THE "GRILL" EFFECT:

EXPLORING GENDER AND SOCIAL CAPITAL

IN *WORLD OF WARCRAFT* GUILDS

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ABSTRACT

This thesis examines the effect of gender and gender disclosure on social capital in the setting of the popular MMORPG, *World of Warcraft*. Social capital is important in this online social game setting because it depicts a player's ability to progress in the game. Members of social groups called guilds were asked to complete an online survey that determined the amount of social capital individual players possessed. A total of 1137 useable responses were received. While results showed that there was no significant difference in social capital between female and male respondents overall, when responses were sorted by those who had disclosed gender and those who had not disclosed their gender to their guild members, a noticeable difference in social capital was observed. Not only did guild members who had disclosed their gender possess more social capital than those that had not, but also female guild members who had disclosed their gender possessed more social capital than male guild members who had disclosed their gender. This raises the question: how does the dominant male gamer culture affect female social capital in games?

I. INTRODUCTION

In this study, I examine what I call the "grill" effect. "Grill" is the popular intentional misspelling of the word "girl," typically only referring to women in online gaming situations. While it more than likely originated as an accidental misspelling, it quickly became a joke that equated women gamers with cheap, easily replaced, mostly superfluous lawn ornaments. This popular term for female gamers is fairly representative of the predominant gaming culture that exists. In this gaming culture, it is a commonly held belief that a female gamer is a rare occurrence, and that they typically lack the skills to be competitive. This prevalent sexism takes many forms in the gaming world. There have been several noteworthy cases of prominent female gamers and game developers receiving death threats and rape threats. Many female gamers have experienced verbal abuse from their male counterparts in some way. Oftentimes, women are purposely excluded from social game situations because their capabilities are perceived as minimal. Additionally, it is extremely common for male players to exhibit "white knight" behavior towards female gamers. (Brehm, 2013; Eklund, 2011; Salter & Blodgett, 2012; Yee, 2008)

MMORPGs, or Massively Multiplayer Online Role Playing Games provide a unique game setting. These games typically have inherently social aspects that require social interaction for completion of in-game tasks. This need for social interaction could allow the sexism of the dominant male culture to overshadow female players even further, or it could be just the mechanism female players need to defeat this male gamer philosophy. The most popular MMORPG, *World of Warcraft*, provides a backdrop for studying this sexist behavior in online games.

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Rather than identify occurrences and aspects of sexism within *World of Warcraft*, this study takes a different approach. MMORPGs are unique for their social collaboration aspects. This collaboration is essential to complete many tasks in game. To allow easier access to such collaborative efforts, players of *World of Warcraft* create social groups called guilds. These guilds develop social capital, or resources that are embedded in their social network. Such resources are only available to players because they belong to one of these social groups. Because collaboration is necessary to reach certain goals within the game, social capital becomes necessary as well. And because social capital relies on interactions between and among members of a social network, it can be easily assumed that negative social behaviors directed towards one specific group of the player base would have repercussions on that group's social capital. Ultimately this is the goal of this study: to determine the effect that gender has on the social capital of members of guilds in *World of Warcraft.*

World of Warcraft **Guilds**

World of Warcraft is a massive multiplayer online role-playing game (MMORPG) first released by game development company Blizzard Entertainment in 2004. Since then, it has garnered enormous attention from the gaming and non-gaming communities alike. It quickly became the world's most-subscribed MMORPG, and remains so to this day. As with most other MMORPGs, players create and control a character or avatar, and can use that character to explore the virtual world, fight various enemies, complete quests, and interact with other characters. As characters complete these actions within the game, they receive experience and can level up. With the release of the latest expansion of the game, the current maximum level characters can reach is 110. Once characters reach this maximum level, they can access more difficult content to earn various rewards such as items to improve their weapons or better armor. Typically, characters need the help of other characters to complete this maximum level content.

To complete this maximum level content and to interact more easily with each other, groups of players band together and form guilds. Guilds can form for various purposes, ranging from the completion of maximum level content (raiding guilds), to fighting characters of the opposite faction (player versus player or PvP guilds), to playing out the actual fantasy of the game (role play guilds), to purely having other players to be able to talk to (social guilds). While the management structure of a guild can vary widely, most guilds have a single leader, sometimes referred to as a guild master (GM), and a few sub-leaders, or officers. *World of*

Warcraft players are able to find and join guilds in several ways. Many players seek out guilds by creating forum posts on community websites. Similarly, existing guilds can create posts to advertise to and recruit new members. Other players/guilds use the in-game chat channels to advertise themselves/their guilds. There is additionally an in-game tool named the "Guild Finder," that players can use to look for guilds and that guilds can use to recruit players. Aside from the inherent benefits of being in a guild (having other players readily accessible to interact and play with), guild members additionally receive built-in benefits such as access to a communal guild bank and ability to purchase special cosmetic items with in-game currency.

