is a synchronous, real-time, chat where messages are received as wholes. Messages are displayed once the users have finished typing them. There is no known length limitation. The chat buffer holds around 180 lines of text, before the old ones are replaced. The chat allows scrolling, and the newest message is always at the bottom line. Many messages contain only a single line of text or an emoticon.

Only text and emoticons are supported, however, non-Latin characters and symbols are supported. There is no quoting feature available. Users are limited to a standard font and a scarce selection of font colours\(^{10}\). Additionally, there are no spelling correction or translation features available.

All messages are publically accessible to anyone watching the stream but they are not publically archived. Users are able to send private, asynchronous and e-mail-like, messages to one another. An account with a unique username\(^ {11}\) is required to participate in a chat, but not to read it. However, those accounts are completely anonymous and have no relation to the user’s real life persona.

There is no message filtering by default, but software and human moderation are available. The broadcaster is granted all rights to moderate his or her own chatroom and this includes, for instance, banning users, assigning users or bots to become chat moderators, and prohibiting certain words or phrases. Most broadcasters also choose to set up a Netiquette for their viewers to follow. Moderators are, in turn, able to moderate the chat and remove users at their discretion with or without reason.

Due to the multilingual capabilities of the chat and to the fact that there is no set linguistic code (English is the norm, although it is not enforced by Twitch), there are language-specific streams and users are free to converse in different languages. However, most broadcasters limit their chats to English in order to allow the chat to include as many users as possible.

3.1.3.2 Social variables
As hinted, the chat was intended to be many-to-one but appears to have shifted towards a more many-to-many design. Due to the accounts being anonymous, users have no knowledge of the identities of any other participants. A Twitch chatroom usually consists of between zero to 2,000 concurrent viewers but there have been instances where up to 350,000 viewers have been active at the same time. Due to the often high amount of active users and the rapid

---

\(^{10}\) Premium users have access to a wider selection of font colours.

\(^{11}\) Also referred to as a pseudonym.
stream of incoming messages, most broadcasters choose to interact with the users using a microphone (i.e. verbal communication). Despite some broadcasters communicating some things textually, most things are not. This is simply because their messages would be pushed out of the chat too quickly due to the constant influx of new messages.

3.1.3.2.1 Participant characteristics

Due to the anonymous nature of the Twitch chat, accurate data of the chat participants’ demographic or personal data and real life status is impossible to determine. However, it is relatively safe to assume that most users are young, probably aged around 12-25. Due to the fact that Twitch.tv is almost exclusively dealing with video gaming, most users are – or at least appear to be – very aware and knowledgeable in CMC, computers, and video games in general. However, the general knowledge of English is generally not the best and Internet slang and abbreviations (i.e. ‘Netspeak’\(^\text{12}\)) are very common. The data shows that there are many different kinds of people actively participating in Twitch chatrooms, but it would appear as if the majority of users are not overly concerned about ‘language hygiene’.

Furthermore, it is difficult to determine whether a user is a veteran or a ‘newbie’. Usually, veterans are aware of any subliminal or inexplicit meanings behind many of the emoticons and sayings on Twitch. They are also often subscribed\(^\text{13}\) to their favourite broadcasters and have occasionally paid for Twitch’s premium (‘turbo’) user status\(^\text{14}\). In order to show a user’s ‘status’, Twitch features a set of ‘status icons’\(^\text{15}\) which are displayed in front the user’s name in the chat window.

3.1.3.2.2 Purpose and Topic

The purpose of the Twitch chat is to discuss the stream that it accompanies, as well as directly interact with the broadcaster, in real time. Despite this, most users tend to discuss completely different matters than what they are supposed to discuss. However, the purpose and activity type of Twitch can generally be seen as a social one, including flirting, joking, and bullying.

The topic or theme is intended to be focused on gaming content. However, as previously mentioned most users do not always follow the purpose of chat, and more often than not the

\(^\text{12}\) Netspeak is ‘a neat way of referring to ‘Internet language’ […]’ (Aitchison, 2013:124).

\(^\text{13}\) Users can ‘subscribe’ to partnered (partnered streams are those that are popular enough that Twitch grants them the ability to let users subscribe) streams. This means that they pay a small sum each month that the streamer then receives as a salary substitute. Subscribing grants the user access to stream-specific emoticons that tend to confuse newbies.

\(^\text{14}\) A ‘turbo’ account grants access to premium-only emoticons which are usually more aesthetic versions of the free emoticons. This is often seen as a sign of status.

\(^\text{15}\) These icons include statuses such as stream moderator, subscriber, broadcaster, Twitch Staff, premium user, and so on.
exchanges in the chat can be about almost anything. Generally, it can still be said that the discussions are about every-day life and gaming, but can often go astray.

The tone of interaction is typically friendly and informal, but there are those who are serious and do their best to stand out, and those who are hostile and rude to other users. There are also those who find enjoyment in throwing insults at one another, being generally obnoxious, and totally disregarding the broadcaster’s Netiquette. Many of those users who belong in the latter group are people who, on the Internet, would be seen as trolls. Trolls are people who practice the ‘art’ of trolling, which is ‘the practice of behaving in a deceptive, destructive, or disruptive manner in a social setting on the Internet with no apparent instrumental purpose[…’] (Buckels E. et al, 2014:97). Twitch houses numerous trolls and as the data will show, they can, just as Buckels E. et al say, often be disruptive.

3.2 The Data

The data for this study was collected from six random chatrooms out of the many different streams on Twitch.tv. The chatrooms were split into two categories based on the gender of the streamer. These streams were not chosen completely randomly because each stream had to fulfil a number of criteria in order to qualify. In order to find the streams that were most fitting for the present study, a number of random streams that had a high amount of viewers\textsuperscript{16} were originally considered and then the six most apt ones were chosen, based on how well they fulfilled the criteria. The criteria were: an equal amount of male as opposed to female streamers were to be maintained, each stream had to have an average of at least 200 viewers, the streams had to have an accompanying webcam displaying the streamer, and at least one stream for each category should be a partnered stream.