Guilds in *World of Warcraft* have been studied previously and have been shown to have the potential to be extremely social settings, akin to *Gemeinschaft*-style groups. (Chen, Sun, & Hsieh, 2008; Nardi & Harris, 2006; Stenson, 2009; Williams et al., 2006) These tight-knit groups have a beneficial role in increasing player enjoyment. (Nardi & Harris, 2006) However, it can be difficult to achieve such a close online community in the competitive setting of *World of Warcraft*. Most raiding guilds that focus on maximum level content tend to be performance based. This emphasis on player performance can create rifts in the social relationships that typically form in guilds. This can lead to individual players leaving their guild, or in some cases, the entire guild can break apart. (Chen, Sun, & Hsieh, 2008) In other cases, guilds can simply fall apart due to the guild growing too large or mismanagement on behalf of the guild leader and officers. (Ducheneaut et al., 2007)

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Gender in Online Games

While some scholars maintain that online spaces, such as MMORPGs, have the capacity to function as "third places," where status in society holds no importance (Steinkuehler & Williams, 2006), most support the idea that virtual spaces are dependent on the cultural norms of the offline world, and individuals are still beholden to the ideals and roles of everyday life. (Brehm, 2013; Malpas, 2009; Shen, 2014; Ducheneaut, Moore, & Nickell, 2007) This idea of cultural "non-autonomy" (Malpas, 2009) with regards to gender in online games has become a topic of research in recent years.

While the Entertainment Software Association estimates that approximately 44 percent of total computer and video game players are female, (ESA, 2015) most studies report that percentage is much lower in regards to MMORPG player-bases. Typically, female players account for approximately 10-15% of MMORPG players. (Yee, 2008) Several stereotypes exist in gaming communities that attempt to explain this gender disparity. Women are perceived to be the "casual" gamers, opting for simpler games with less mechanics, such as browser or mobile games, while men are perceived to be the "hardcore" gamers, selecting to play more difficult games that require a larger time and resource investment. (Juul, 2010) These stereotypes have proven to be difficult to break away from, and have led to the commonly held belief that women do not play MMORPGs or other "hardcore" online games. This notion encourages male gamers to think about female gamers as "token spectacles," rather than authentic players. In most cases, gamers are assumed male unless proven elsewise. (Yee, 2008)

The stereotypes and underlying assumptions about gamers, and female gamers in particular, as well as the social nature of MMORPGs, enables a dominant masculine and sexist culture to take hold. Many female MMORPG players have reported the existence of in-game harassment because of their gender. (Brehm, 2013; Eklund, 2011; Salter & Blodgett, 2012; Yee, 2008) Specifically, women who play *World of Warcraft* have described several counts of sexist behaviors in game including: (1) exclusion from game play because of either a belief that female players cause drama or a perceived inability to perform well in the game, (2) verbal or text based harassment centered on female gender status, and (3) unwanted attention in the form of favors, constant offers to "help," in-game currency, and in-game cosmetic items, often termed "white-knight behavior." (Brehm, 2013) Because of this behavior, many female gamers express reluctance to disclose their gender to other players. (Brehm, 2013; Yee, 2008) It is this masculine game culture, and not game mechanics, that appear to be the primary deterrent to potential female MMORPG gamers.

Social Capital in *World of Warcraft*

The term "social capital" has acquired various definitions over the past 40 years. Following the debut of the phrase in the late 1970s, several academics began appropriating it, and assigning their own definition to the term. (DiMaggio & Mohr, 1985; Bourdieu, 1986; Flap & de Graaf, 1986; Coleman, 1988; Fratoe, 1988) Today, however, the most commonly used conceptual framework for social capital comes from Robert Putnam, who popularized the concept in the 1990s. Putnam's

conceptualization of social capital takes a predominantly macro view of the theory and likens it to the concept of civic virtue. (Putnam, Leonardi, & Nanetti, 1993; Putnam, 1995; 2000) Despite the broad popularity of Putnam's framework, it is conceptually misleading; Putnam's social capital is not capital. Instead of identifying social capital as a resource, he instead describes it as a macro societal benefit resulting from micro social behavior. If the term "social capital" is used, it should truly refer to a kind of capital or resource.

With this in mind, it appears the framework established by Nan Lin is the most applicable. Lin's theory of social capital focuses on "the resources embedded in one's social network and how access to and use of such resources benefit the individual's actions." (2001, p. 55) Resources, in this sense, are goods, qualities, and assets that have been determined to be of some value in a society. These resources can be "ascribed" or "acquired." Ascribed resources are those that are assigned to individuals at birth, such as sex, gender, and race, or inherited from an individual's parents or culture, such as caste, religion, and parental resources. Acquired resources are those that individuals obtain on their own, such as education, wealth, or a prestigious job. Social capital, however, consists of these resources, not owned by an individual, but those accessible through relationships in a network. Lin offers the example of a friend's bicycle as social capital; "one can use it to achieve a certain goal, but it must be returned to the friend." (2001, p.56) Additionally, an individual's use of social capital implies an assumed obligation of reciprocity.

As stated, social capital is expected to provide benefits, or returns, to individuals within a network. Lin (2005) identifies two theoretical approaches to

describe just how social capital is anticipated to generate these returns. One

approach attempts to identify the capacity of accessible resources in a network, with

the expectation that the greater the capacity, the greater the return. This process

tries to determine *accessible social capital.* The other approach attempts to define

social capital in terms of usage, with the expectation that the more or better capital

used, the greater the return. This process tries to determine *mobilized social capital.*

Lin notes that, theoretically, measuring mobilized social capital would better reflect

the relationship between capital and individual returns. However, most other

capital theories focus on accessible capital rather than mobilized capital. Lin

additionally stipulates that depending on data that measures accessible social

capital would be problematic because there is no perfect way to measure the pool of

resources an entire network.

In *World of Warcraft* networked communities, valued resources vary slightly

from the offline-world. In end-game content, the highest valued resource is the

ability to perform well. While this predominantly relies on the individual's

capabilities and intuition, players typically additionally depend on in-game items to

boost their performance, such as potions, flasks, food, and runes. These items can

be created and stored in a guild bank, where all members (or only specific members,

depending on the guild rules) can access them. In-game currency is additionally

considered a valued resource. This currency can be used to purchase the

performance-enhancing items previously mentioned, as well as armor, cosmetic

items, and even game time. Social capital, in the context of *World of Warcraft* guilds,

encapsulates these resources that other guild members can offer you (i.e. help in the

form of completing in game tasks with you, and items and gold available in the guild bank as well as given directly from another guild member). Because *World of Warcraft* is an inherently social game that depends on interaction of players, it is assumed that greater amounts of social capital within guilds will benefit the individuals' in-game progression.

Measuring Social Capital

The methods of obtaining data for accessible and mobilized social capital proposed by Lin prove to be difficult to translate to the context of *World of Warcraft* guilds. The name generating methodology, in which respondents are asked to provide a list of names of people they know who provide certain services of value, and are subsequently asked about relationships between and among the named individuals, has several limitations. Typically, the number of names generated only ranges from three to five, limiting results. Additionally, the names respondents produce tend to be those that they have the strongest relationships with, producing a somewhat homogeneous resource pool. (Lin, 2005)

An alternative method, the position generator methodology, is widely praised. (Lin, 2005; Najarzadeh, Soleimani, & Reed, 2014; van der Gaag, Snijders, & Flap, 2004) However, this method is similarly difficult to translate to the context of *World of Warcraft* guilds. Position generating attempts to canvas the scope of an individual's access to structural positions in a hierarchy. The majority of guilds, however, do not have a rigid formal hierarchy, and most members have the same level of access to other members in positions of power (i.e. guild leader and

officers). Despite this, informal social hierarchies do form within guilds, as those

that perform better, perform special roles, or socialize more, become more valued.

These hierarchies will vary from guild to guild, and thus appear difficult to measure.

Because of the complexity of these informal social structures, this study

seeks to obtain a simplified value for accessible and mobilized social capital. As

both methods mentioned above rely on strength of relationships with members of a

network, the amount of *accessible social capital* of a guild member will be measured

by determining the relational strength between that individual and other members

of their guild. The *mobilized social capital* of a guild member will be measured by

assessing how often that individual contributes to, or accesses the social capital of

other guild members.