The reasons for those criteria were to improve the quality and coherence of the collected data. For instance, data from an uneven amount of male and female streams would give misleading gender results and a stream with less than 200 viewers would be a relatively casual stream which would not provide a very comprehensive view of the Twitch chat. Streams with webcams allow for interaction based on the physical appearance of the streamer, increasing the relevance of the data for the purpose of this study. As for partnered streams, they tend to be more properly established\textsuperscript{17}, as opposed to non-partnered streams.

Once the data collection was finished, the material was composed of chat messages from the chatrooms of three female and three male streamers. Each clutch of messages initially

\textsuperscript{16} A high amount of viewers generally means that the stream is popular.

\textsuperscript{17} This often means that many ‘regulars’ will be in the chat, most of which behave better than the average user.
contained around 9,000 consecutive messages. Non-user\textsuperscript{18} and superfluous\textsuperscript{19} messages were cut from the data in order to improve the accuracy and relevance of the results and to make the data more manageable. The final data consisted of 5,000 consecutive messages from each chatroom.

3.3 The Method

Now that the data and the platform have been introduced, it is time to look at the method. The method that will then be used in order to answer this paper’s questions is that the discourse from the two categories of data will be analysed, based on a number of parameters. The parameters have been split into two groups in order to cover the previously discussed aims of this study. Additionally, a wordlist (word frequencies and types of vocabulary, see Scott, 2010) will be created for the two categories of data, and will be considered throughout the analyses.

The first group of parameters is aimed to provide an insight into the general characteristics of Twitch users. The data categories will be investigated based on number of characteristics of the users on Twitch. Those characteristics are: language complexity (sentence and message length) and language diversity (tokens/types: words/unique words; see Scott, 2010). By comparing the results of the two categories, the purpose of this group is to provide an idea of how, if at all, users behave differently in male as opposed to female chatrooms. This will aid in investigating whether or not women appear to enjoy less success than men as Herring suggests (1999:152).

The second group of parameters aims to describe the gender-focus of this study. Just like the first group, the data categories will be analysed according to a set of parameters and then compared to one another in order to investigate the potential discrepancies in sexist behaviour in male as opposed to female stream chatrooms. The purpose of this group is to investigate how, if at all, sexism manifests itself in Twitch chatrooms and if female participation is seen in sexualized terms as Taylor et al. suggest (2009:1). As discussed earlier, it is impossible to determine the genders of users on Twitch, and therefore only interaction towards the broadcaster will be considered for this group\textsuperscript{20}.

\textsuperscript{18} Non-user data included: deleted messages, system status messages, bot messages, command messages, and ‘copy pasta’ (‘copy pasta’ is a message that users post over and over again for unknown reasons).
\textsuperscript{19} Superfluous messages were cut from the first message after the 5,000-message limit and until the end. The author had no influence on which messages were removed and which were kept. While this is often not a desirable method, conversations on Twitch do not adhere to any specific guidelines and have no real structure. Because of this, this specific type of message reduction was feasible, because it would most likely not end up removing crucial aspects of the conversations as it would in, for instance, chat data from a forum.
\textsuperscript{20} The physical sex of the broadcaster can be determined by the accompanying webcam (see section 3).
Due to the second group not being as clear-cut as the first one, the parameters have been split into two ‘subgroups’. These subgroups are ‘derogatory comments and terms regarding physical attributes’ (G1) and ‘gender-related derogatory terms and comments’ (G2).

G1 accounts for general gender-specific disparaging comments relating to the streamer’s physique which are sometimes hard to distinguish from compliments. However, for the sake of simplicity, this study will consider all such comments as derogatory. This is because Twitch is a platform for video gaming, and the physical attributes of the streamer do not relate to the gameplay and do not belong on Twitch (see Twitch, 2014c).

(1) omg you’re so fuckin hot
(2) LOL she ugly af
(3) this girl actually has really nice cleave[age]. Think I’ll stay here for a bit.

For instance, consider the examples above. While (2) should not be hard to identify as derogatory and relating to the streamer’s physique, (1) and (3) could be interpreted as compliments (or ‘positive’). However, as previously mentioned, comments regarding physical attributes do not belong in an environment focused on gaming. Granted, it could be argued that while (2) is clearly negative, (1) could be, while still not fitting, seen as a positive comment. ‘Positive’ comments will be briefly considered in section 4.3.3 about white-knighting. However, they will not be distinguished other than that. As for (3), it could, just like (1), be considered to be positive. Yet, it has to be taken into account that the user is stating that the only reason for him or her to watch the stream is because of the streamer’s physique.

G2 refers to a variety of gender-related expressions that are not directly giving an attribute to the streamer’s physique. This includes, for instance, stereotypical sexist insults such as ‘bitch’ and ‘fag[ot]’. Words such as these were used by Mills (2008:52) and examples from Twitch can be seen in (4) and (5). It also includes the terms discussed by Schultz (1990 in Mills, 2008:57) where ‘[i]f terms designating men are used to denote a woman, there is usually no affront. On the other hand, use a term generally applied to women to designate a man and you have probably delivered an insult’ (6, against a male streamer).

(4) fking slut
(5) nice whore
(6) get wriggles you scrub jungler pos bitch

However, G2 also includes other, less easily distinguishable, comments. Fox and Tang (2013 in Fox and Tang, 2014:315) introduce two subgroups: traditional sexism (e.g. ‘get back in the kitchen’) and sexual harassment (e.g. ‘show me your tits’). As can be seen, neither of those
belongs to the previous group since they mediate a different message. Examples from Twitch can be found below:

(7) can u twerk?
(8) Stand up we wanna see
(9) Open your boobs your slut
(10) I want to fuck you really hard

Looking at the above examples, (7) is a question that inquires whether the streamer would be able to perform an almost female-exclusive and highly sexualized type of dance whereas (8) encourages the streamer to perform the previously mentioned dance. (9) is similar to (8) and gives the streamer a command (such as the example given by Fox and Tang earlier) to expose a body part that is usually considered to be private. (10) is another example of arguably clear sexual harassment. As can be seen, none of these messages belong to the other group, yet they are clearly disparaging and deserve to be acknowledged.

Once the previously mentioned analyses have been conducted, the data will be investigated based on three additional categories (based on Brehm’s article) introduced in section 2 in order to investigate how, if at all, the findings on Twitch relate to that of other platforms. The categories that will be covered are: hypermasculine behaviour, user exploitation, and finally white-knighting.