III. HYPOTHESES AND RESEARCH QUESTIONS

Based on previous studies, it can be determined that *World of Warcraft* guilds have the potential to be extremely social settings. (Chen, Sun, & Hsieh, 2008; Nardi & Harris, 2006; Stenson, 2009; Williams et al., 2006) Lin states that the amount of social capital an individual has access to is informed by that individual's position in the hierarchical structure of a social network. (2005) However, because no strict hierarchical structure exists in the majority of *World of Warcraft* guilds, social position – and by extension accessible social capital – is determined through an examination of relational strength between an individual and his/her fellow guild members. Because social relationships are often informed by the length of such relationships and the amount of interaction between and among individuals, it is hypothesized that:

H1: Guild longevity and guild interaction correlate positively with social capital.

Lin states that social capital provides benefits or returns to individuals within social groups. He stipulates that the more social capital readily accessible to the individual, or the more capital mobilized or used by the individual, the greater the return. (2001, 2005) In *World of Warcraft*, this benefit or return is associated with the player's progress within the game, and the player's level of satisfaction with his/her progress within the game. Based on Lin's theory, is it hypothesized that:

H2: Social capital correlates positively with player/character progress.

While Lin proposes two ways of measuring social capital (accessible and mobilized), he does not clearly state which measurement would produce a better predictor for individual benefit/return. This unknown produces the following question:

Q1: Is mobilized or accessible social capital a better measure of social capital's relationship with individual progress?

The main focus of this study is to determine the role that gender plays (if any) in the access to or use of social capital in *World of Warcraft* guilds. Based on previous literature on sexism in online games, it is known that the dominant male culture within gaming communities often espouses sexist attitudes and behaviors towards female gamers. In a game such as *World of Warcraft*, in which players are readily placed in cooperative social situations, it can be assumed that such sexist attitudes could have a negative effect on the social capital of female players. However, "white-knight" behavior exhibited by male players, could potentially mask some of these negative effects. With all this in mind, this study ultimately seeks an answer to the following question:

Q2: Does gender play a role in the access to or use of social capital in *World of Warcraft* guilds?

IV. METHOD

Survey Sampling & Procedure

A survey was conducted in October 2016 of *World of Warcraft* players, age 18 or older, who are members in a guild. Respondents were recruited through two forum posts made on /r/wow, a sub-site of the popular forum website, reddit.com. After providing informed consent, players completed the brief survey. In addition to completing the survey, respondents were encouraged to discuss the topic on the posts that were made. All player responses were recorded anonymously and no real-world identifying information was attached to the data. Although a total of 1209 responses were received, only 1137 were deemed appropriate for analysis for various reasons (i.e. incomplete response, obviously incorrect information).

Measures

Demographic Measures

Two demographic variables were included in the survey: player's gender identity and age. While respondents were able to identify as a non-binary gender, only 3 of the 1137 responses did so. Because this is not a significant sample size, only the binary (male/female) responses will be analyzed. Additionally, respondents were asked if they had disclosed their gender to their other guild members. If they answered "no" to the question, they then had the option to explain why they had not done so.

Guild Measures

Several questions were posed to determine the type, size, and longevity of the guilds players were members in. Respondents were first asked to identify how many guilds they were a member of (since an individual player can have multiple characters in multiple guilds), and were then instructed to answer the rest of the questions about the guild they were most active in. Players were then asked to identify the primary purpose of their guild, the approximate number of players within their guild, the amount of time they had been a member, and the amount of time they spend a week with other guild members.

Accessible Social Capital

Measures for accessible social capital were adapted from the Sense of Community Index (Chavis, Lee, & Acosta, 2008) and several studies that attempted to measure social capital in online games. (Molyneux, Vasudevan, & Gil de Zuniga, 2015; Skoric & Kwan, 2011; Zhong, 2011) Respondents were asked their level of agreement with 12 statements. Responses were on a 5-point scale and were averaged to create an index.

Mobilized Social Capital

The measures for mobilized social capital were not adapted from or validated in any previous research. Respondents were asked to report the occurrence of several in-game activities deemed to constitute social capital. Responses were on a 5-point scale and were averaged to create an index.

Player Progression Satisfaction

Respondents were additionally asked to report their satisfaction with their individual character progress as well as overall guild progress. Responses were on a 5-point scale and were averaged to create an index.

V. RESULTS

Demographic Measures

Significantly more male *World of Warcraft* players responded to the survey than female players (approximately 88% male, 12% female), and the majority of respondents stated that they had disclosed their gender to their other guild members (approximately 92% had disclosed, 8% had not). However, when looking at disclosure of gender across the gender boundaries, significant differences begin to appear. While only 6.5% of male respondents stated that they had not disclosed their gender to other guild members, more than 20% of female respondents stated that they had not done so. When asked to give a reason behind their non-disclosure, 71.4% of the female respondents that had not disclosed cited some sort of fear of harassment. The other 28.6% cited reasons varying between gender not being brought up in conversation and it's non-relevance. No male respondents cited a fear of harassment as their reason for non-disclosure. (See Table 1)

Table 1: Respondents by Gender, Disclosure, and Reason for Non-Disclosure

	Frequency	Percent
Male	999	87.9
Have Disclosed	934	93.5
Have Not Disclosed	65	6.5
Fear of Harassment	0	0
Hadn't been brought up	34	52.7
Not relevant	31	47.3
Female	138	12.1
Have Disclosed	110	79.7
Have Not Disclosed	28	20.3
Fear of Harassment	20	71.4
Hadn't been brought up	4	14.3
Not relevant	4	14.3

The age of respondents was relatively young, with nearly 50% of respondents between the ages of 18 and 24. The mean age was 25.45 years old. Female respondents were slightly older than their male counterparts (male mean: 25.12; female mean: 27.87). (See Table 2)

Table 2: Respondents by Age, Mean Age

Age	Frequency	Percent
18-24	562	49.4
25-29	364	32.0
30-34	145	12.8
35-39	40	3.5
40+	26	2.3
Mean Age (Overall): 25.45		
Mean Age (Male): 25.12		
Mean Age (Female): 27.87		

Guild Measures

The vast majority of respondents belonged to only a single raiding or other max-level content guild with 50 or fewer members. Additionally, most respondents did not know any of their guild members outside of the game. On average, respondents had been members of their current guild for 21 months, and play more than 13 hours a week with other guild members (compared to playing 28 hours a week total). While some differences in guild measures between male and female respondents appear, most are non-significant. (See Table 3)

Table 3: Guild Measures

	Frequency	Percent	Mean
Number of Guilds			1.25
1	918	80.7	
2	173	15.2	
3 or more	46	4.0	
Guild Purpose			
Max-Level PvE	789	69.4	
Social/Casual	304	26.7	
Role Play	25	2.2	
PvP	19	1.7	
Months as a Member			21.109
0-1	175	15.4	
2-3	271	23.8	
4-6	131	11.5	
7-12	126	11.1	
13-24	158	13.9	
25-48	126	11.1	
49+	150	13.2	
Hours played with other guild members (per week)			13.693
0-5	215	18.9	
6-10	340	29.9	
11-15	256	22.5	
16-20	170	15.0	
21-30	103	9.1	
31+	53	4.7	
Total hours played (per week)			28.05
1-10	91	8.0	
11-20	387	34.0	
21-30	333	29.3	
31-40	176	15.5	
41+	150	13.2	
Total Guild Members			49.29
1-10	122	10.7	
11-20	285	25.1	
21-30	253	22.3	
31-50	306	26.9	
51-100	107	9.4	
101+	64	5.6	
Guild members known in-real-life			1.74
0	612	53.8	
1-2	273	24.0	
3-5	149	13.1	
6-10	75	6.6	
11+	28	2.5	

Player Progression Satisfaction

Overall, no significant differences in player progression satisfaction were observed between gender groups. (See Table 4) Progression satisfaction was regressed on accessible and mobilized social capital in an attempt to prove H1 and determine an answer to Q1. Results showed that accessible social capital was a significant predictor of progress satisfaction, while mobilized social capital was not. (See Table 5)

Table 4: Progress Satisfaction by Gender

	Male Mean	Female Mean	Difference
Progress Satisfaction	3.9670	3.9873	-0.0204

Table 5: Prediction of Progress Satisfaction

	Progress Satisfaction
Mobilized Social Capital	0.027
Accessible Social Capital	0.374***

Cell entries are standardized Beta (β) coefficients.
*** $p < 0.001$

Accessible and Mobilized Social Capital

While both accessible and mobilized social capital were measured on a 5-point scale, noticeable differences appeared between the two. For respondents overall, a 1.3 point variation appeared between the two measures (mobilized social capital mean – 2.4; accessible social capital mean – 3.7). When looking at the two measures of social capital across genders, small and non-significant differences appear. For both measures, females reported slightly higher amounts. (See Table 4) However, when these measures are compared between males and females who reported that they had disclosed their gender to their other guild members, this difference becomes significant. (See Table 6)