Lastly, as this is a quantitative study, a way of measuring the significance of the results was needed in order to verify that the results of the study were not simply by chance. The UCREL Significance Test System (see Anon, 199?), created by Andrew Hardie (Lancaster University) was chosen for this task. This system provided three different tests (the Chi-squared test, the Log-likelihood test, and the Fisher exact test), each of which provided a value (the \( p \)-value), which, in turn, represented the probability (in the form of a likeliness percentage) of getting the same results if the variables are not dependent on each other. As such, the lower the percentage, the lower the chance that the results are by chance. For the present study, each and every result was processed by the Log-Likelihood test and by observing the \( p \)-values, the significance of the results was verified.

3.4 The Application

In order to efficiently process the rather large amount of data used for this study, an application was developed in order to aid in the analyses. The application dealt with the heavier aspects of the analyses, such as word count, sentence count, types and tokens, and assembling the wordlist.

---

21 It should be noted that (10) insinuates a message that should belong to G1. However, as it does not do so explicitly it will be considered as G2. This is to clearly distinguish the groups from one another.
For the gender aspect, it is not feasible that a machine would be able to deduce whether a statement is sexist or not, and therefore the application was provided with a number of different filters of words and expressions that are often used in conjunction with sexist remarks. When the application then found a message that contained one or more of these words or expressions, it flagged the message as suspicious. Suspicious messages were then manually analysed in order to deduce whether or not they were sexist. The previously discussed groups (G1 and G2) both had one filter each. However, there was some unavoidable overlap between the two groups which, in turn, caused the manual verification process to be slightly more complex. The two filters can be found in Appendix A1 and A2.

Due to the nature of the Twitch chat and its users, there are certain elements that are impossible for a machine to recognize. Despite this, the application has an estimated 95% success rate when analysing Twitch data.

**4. Results and Discussion**

As discussed in 3.3, the data was split into two groups: one group dealing with general user characteristics and one group dealing with the gender-aspect. Due to this, the analyses will be performed accordingly, starting with the first group. It has to be noted that this study is not able to consider users’ genders, the actual stream content, or the streamer’s responses. Therefore it is difficult to properly analyse certain messages as they can appear to be rather misplaced and incoherent.

Additionally, as stated in section 3.3, all results, presented or otherwise, were processed by the Log-likelihood test of the UCREL Significance Test System and received p-values of less than 0.01. This means that the results are less than 1% likely to be due to chance.

**4.1 The First Group: Language Complexity and Diversity**

**4.1.1 User Language Complexity**

The first part of the investigation, the language complexity analysis, will be covered by means of counting the total number of words and sentences, the average words per sentence, the average sentences per message. The results will then be related the amount of participating users in hopes of getting a clue as to whether users employ a more or less complicated language depending on the gender of the streamer. The results can be found in Table 1:

---

22 The 95% success rate was asserted by a trial run of 1,000 Twitch messages that were then manually verified.
Table 1. The language complexity of the six data batches.

<table>
<thead>
<tr>
<th></th>
<th>Total lines</th>
<th>Total users</th>
<th>Unique users</th>
<th>Total words</th>
<th>Sentences</th>
<th>Average words per sentence</th>
<th>Average sentences per message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total female</td>
<td>15,000</td>
<td>15,000</td>
<td>4,802</td>
<td>4,760</td>
<td>73,364</td>
<td>15,028</td>
<td>4.88</td>
</tr>
<tr>
<td>Total male</td>
<td>15,000</td>
<td>15,000</td>
<td>5,154</td>
<td>5,143</td>
<td>52,523</td>
<td>13,615</td>
<td>3.86</td>
</tr>
<tr>
<td>Total</td>
<td>30,000</td>
<td>30,000</td>
<td>9,945</td>
<td>9,903</td>
<td>125,887</td>
<td>28,643</td>
<td>4.37</td>
</tr>
</tbody>
</table>

Looking at Table 1, the user counts represent the participation of users in the six chatrooms. Total users represent the total number of users who participated during the data collection. Due to some users participating in more than one of the designated chatrooms, unique users had to be considered. As can be seen, while a total of 9,956 users actively participated in the chatrooms, only 9,854 of those were unique participants.

The unique participants represent the actual amount of active users, and do not include those who participate in several chatrooms. The calculation of users was done by the previously mentioned application. The application gathered the total amount of users from the six chatrooms and then checked each user against the users of the other chatrooms. Users that were detected in more than one chatroom were only counted once.

Looking at the user count of the two data batches, it turns out that the number of unique users of the two (9,752; looking at each chatroom individually) does not equal the total number of unique users (9,854). As it turns out, the discrepancy between the two numbers (102) represents the slight anomaly that arises during calculation because of users being present in more than place.

Looking at the difference between the total amounts of unique users in female chatrooms as opposed to male chatrooms, it would appear as if the results support Herring’s claim that women tend to enjoy less success than men online (1999:152). However, despite male chatrooms housing more active users, the users in female chatrooms appear to be using a slightly more complex language and, looking at the average sentences per message, the results suggest that users in male chatrooms use more emoticons\textsuperscript{23}. However, this does not necessarily mean that the users are less linguistically advanced.

Nevertheless, that is not to overlook the apparent similarities between the two. As discussed above, one of the reasons for the similarities could be because some users are present and chatting in several chatrooms. Additionally, the amount of used data is rather limited and it is possible that if more data was used the results could have been different.

\textsuperscript{23} Messages that only contained emoticons were not considered sentences.
Lastly, it should be noted that the presence of trolls and the fact that many users employ superfluous amounts of Netspeak and emoticons could affect the results.

However, it remains to investigate what the users spend their input on. Simply looking at the amount of words and sentences does not tell the whole story. Therefore, the next step is to look the users’ language diversity, as discussed in section 3.3.