Because accessible social capital was deemed to be the better predictor of

progress satisfaction, only that measure was regressed on demographic and guild

variables. Accessible social capital was regressed on age, gender (female),

disclosure of gender (non-disclosure), number of guilds the respondent was in,

number of months the respondent had been a member, total hours a week the

respondent spends with guild members in game, total hours a week the respondent

plays *World of Warcraft*, total number of active members in the respondent's guild,

and total number of guild members the respondent knows in-real-life. All factors,

except the number of guilds the respondent was in, were found to be significant

predictors of accessible social capital. The number of months a respondent had

been a member and the number of hours a respondent spends each week with

his/her guild were found to be the most significant predictors, proving H1. (See

Table 7)

Table 6: Accessible and Mobilized Social Capital by Gender and Disclosure of Gender

		Male Mean	Female Mean	Difference
Overall	Accessible Social Capital	3.6984	3.7808	-0.0824
	Mobilized Social Capital	2.4259	2.4819	-0.0559
Have Disclosed Gender	Accessible Social Capital	3.7586	3.9568	-0.1983*
	Mobilized Social Capital	2.4648	2.5955	-0.1306**
Have Not Disclosed Gender	Accessible Social Capital	2.8346	3.0893	-0.2547
	Mobilized Social Capital	1.8667	2.0357	-0.1691

* $p < 0.05$ ** $p < 0.01$

Table 7: Prediction of Accessible Social Capital

	Accessible Social Capital
Age	-0.136***
Gender (female)	0.141***
Disclosure of Gender (not disclosed)	-0.214***
Number of Guilds	-0.048
Number of Months	0.279***
Hours Played w/ Guild	0.403***
Total Hours Played	-0.141***
Total Active Guild Members	-0.104***
Number of Guild Members known IRL	0.081**
R^2 (%)	34.7***

Cell entries are standardized Beta (β) coefficients.   ** $p < 0.01$ *** $p < 0.001$

VI. DISCUSSION

Online vs. Offline Social Capital

Hypothesis 1 stated that guild longevity and interaction correlate positively with social capital. As seen in Table 7, the number of months respondents had been a member of their guild (longevity) and the amount of hours respondents played with their guild members (interaction), were the most significant predictors of accessible social capital, proving Hypothesis 1. This finding confirms the idea that in-game social capital works similarly to out-of-game (or real-life) social capital.

Often, online games are stereotyped as anti-social activities. While that may be the case for some games, it is obviously not so for *World of Warcraft*. Previous research had suggested that the social construct of guilds within the popular MMORPG could encourage pro-community bonding effects. (Chen, Sun, & Hsieh, 2008; Nardi & Harris, 2006; Stenson, 2009; Williams et al., 2006) This finding not only reinforces that idea, but also adds to it. *World of Warcraft* players form bonds and create social capital just as most people do outside the context of an online game. This reasoning assumes that these gamers will be better prepared to socialize in the offline world. Other studies have suggested this "spillover effect," arguing that gamers who develop and utilize social capital within a gaming context are more likely to develop face-to-face relationships and social capital with others in their real-world communities. (Molyneux, Vasudevan, & Gil de Zuniga, 2015) It is important to note that the previous literature as well as the results found here do not suggest that playing online games in general leads to these pro-social and pro-

community effects. Only those gamers that engage in the social constructs made available by the game will see the benefits.

Predictions of Benefits/Returns

Hypothesis 2 and Question 1 both explore the relationship between social capital and its benefits/returns, or in this case, player progression satisfaction. Hypothesis 2 states that social capital correlates positively with player progression, while Question 1 seeks to determine which measure of social capital possesses the stronger correlation, and would be a stronger predictor for player progression. As seen in Table 5, the accessible social capital measure holds a strong relationship with player progression satisfaction, while mobilized social capital does not. This finding provides an answer to Question 1; accessible social capital was found to be the stronger predictor for player progression.

However, this discrepancy between the two measures of social capital conveys some difficulty in attempting to prove or disprove Hypothesis 2. It is clear that accessible social capital correlates positively with player progression satisfaction, but mobilized social capital does not. The survey questions themselves may be to blame here. The mobilized social capital point value for each individual was determined through a set of 6 questions. The vast majority of respondents answered with "never" or "rarely" to the two questions, "How often do you help other guild members pay for a subscription with either in-game currency or real-life currency?" and, "How often have other guild members helped you pay for a subscription with either in-game currency or real-life currency?" It seems obvious

now that the act of paying for another player's subscription is not common at all.