4.1.2 User Language Diversity

This section will briefly cover the language diversity of the two data categories in order to get a hint as to whether female or male chatrooms house more linguistically advanced users than the other. This was done by conducting a lexical diversity study, which includes looking at the amount of tokens and types for the two categories (or the amount of total words and amount of unique words) and calculating the type-token ratio (TTR). The type-token ratio represents a rough measure of lexical diversity (Diessel, 2009:1204) and is based on the total number of word types divided by the total number of instances of these words. The results can be seen in Table 2:

<table>
<thead>
<tr>
<th></th>
<th>Messages</th>
<th>Tokens</th>
<th>Types</th>
<th>TTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Female</td>
<td>15,000</td>
<td>73,355</td>
<td>10,493</td>
<td>0.143</td>
</tr>
<tr>
<td>Total Male</td>
<td>15,000</td>
<td>52,523</td>
<td>8,308</td>
<td>0.158</td>
</tr>
<tr>
<td>Total</td>
<td>30,000</td>
<td>125,887</td>
<td>26,771</td>
<td>0.150</td>
</tr>
</tbody>
</table>

When dealing with TTR, it should be noted that it is often not overly useful if used to compare data of varying sizes (Scott, 2010), but because the sizes of the data sets used for this study are identical, a few hints can be derived from the results. While, as Diessel (2009:1204) notes, the TTR is but a rough measurement of lexical diversity and does not give any ‘absolute truths’, the results presented in the table above suggest that users in male chatrooms use a more diverse language (0.158 as opposed to 0.143), despite typing a less amount of words than the users in the female chatrooms.

This could potentially mean that users in male chatrooms discuss a wider range of topics than those in female chatrooms. In order to investigate this further, the previously discussed wordlist was used. The wordlist was used to examine the most frequently used words of the two categories in order to get an idea of the ranges of topics in the two categories. The results can be seen in Table 3:

---

24 It should be noted that chat data that elicited trolling characteristics were not excluded. Only ‘copy pasta’ (as discussed in an earlier section) was excluded, as it carries no particular meaning.

25 When comparing data of varying sizes, the standardised TTR (STTR) is often used. The STTR takes the discrepancies in text length into account during calculation and provides an average TTR, based on a shared denominator. For more information, see Scott (2010).
Table 3. The most frequently used words for the two data categories.

<table>
<thead>
<tr>
<th>#</th>
<th>Word</th>
<th>Instances</th>
<th>%</th>
<th>Word</th>
<th>Instances</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>you (u)</td>
<td>1,449</td>
<td>2.76</td>
<td>you (u)</td>
<td>2,475</td>
<td>3.37</td>
</tr>
<tr>
<td>2</td>
<td>the</td>
<td>1,198</td>
<td>2.28</td>
<td>I (i)</td>
<td>1,655</td>
<td>2.26</td>
</tr>
<tr>
<td>3</td>
<td>is</td>
<td>1,012</td>
<td>1.93</td>
<td>the</td>
<td>1,632</td>
<td>2.22</td>
</tr>
<tr>
<td>4</td>
<td>I (i)</td>
<td>869</td>
<td>1.65</td>
<td>is</td>
<td>1,580</td>
<td>2.15</td>
</tr>
<tr>
<td>5</td>
<td>to</td>
<td>753</td>
<td>1.43</td>
<td>a</td>
<td>1,416</td>
<td>1.93</td>
</tr>
</tbody>
</table>

When considering the above results, it should be acknowledged that they are somewhat limited. As discussed earlier, the Twitch chat is rather incoherent, and this also causes the wordlist to reflect that. With this in mind, it is arguably too optimistic hoping to draw any actual conclusions here. However, the differences between the instances of you and I between male and female chatrooms in Table 3 suggest that users in female chatrooms appear to be focusing their discussions around the streamer and themselves, whereas the users in male chatrooms, while still discussing the streamer, albeit to a much lesser extent, appear to be discussing other topics. While the TTR suggests, just like the results in 4.1.1, that women appear to enjoy less success than men, the most frequent words hint that this might not be the case.

However, having conversations centred on the streamer is, as mentioned, not intended in a gaming environment, and it should be noted that what is said could potentially be harmful towards the streamer. Therefore, the next sections (4.2 and 4.3) will deal with the content of the messages, and investigate how, if at all, sexism manifests itself on Twitch, and whether or not female participation is seen in sexualized terms.

4.2 The Second Group: Sexism on Twitch

As stated in 4.1, the gender aspect of this study will be covered in this section. As discussed in 3.3, the two data categories were analysed based on two different parameters. The parameters were ‘derogatory comments regarding physical attributes’ (G1) and ‘gender-related derogatory terms and comments’ (G2). The two groups of the results of the analyses will be dealt with individually, and can be found in Table 4:

<table>
<thead>
<tr>
<th></th>
<th>Derogatory comments regarding physical attributes (G1)</th>
<th>Gender-related derogatory terms and comments (G2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Female</td>
<td>207</td>
<td>852 (346)</td>
</tr>
<tr>
<td>Total Male</td>
<td>1</td>
<td>7 (23)</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>859 (369)</td>
</tr>
</tbody>
</table>

---

26 In order to account for the large amount of Netspeak that is present on Twitch, the wordlist did not distinguish between a word’s standard form and its Netspeak variant (such as ‘u’ (abbreviation of ‘you’) and ‘you’ were considered the same, and was not split into two different types).
Looking at Table 4, it would appear as if the results suggest rather radical discrepancies between the two categories of data. However, looking at raw numbers by themselves does not necessarily tell the whole story. Therefore, the following two sections will deal with the two parameters in greater detail.

4.2.1 Parameter G1: Derogatory Comments Regarding Physical Attributes

For the first parameter (G1), the results suggest that male streamers are almost entirely excluded from any derogatory comments regarding their physique. While female streamers received a galore of comments regarding how ‘good’ or how ‘bad’ their physical features were, only one of the three male streamers received a comment regarding his body. A few examples can be seen below:

(11) as tiny as your dick :o
(12) Your cleavage looks like a plumbers butt crack but that's okay, stay beautiful
(13) her boobs are fake guys don't get tricked lol
(14) Your left breast is super sexy! But I cant say the same about the right one :/
(15) u must have beautiful feet [...]

Example (11) represents the only comment directed at a male streamer, and its purpose should not be difficult to distinguish. Examples (12) – (15) were comments directed towards female streamers, and they all carry some kind of meaning related to the streamers’ bodies.

The apparent lack of comments regarding the male streamers’ bodies and the abundance of comments regarding almost all aspects of the female streamers’ bodies suggest that Twitch users conceive the female body in sexualized terms and thus supports Taylor et al. (2009:1) claim. Additionally, this parameter has shown hints at how certain sexism could manifest itself on Twitch. The next section will deal with the second parameter (G2).

4.2.2 Parameter G2: Gender-related Derogatory Terms and Comments

As hinted in 4.1, it would appear as if users in female chatrooms make a radically higher amount of comments directed at the streamer rather than at the game in comparison to users in male chatrooms. As was seen in 4.2.1, a high amount of the messages in female chatrooms were about the female streamer’s physical attributes. However, as the results of the second parameter (G2) will show, there were also numerous messages that mediated sexist meaning in ways other than derogatory comments about physical attributes.

For this parameter, it should be noted that the value (23) for the male data represents an excessive amount of instances where one of the male streamers was repeatedly called ‘pussy’ (this will be discussed in greater detail in 4.3.1). They were separated because such an excessive amount of a singular expression could distort the results. The same applies to the
value (346) for the female data which represents the instances of ‘boobs’. While this term belongs to G2, it can, just like ‘pussy’, slightly distort the results.

As has been partly discussed before, messages in the G1 group were usually regarding how the streamer looks. However, looking at the results of the G2 group, it would appear as if the messages were usually commanding or requesting the streamer to do certain things (example given by Fox and Tang in 3.3; see examples 16 and 17), comments that could be considered to be generally distasteful (such as 10, 18, or 19), comments belittling the female streamer in question (see 20 and 21), or arguably inappropriate exclamations, such as (22).

(16) zoom on tits pls i wanna cum
(17) Put some yogurt on your boobs
(18) she seems ok I’d pee in her butt
(19) i would stick my dick right between those tight tits
(20) YOU ARE A BITCH YOU SHOW YOUR TITS FOR HAVE VIEWERS NICE BITCH
(21) 1186 viewers watching her tits
(22) BOOBIES!!!!!!!!

As can be seen in the examples above, there appears to be a variety of different types of sexist ideas on Twitch and, as the results suggest, most of them appear to be directed at women. Additionally, most of them (16 in particular) seem to concur with the results in 4.2.1 and support the idea that women are seen in sexualized terms. For the G2 group, the seven instances against males were comments similar to (6) or where one of the male streamers was, just like two of the female streamers were, called ‘gay’ a few times.

Lastly, as has been seen from the two previous sections, there appears to be many ways for sexism to manifest itself on Twitch, such as in comments directed at the streamer’s body or requests for the streamer to do a sexualized action. Just like the results in 4.1 supported Herring’s claim that women enjoy less success than men, the results of this section support Taylor et al.’s statement that female participation is seen in sexualized terms. The next section will compare the findings of this study to the findings of Brehm’s investigation (see section 2) of sexism in World of Warcraft and cover hypermasculine behaviour, user exploitation, and finally white-knighting.

4.3 Twitch, a Breath of Fresh Air?

In this section, the results will be related to the other studies discussed in 2.2. Note that only aspects regarding user-to-user interaction will be covered.

4.3.1 Hypermasculinity

Hypermasculinity, which is ‘an overemphasis upon masculine-gendered physical traits and/or behavioural patterns, particularly dismissal or hostility towards feminine displays’ (Mosher and Anderson, 1986, Mosher and Sirkin, 1984, Parrott and Zeicher, 2003 in Salter and
Blodgett, 2012:402), can manifest itself in a variety of ways. It can elicit itself in games through, for instance, weak female characters or discrepancies between male and female equipment (see Brehm, 2013), in the real world through the way that women are portrayed in the workplace (see Traynor et al, 2013), or in many other ways. Since this study deals with the CMC aspect of Twitch.tv, chat messages will be investigated for traces of hypermasculine characteristics.

It should be noted that this section, in difference to the following two sections, deals with a topic that is arguably limited to being hostile towards women. However, as previously discussed, hypermasculinity refers to a type of idea or mind-set rather than an actual gender or person (see Salter and Blodgett, 2012:402), and therefore this study considers both women and men to be capable of expressing and/or promoting hypermasculinity. Judging by the data, it appears that Twitch is an environment in which hypermasculine characteristics are present, although the results are somewhat conflicting. The results can be found in Table 5:

<table>
<thead>
<tr>
<th></th>
<th>Instances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Male</td>
<td>78</td>
</tr>
<tr>
<td>Total Female</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
</tr>
</tbody>
</table>

Looking at Table 5, it can be seen that there are users who are expressing hypermasculine characteristics on Twitch. At a first glance, the numbers – especially the potentially low number of hypermasculinity expressed in female chatrooms - could be somewhat surprising. However, the majority of hypermasculinity from the male chatrooms (72) are revolving around insult regarding the streamer’s gaming proficiency or personality in the way of using terms that originate from terms for females. For instance, one of the male streamers repeatedly received comments such as ‘do it u pussy’\(^{27}\), supposedly when he did not want to do something that the chat users found to be a good idea.

Additionally, looking at the data, it would appear as if female streamers spend less time actually playing games than men do and examples from the data can be found below. When considering the low amount of hypermasculine comments in female chatrooms, it should be taken into account that the supposed lack of gameplay could – at least partly - explain the lack of comments. However, this phenomenon will be further developed in the following sections.

\(^{27}\) ‘Pussy’ here refers to ‘[a] weak, cowardly, or effeminate man’ and originates from a vulgar term designating women in general or their genitalia (The Oxford Dictionary, 2014).

\(^{23}\) she [kept] not playing and just kept on dancing with the full screen! […]

\(^{24}\) how many games has she played today? and is she playing any more games today? I'm waiting for about 20 min and no games...
I will stop hating on you […] if you actually play some f******[games]

I[s] it normal for people to just have the game on screen and not play...just to stream for attention?xD

4.3.1.1 The Types of Hypermasculine Behaviour on Twitch.tv

Brehm (2013:8) mentions a stereotype dictating that women are inherently bad at gaming. This stereotype co-exists with the standard belief that men are strong while women are weak, and that a man should never lose to a woman (see Fox and Tang, 2014). Examples of how they were used against a male streamer can be found below:

You can't lose from a girl and that Gleeb rektface.. cmooooooooon!
you hit like a fucking girl [BrainSlug emoticon]
[you] got wrecked by a girl

A mentality similar to that discussed above was found in a successful female player’s chatroom. Judging by the streamer’s own words and users’ reactions in the chat, the streamer was supposedly transsexual28 (male to female)29. The analysis of the chat data from this stream provided a potentially nice example of the previously discussed stereotype. In (30), the streamer’s success in the game is not ascribed to her potential gaming prowess, but rather to the fact that she was originally not a woman. This supports the idea that women are not expected, nor even considered, to be good at gaming, and the only way for a woman to be successful, is if she is not a woman.