The responses to these two questions certainly skewed the overall results, and

made it appear as though most individuals were not utilizing their available social

capital to it's full capacity. Because the results pertaining to mobilized social capital

cited in this study may be flawed, more research in this area is needed. In future

studies, an examination of the types of social capital most utilized should be

conducted before administering a survey.

Male vs. Female Social Capital

Question 2 seeks to determine if gender has any effect on the social capital of

individuals in *World of Warcraft* guilds. As seen in Table 6, the simple fact of gender

does not seem to play a significant role. However, the female respondents that

stated that they had disclosed their gender to their fellow guild members did

possess more access to and utilized more social capital than their male counterparts

that had also disclosed their gender. This idea seems contrary to the logical

conclusion of sexism in context of this social game.

While "outed" female social capital was greater than male social capital, there

were still several female respondents that stated they did not want to reveal their

gender based on a fear of harassment. One female respondent explained that she

"always wait[s] a while after joining a guild," to out herself as a female gamer. She

states, "I need to see what kind of people they are before I consider exposing myself

to potential verbal abuse." Another female respondent said she had not disclosed

her gender to other guild members because, "their perception of [her] capabilities inevitable goes down, regardless of past achievements."

As previous research indicated, and as these statements illustrate, abusive sexism certainly exists in *World of Warcraft* guilds. These women express a fear of disclosing their gender, yet their fellow female respondents that stated that they had disclosed, seem to possess more access to social capital and will inevitably progress further into the game. These results indicate a surprising paradox. While sexism exists in the game, it is not the abusive sexist behaviors practiced by male gamers that affects female social capital. It is instead, a fear of sexism practiced by female gamers that affects their social capital. This finding relates to Hypothesis 1, and the idea that social capital works the same way both online and offline. Because these women fear sexist behaviors, they are surely less likely to participate in community building activities. Trust is a vital aspect in relationships, and relationship-building is shown to directly correlate with social capital.

However, this paradoxical disconnect in the results may have its roots in one of the less abusive forms of sexism: "white knight" behavior. In previous studies, female gamers report mass amounts of unwanted attention from male gamers, who seek to bestow gifts, advice, or help in-game. While this "white knight" behavior is still sexism, it is certainly a less contentious issue as it lacks the abusive nature of other forms of sexism. In fact, some women may not even perceive this attention to be unwarranted, and those that do may abuse such attention to their own ends. A Reddit user responded to one of the recruitment posts on r/wow, giving an example of such "white knight" behavior, and stated, "Girls get more initial social capital just

for being a girl. I'll ask if people want to form groups all the time in guild chat and very little or no responses. A girl asks and several people instantly respond." This kind of behavior on behalf of male gamers could certainly lead to the results obtained in this study. Additional research should be conducted to find the source of the social capital differences between male and female players.

Limitations

It should be noted that these results are not intended to be indicative of the entire player base of *World of Warcraft*. These *WoW* players were recruited from the forum website Reddit.com, and therefore typically a slightly higher interest in the game, and are typically more competitive than the majority of the player base. This may explain why the majority of respondents stated they were in a raiding or other type of max-level content guild, as these kinds of guilds focus on the more competitive areas of content within the game.

As stated previously, the survey questions pertaining to mobilized social capital is certainly a limitation on the results of this study. Additionally, a limiting factor may present itself in the measurement of player progression. Because each player values different kinds of in-game progression, asking for a simple metric of progression would provide problematic results. Instead, respondents were asked to rate their progression, and relay their level of satisfaction with such progression. However, this method has its own problems, as progression is not normalized.

VII. CONCLUSION

It is yet unclear what the real "grill" effect is. While this kind of male dominated sexism still exists in online games, and in *World of Warcraft* in particular, it is now evident that most women benefit more than men from the in-game social constructs of guilds. The reasons behind this advantage are unknown. Female gamers could certainly be reaping the benefits of "white knight" behavior. It is also entirely possible that these female gamers are simply more willing to engage in social activities.

Despite all this, one thing remains unmistakable: sexist attitudes and behaviors still thrive in online gaming communities. While the majority of these female respondents benefited from a greater amount of social capital, there were still 20 female respondents that were afraid of telling their fellow guild members about their gender. At the end of the day, *World of Warcraft* is still simply a game; a game in which the primary goal of all players should be leisure and entertainment. This kind of fear should be non-existent in such a game.