I KNEW THAT.. A GIRL COULD NOT BE SO GOOD AT [gaming]

Furthermore, Fox and Tang (2014: 315) discuss how, in the world of gaming, men are often perceived to have higher competence than women because of the gaming world being considered to be male space and how women often have their competence and legitimacy questioned. Behaviour that suggests this type of questioning can be found in the female chatrooms and an example can be found in (31), where the user questions the streamer’s choice of equipment within the game. This type of question suggests that the streamer’s competence, or knowledge of game features, is questioned.

bad itemization gurl :(

Here, it should be noted that while male streamers also received an abundance of insults regarding their perceived lack of gaming skill, those insults, in difference to (31), were never specifically related to a certain aspect of the game, but rather just that they were ‘generally bad’, such as the examples earlier or ‘WOW you suck’ (Twitch, 2014a).

However, insults were not the only thing eliciting hypermasculinity. As discussed earlier, Fox and Tang (2013 in Fox and Tang, 2014: 315) discuss traditional sexism, which

---

28 For a brief account of transexuality and its history, see Reay (2014).
29 This study does not engage in any potential controversies regarding 'actual gender'. If an individual identifies as a female then this study will consider that individual as a female (same applies to those who identify as male).
they gave an example of as ‘get back in the kitchen’. Looking at (32), this type also appears to be on Twitch, where, in this example, a user states that a live-in maid is the same thing as a girlfriend:

(32) a live in maid? so a gf? [Kappa emoticon]

Finally, due to space constraints, this section will not be developed further. However, the results arguably suggest that some users on Twitch support the notion of hypermasculinity and that it is conceived to be worse for a man to be like a woman than it is for a woman not to be ‘manly’ (most salient in the insults in 27 – 29 and the apparent expectation that a female will play poorly). Additionally, considering the results, it would appear as if the users on Twitch express a somewhat hostile behaviour towards feminine displays and, judging by (30), that this can be done to such an extent that femininity is entirely excluded from even being considered to be a part of a certain group.

4.3.2 Exploitation

As discussed in 2.2.2, Brehm reported that some respondents claimed that some women occasionally attempted to exploit males in order to gain unjust favours (in that case: in-game favours) using the fact that they were women, but no female respondents confirmed ever doing so (2013:7). The same type of exploitation, the type that uses gender-specific attributes in order to gain an unfair advantage, will be considered for this study. This type of exploitation is strictly prohibited by Twitch’s Code of Conduct. Additionally, both male and female streamers will be taken into account when considering exploitation. Additionally, it has to provoke some negative user reactions (if no user reacts to it, it is likely either a poor attempt or not intended to be an exploiting action). While unconfirmed according to Brehm, the results (see Table 6) suggest that exploitation is a phenomenon that exists on Twitch:

<table>
<thead>
<tr>
<th></th>
<th>Instances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Female</td>
<td>459</td>
</tr>
<tr>
<td>Total Male</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
</tr>
</tbody>
</table>

30 For instance, bribing viewers with money is not considered exploitation for the gender-purpose of this study (wealth is not gender-specific). However, bribing them with something that, for instance, involves the streamer’s body will be considered exploitation (includes both genders).
31 As discussed in 3.1, Twitch allows its viewers to subscribe to streamers, which means giving the streamers a sum of money each month. Additionally, most streamers encourage their viewers to donate additional money to them. An increased amount of subscribers and donations could potentially be the reason why a streamer would consider and/or attempt exploitation.
32 For instance, Twitch’s Code of Conduct prohibits both sexes to use any form of suggestive or manipulative clothing, themes, or dispositions (see Twitch, 2014c).
Looking at Table 6, it immediately becomes apparent that there appears to be a rather large discrepancy between male and female chatrooms. Like Brehm’s results, no streamers themselves confirmed attempting to exploit or deceive. However, the results suggest otherwise.

4.3.2.1 Potential Exploitation by Female Streamers

As discussed in 3.2, many streams feature a webcam with the streamer and the chosen streams were required to have one. Judging by the data, it would appear as if some streamers use the cam option in order to gain unjust favour. For instance, consider examples (33) - (37). Here, there are a number of users from two of the female stream chatrooms who are expressing concern regarding what they believe to be exploitation:

(33) Now I think this [is] more like a pornsite with cam option..
(34) wait did I mistakenly join a porn site????? Where [is] the [gameplay]??
(35) […] girls starting gaming taking advantage of virgins […]. If i stream, should i stream naked ffs? Cover up and stream if you wanna, if not, go [do porn] or w/e
(36) whats with all these streamer whores lately. full screen with tits half out, may as well be a hooker
(37) THIS WEBSITE IS FOR VIDEO GAMES! GO TO *** IF YOU'RE JUST GONNA SIT THERE TALKING AND SHOWING TITS

Judging by the data, the streamers in question appear to be dressing in an inappropriate manner (discussed earlier on regarding Twitch being a platform for gaming content, see section 3). Whether or not this is intended is unknown, however, judging by many of the responses it would appear as if it is at least not entirely by chance. This is further supported by the examples below (also consider examples 23-26 regarding lack of gameplay):

(38) Can you just get naked already, that's the only reason people come here. […]
(39) I like how she checks to make sure shes got cleavage showing. […]
(40) I fucking hater u fucking whore i only watch this cuz of boobs
(41) i m here for boobs only
(42) UR NOTHING BUT A WEBCAM HOE, BITCH!! U STREAM YOUR TITS FOR MONEY NOT [gameplay]
(43) Tits away. and put on that top on properly, Don't be a camera whore. Thanks, im out
(44) @[streamer] how do you feel about showing off your body in order to make money? Does that make you feel a little bit like an internet cam whore?
(45) is there really any other reason to be here except for boobs... what makes her different from 1,000s of other […] streamers? oh wait her tits

As can be seen from the two examples above, the users appear to be rather upset about what was happening on the stream. Three of them even go so far as to say that the only reason that users are watching her stream and donating money to her is because of her body, and, judging by several of these examples, it becomes increasingly plausible to assume that the way that the streamers dress is at least partly motivated by other factors.