APPENDIX A: SURVEY QUESTIONNAIRE

The purpose of this study is to examine the concept of social capital in World of Warcraft guilds, specifically to examine the effect that gender has on that social capital. Participation in this study is completely voluntary, and will take no more than 10 minutes. You must be at least 18 years old and be a member of a guild in World of Warcraft to take this survey.

This study involves no foreseeable serious risks. We ask that you try to answer all questions; however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave the answer blank. Your responses are anonymous.

If you have any questions or concerns feel free to contact Jennifer Meyer at jam464@txstate.edu.

This project (#2017114) was approved by the Texas State IRB on Oct.3, 2016. Pertinent questions or concerns about the research, research participants' rights, and/or research related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser at (512) 245-3413 or lasser@txstate.edu, or to Monica Gonzales, IRB Regulatory Manager at (512) 245-2334 or meg201@txstate.edu

Continuing to complete this survey implies you consent to participate in this study.

1. What gender do you identify with?
   - ☐ Male
   - ☐ Female
   - ☐ Other
2. Have you disclosed your gender to other guild members?
   - ☐ Yes
   - ☐ No
3. If you have not disclosed your gender to other guild members, why?
   _____
4. What is your age?
   _____
5. How many guilds are you a member of?
   _____

   **If you are a member of multiple guilds, please answer the following questions about the guild you are most active in.
6. What is the primary purpose of your guild?
   - ☐ Raiding
   - ☐ PvP
   - ☐ Social
   - ☐ Role Play
   - ☐ Other: _____
7. Approximately how many months have you been a member of your guild?
   _____
8. Approximately how many hours a week do you spend doing activities in game with other guild members?
   _____
9. Approximately how many hours a week total do you spend playing WoW?
   _____
10. Approximately how many active members are in your guild?
    _____
11. Approximately how many active members of your guild (that you know of) identify as female?
    _____
12. How many members of your guild did you know in real life before joining?
    _____

13. The following are a list of statements regarding actions you take with other guild members. Please answer them to the best of your ability.

	Very Often	Often	Sometimes	Rarely	Never
• How often do you ask for help from fellow guild members to complete tasks in game?	☐	☐	☐	☐	☐
• How often do you offer help to fellow guild members to complete tasks in game?	☐	☐	☐	☐	☐
• How often do you contribute items or gold to the guild bank?	☐	☐	☐	☐	☐
• How often do you take items or gold from the guild bank?	☐	☐	☐	☐	☐
• How often do you help other guild members pay for a subscription with either in-game currency or real-life currency?	☐	☐	☐	☐	☐
• How often have other guild members helped you pay for a subscription with either in-game currency or real-life currency?	☐	☐	☐	☐	☐

14. The following are a list of statements. Please mark how well each of the statements represent your feelings about your guild.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
• It is important to me to feel a sense of community with my guild.	☐	☐	☐	☐	☐
• I feel emotionally close to other members of my guild.	☐	☐	☐	☐	☐
• When I have a problem, I can talk about it with other members of my guild.	☐	☐	☐	☐	☐
• I can trust other guild members.	☐	☐	☐	☐	☐
• I know most of my other guild members.	☐	☐	☐	☐	☐
• Most of my other guild members know me.	☐	☐	☐	☐	☐
• I invest a lot of time and effort into being an active member of this guild.	☐	☐	☐	☐	☐
• Being a member of this guild is part of my identity.	☐	☐	☐	☐	☐
• I care about what other guild members think of me.	☐	☐	☐	☐	☐
• Members of this guild care about each other.	☐	☐	☐	☐	☐
• I think my guild performs well together	☐	☐	☐	☐	☐
• I am likely to remain a member of this guild for the foreseeable future.	☐	☐	☐	☐	☐

15. The following are a list of statements. Please mark how well each of the statements represent your feelings about game and character progress. (i.e. raid progression, PvP rating, item level, achievement points, etc.)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
• Character progress is important to me.	☐	☐	☐	☐	☐
• I am satisfied with my character's progress in the game.	☐	☐	☐	☐	☐
• I am satisfied with my guild's progress in the game.	☐	☐	☐	☐	☐

16. On a scale from 1-5, (1 being the worst, 5 being the best) how would you rate your game/character progress? (i.e. raid progression, PvP rating, item level, achievement points, etc.)

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5

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