Lastly, there is another example of potential exploitation, and that is the ‘spoon licking incident’ that occurred on one of the female streams during data collection. Many of the users present for the aforementioned event appeared to be somewhat upset about what the streamer
was doing to make money. One of the users described the situation as follows: ‘the stream whoring is real. Stream Boyfriend and licking a spoon. […]’ (Twitch, 2014a). Judging by the chat data (see examples below), the spoon licking was done in a suggestive manner:

(46) That blowjob [referring to the spoon]. You are so fucking [embarrassing]
(47) Your spoon doesn't have anything on it lol...you're just licking a spoon

As can be seen, the spoon licking incident consisted of how a female streamer licked a spoon in a suggestive manner. As previously said, it is impossible to determine what the exact purpose of this action was, but taking the reactions, the non-game related action, and the way that it was supposedly performed, it would appear to be an action with motives other than that of hunger. Then, if it were to be assumed that this action, for instance, was purposely to ‘gain unfair favour’ in the form of money, then that is yet another question. Lastly about this incident, it will be discussed further in 4.3.3 about white-knighting.

4.3.2.2 Potential Exploitation by Male Streamers
Looking at the data, there is no evidence that behaviour similar to that in section 4.3.2.1 occurs on male streams. The only similar instance that occurred was on one of the male streams where the streamer’s voice was praised by one user as follows: ‘Your voice is like someone's making love to our ears with a condom made of velvet’ (Twitch, 2014a). However, this was not considered to be exploiting because, while it can be argued that the streamer ‘exploited’ his voice in order to sound more appealing, there is no data that suggests that any users reacted negatively to the streamer’s voice. Additionally, while there was one user who claimed to be watching the stream because of the streamer’s voice, it was not done in a negative way as opposed to the galore of users claiming to be present for a singular reason in section 4.3.2.1 (for instance, see 41). However, this is not to say that there are no male streamers on Twitch that are attempting to exploit their viewers.

Judging by the results, regardless of whether this is seen as exploitation, ‘clever business’, or something else, it would appear that some kind of demeanour, similar to that of exploitation, exists on Twitch. It seems plausible to say that the results suggest that some streamers modify the way that they act and dress in order to gain an advantage. However, it has to be stressed that, as discussed earlier, it is impossible to deduce whether or not the streamers in question actually do this intentionally.

4.3.3 White-knighting
In 2.2.2, ‘[…] the OTHER kind of sexism[…]’, or ‘white-knighting’ (Brehm, 2013:7-8), was introduced. Here, Brehm treats white-knighting as a male-only disposition towards females
which essentially builds upon the idea that a male would provide a female with undue services with indefinite motivation, potentially hoping for some kind of reward (Brehm, 2013:8).

However, as there does not appear to be any evidence suggesting that this is the only functional type of white-knighting in addition to the impossibility of determining the genders of the participants on Twitch, it is not feasible to assume that only males are capable of being white knights. Therefore, this study has adopted and extended this term to refer to a disposition that provides undue services with indefinite motives, and can be from any gender towards any gender. Additionally, as the broadcaster is the only participant whose gender can be confirmed (see section 3), only messages designated to the broadcaster will be considered.

Some white-knighting comments could be seen as belonging to the G1 group but can at the same time be seen as positive, which distinguishes them from strictly negative comments. While still carrying sexist connotations, the messages can appear to be harmless. Looking at the data, it would appear that white-knighting is prevalent on Twitch. While not functioning in the same way as in for example *World of Warcraft*, the behaviour appears to be largely based on the same type of mind-set.

While it is not feasible to make any assumptions about who make the comments, some of the types of white-knighting that Brehm discusses appear on Twitch. For instance, Brehm discusses that white-knighting is often because of the stereotypical belief that females are inherently bad at gaming and are in constant need of help (2013:8). This mind-set seems to exist on Twitch, and the aid given to female streamers could be anything from offering help within the played games, offering to moderate their chats, to constantly battling ‘toxic’ users. That is not to say, however, that there are not users expressing similar behaviour in male chatrooms (see Table 7).

<table>
<thead>
<tr>
<th>Table 7. Messages expressing white-knighting characteristics.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instances</strong></td>
</tr>
<tr>
<td>Total female</td>
</tr>
<tr>
<td>Total male</td>
</tr>
</tbody>
</table>

As can be seen in Table 7, not only females are subjected to white-knighting. However, users do seem to employ more white-knighting towards women than they do towards men. These results partly support Brehm, as women are the primary targets of white-knighting. However, at the same time it shows that men can also become subjected to white knights, something that Brehm did not mention.

It should be noted here that the white-knighting on male streams appears to be revolving around defending the streamers’ gaming capabilities and the choice of game that they played.
In the examples below, two instances of white-knighting in male streams can be seen. Example (48) is a user’s motivation for defending the streamer when another user questioned the streamer’s choice of game and (49) was the response from one user to another user who was complaining about the stream.

(48) Cause I like [streamer’s name], you stupid fuck? @[another user]
(49) get the fuck out!!!!

This contrasts the white knights on the female streams, who were more interested in ‘defending’ the women’s choice of clothing and behaviour, certain properties regarding their private lives, and reassuring them that they are good-looking. A good example of this is the ‘spoon licking’ incident, as discussed in 4.3.2. While previously only the comments relating to whether the streamer in question was acting in a suggestive way, there were plenty of messages that attempted to defend her:

(50) Gorgeous I just wanna tell you your really gorgeous I wish I could meet you one day and your a amazing girl and a amazing streamer […]
(51) sad that some people dont respect rules and speak so dirty :(
(52) Dumb ass in the stream plz stop being rude to her why do you gotta be a douche to her .?
(53) Why is people calling you a whore if you have a body what's wrong with putting it out there . They are jealous ;)

Looking at the examples above, the purpose of these messages seems to be quite different to those discussed in the previous section. While (50) arguably worships the streamer by treating her as if she is precious (see Brehm, 2013:7), (51) and (52) are attempting to defend her from the ‘dirty people’, and (53) is doing both.

What should be noted here is what distinguishes white-knighting from standard comments is that the mediated message treats the receiver as if they cannot deal with an issue on their own (as in, the streamers are incapable of telling the dissidents off themselves). This is more evident in the white-knighting towards women than that towards men. The white-knighting toward women correlates to that discussed by Brehm. Looking at the examples (50) – (53), they all seem to assume that the female streamer cannot function on her own, that she is precious and delicate (see Brehm, 2013:7), and that her actions somehow need to be justified by them. The messages hint at a sort of over-protective worship that is typical of white-knighting.

Lastly, the results seem to suggest that a disposition similar to, or originating from, white-knighting exists on Twitch. Furthermore, just like Brehm suggests (2013:8), some users claim that the ‘white knights’ do hope for some kind of reward, yet such a reward will never come: ‘stop defending her. you defending someone over the internet, she isn’t gonna reward
you with money or sex’ (Twitch, 2014a). Whether or not they are actually hoping for some kind of reward is impossible to determine.

5. Conclusion

Before any potential conclusions can be drawn, it has to be stressed that the data used for this study was limited, and therefore this study does not provide a general image of Twitch. If more data was used or if other streams were chosen, the results could have been different.

With that said, it would appear as if Twitch is not a breath of fresh air in cyberspace as it does not seem to deviate from the arguably standard sexist demeanour found on the Internet. As has been discussed in this paper, this sexism can manifest itself in various ways.

As Herring (1999:152) notes, female streamers appear to enjoy less success than male streamers, which was suggested in section 4.1 where the results indicated that users in male chatrooms use more complex and diverse language than those in female chatrooms. Furthermore, as seen in section 4.2.1, there appears to be an emphasis on gendered physical traits where female streamers received numerous derogatory comments related to their bodies while male streamers barely received any. This links to section 4.2.2, which revealed an abundance of sexist terms and comments, most of which belonged to the female chatrooms. Judging by the results discussed in section 4.2, it would appear as if women are seen much in sexualized terms as Taylor et al. (2009:1) claim.

The results were compared to that of another platform in section 4.3, and a high amount of similarities were found. As investigated in 4.3.1, users expressed a behaviour that could carry hypermasculine ideas. These ideas were found in both male and female chatrooms, and often carried the notion that women can impossibly be good at gaming and that a man should clearly be better than a woman. Exploitation was also investigated in 4.3.2, and the results suggest that potential attempts at exploitation of users by female streamers do occur, but not by male streamers. However, as previous stated, this does not mean that there are no male streamers attempting to exploit users, nor does this mean that the female streamers were actually attempting to exploit their viewers. The last thing that was investigated was white-knighting, which was found in both male and female chatrooms on Twitch. However, the focus of the white-knighting appeared to differ slightly, where users in female chatrooms appeared to be more concerned about reassuring the streamers’ physical attractiveness than users in male chatrooms.

In conclusion, this study has provided a glimpse of the gender situation on the relatively new platform Twitch.tv. While potentially not surprising to many, taking the prevalence of
sexism in today’s society\(^{33}\) into account, Twitch appears to embody numerous sexist ideas that affect both genders, to a lesser or to a greater extent. However, it has to be stressed that this study is not extensive enough to provide a general overview of Twitch, and further research of Twitch, such as by using a larger amount of data or data from different or more streams, may prove beneficial, or potentially even crucial, to a more complete understanding of the platform.

Additionally, as this study exclusively investigated traces of sexism in chatrooms belonging to popular streamers, there are still numerous angles for possible future research on Twitch, such as the examples given in the previous paragraph or whether sexist behaviour is more prominent in relation to certain games or certain streaming personalities. Another potential angle for future studies is suggested by Fox and Tang (2014) and relates to whether or not networked games provide an environment that encourages aggression. Twitch, being a hybrid platform (as discussed in section 3), could potentially provide useful data for such studies. Furthermore, by using the provided framework, Twitch.tv can be compared to other, both old and new, platforms in order to investigate, for instance, whether sexist ideas have changed over time and/or between platforms.

Regardless, as Brehm (2013:1) and Salter and Blodgett (2012:414) say, more research of female participation online is needed, and this study has hopefully served as an introduction to Twitch and encouraged, and potentially provided a source of data for, future gender, and otherwise, studies in cyberspace.

---

\(^{33}\) See Bradley (2013).
References

Primary sources

Secondary sources


Appendices

Appendix A

Appendix A1: Terms Used for the First Group
beauty, beautiful, amazing, cute, hot, horny, pussy, cunt, breast, vagina, dick, cock, lick, vag, boobs, boobss, b00bs, ugly, fat, gay, suck, boobies, dildo, ass, asshole, handjob, blowjob, fuck, rape, stand, dance, bend, model, camwhore, cam, attention, real, fap, fapping, wank, bobs, tets, belly, tongue, cleavage, butt, clothes, shirt, bra, panties, shake, bounce, boobscam, twerk, shaking, video, videos, titties, cum, puzzy, tap, tapping, tapped, touch, stroke

Appendix A2: Terms Used for the Second Group
tits, breasts, naked, boobs, faggot, hoe, whore, video, breast, pictures, pix, pic, pics, love, dailymotion, pornhub, porn, hot, sexy, bewbs, strip, striptease, <3, girlfriend, boyfriend, boobsie, beautiful, horny, pussy, attwhore, attentionwhore, doggiestyle, man, woman, girl, boy, prostitute, cunt, vagina, dick, cock, baby, bb, bby, lick, vag, slut, boobss, b00bs, trans, transgender, ugly, fat, gay, suck, tranny, ladyboy, boobies, dildo, ass, asshole, handjob, blowjob, fuck, rape, stand, bisexual, bi, heterosexual, hetero, homo, homosexual, dance, bend, model, camwhore, cam, attention, bf, gf, real, fap, fapping, wank, bobs, tets, belly, tongue, cleavage, butt, porntube, clothes, shirt, bra, panties, shake, bounce, boobscam, twerk, shaking, single, videos, titties, cum, puzzy, tap, tapping, tapped, touch, stroke, cumdumpster, cumwhore, bitch, fgt