

Influence of Faction Population Balance on Gameplay Experience

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1. INTRODUCTION

Since the first real Massively Multiplayer Online Game (MMOG) *Neverwinter Nights* was released in 1991 (Daglow), players have flocked to these games to immerse themselves in virtual worlds where their gameplay takes place with and is affected by other people. This online phenomenon has caught the eye of numerous social researchers throughout the past couple of decades as they have researched exactly what makes this medium so popular (Chen and Duh); particularly *World of Warcraft*, currently the most successful MMORPG on the market ("*World of Warcraft* Subscriber Base"). Many studies performed on this medium have involved research of the influence of smaller player communities, such as raid and Player-versus-Player (PvP) guilds, on gameplay experience for individual players (Williams et al. 1). Our study seeks to discover possible connections between larger player communities (such as faction populations for a specific realm)

and its correlation to the quality of individual gameplay experience.

We chose this particular area of study within *World of Warcraft* because, like most other researchers in this field, we wanted to acquire a sense of how the genre-defining, massively multiplayer aspect of these games impact how satisfying the virtual environment is. However, unlike the more common studies performed on smaller player communities (Williams et al. 1), our study looks at how server player populations, such as Horde and Alliance population ratios on individual servers, behave as a factor in the quality and satisfaction of the player's experience. How does the ratio of Horde players to Alliance players affect how much "fun" a particular player is going to have on that realm? Our proposed answer is that the more balanced a particular realm is with respect to the ratio of players in each faction, the more likely it is that a player will have positive gameplay experiences.

This study uses a combination of quantitative and qualitative research methods to arrive at a

reasonable conclusion. Through player surveys, we show a numeric count of players per server versus the resulting gameplay experienced on that server. In addition to our quantitative player count for each individual server studied, we looked closely at three specific in-game variables we felt provided an accurate scope of the kind of experience players were having in game, and are reflective of what has been shown to motivate players to play online games (Yee 2). The first was the realm's raiding community. Players desire to achieve certain high goals, a need that is easily satiated in raiding content. The second was PvP experience, as players are motivated by social competition. Our study included world PvP, such as the Tol Barad and Wintergrasp PvP areas, but not situations in which multiple realms interact, such as Battlegrounds or Arenas. The final variable studied was the economy, an element that allows the player to feel immersed in the game through a channel that exists in the real world (Yee 2). By investigating the role of each element individually (both quantitatively and qualitatively), we were able to determine how population size affects specific elements in game, thus identifying the effects that the ratio of Horde to Alliance populations on a certain realm have on gameplay experience.

2. BACKGROUND

2.1 PRIOR RESEARCH

According to a previously published study by Daniel Pittman and Chris GauthierDickey, little work has been done on the many components characteristic of player populations in MMOGs. Various websites have collected data from the game involving population and other statistics, but the data has only been used informally by players and has not played any role in any scientific measurement or study. The limited studies that were conducted similarly to ours focus more on population and network traffic patterns (Pittman and GauthierDickey, 2). Our research project is the first academic study to look at population proportions affecting player enjoyment in game.

2.2 GAME CONTEXT

A successful and popular MMORPG such as World of Warcraft is considerably larger in its proportions than other MMOG's. In a recent announcement in October 2010, its developer, Blizzard Entertainment, announced 12 million subscribers ("World of Warcraft Subscriber Base"). With such a large player base, participants must be divided into a plethora of different servers,

referred to as “realms”, for the game to perform optimally. There are over 200 total servers (including those located on other continents), and each has a separate Horde player-base and Alliance player-base. With the exception of faction-specific races and most quests, the two different factions have access to similar content but never interact with each other outside of PvP situations. Our study was conducted on players from 23 different servers, whose Horde and Alliance population numbers widely varied. Each server is functionally identical and contains the same elements, but is in its own unique state, allowing us to gather a range of accurate, reliable results for numerous different servers.

3. METHODS

3.1 COUNTING FACTION POPULATIONS

The easiest way to count the number of players of either faction is to run the “/who” command in-game. This command asks the game engine to give a list of the current online players of a particular faction in the server at any given time. Because “/who” only gathers results for one faction at once, it is necessary to perform this search at least twice on each server studied—once on an Alliance character, and once on a Horde character. One

problem with using this method is that the game engine will only give a list of 50 player characters each time we use the “who list” command. To alleviate this repetitive task, we used the external code add-on called CensusPlus to count the number of players currently online for a given faction and server. CensusPlus performs a “/who” search for all players within a specific level range, and if 50 results are given, the add-on assumes that there are more to the list and starts over with a more specific query, such as the number of characters of a certain class, of a certain race, and/or of a certain level. This way, every player that is online at the time will be found, and not be hidden due to the 50 player constraint. The entire search can take as long as 20 minutes for some heavily populated servers, so the actual population count can fluctuate as the search is performed. However, these changes are negligible in relation to the magnitude of the studied variable, which is the proportion of the faction populations for each server.

In addition, CensusPlus can only count the number of players online at the time it is run, so to get as close to the actual number of active players registered on a server as possible, it is necessary to run CensusPlus multiple times over the course of several days. In doing this, CensusPlus is able to

see which players have already been counted, as well as identify players it has not seen before and add them to the total count for the server/faction. Due to time constraints, we were not able to run CensusPlus as much as we wanted to for each faction on each server of interest, so we settled with running a search for each faction at peak activity times (in the evening), when the most players for both factions are online for raids and arena PvP. In this manner, we obtained most accurate population snapshot for each faction possible. Once these numbers were obtained, they were stored to a file so they could be used later for analysis (see Table 1 and 2 in Appendix).

3.2 SURVEYING PLAYERS

We gathered two types of data relevant to our independent variable, (player gameplay experience), in several different ways. We had volunteer participant players submit information regarding their in-game experiences in two forms: verbal explanation and numeric assessment. We created a survey in two parts, first asking players to describe how they felt about the raiding community/experience in their realm, the PvP community/experience, the in-game economy, state their general opinion of their realm, and ask what primary realm they play on. This way, we

could cross-reference their answers with our population data for their particular realm to know what size it is. The second portion of the survey asked participants to rank their feelings on the elements listed above in numeric form. We used a scale ranging from 1-10, where 1 corresponded to "very poor" and 10 corresponded to "very good". This gave us both qualitative and quantitative data to work with, and allowed the survey participants multiple ways to voice their opinions about their experiences on their realm. Those few surveys which contained outlying numbers (e.g. all tens) in the quantitative section without sufficient qualitative explanation were discarded so as to preserve the validity of the remaining results. Awareness of the survey was spread through a variety of methods—word of mouth, posting on Facebook, posted in guild chat channels, and posted to Prof. Richard Colby's class blog. The survey ran from April 17 to May 7, and we ended up gathering results from 39 players across 23 servers. We had originally hoped to obtain between 25 and 50 results for an optimal sample to analyze, so this survey was adequate for our purposes.

4. QUANTITATIVE AND QUALITATIVE RESULTS

Of the 23 servers and 39 players surveyed, the servers with the most players surveyed were Doomhammer, Area 52, Medivh, and Bladefist. Because these servers had the most data, we focused on them to see if we could spot any immediate trends. Doomhammer is Alliance dominated, roughly 2:1 (these ratios were inferred according to the CensusPlus data gathered for each, as can be seen in Table 1 in the Appendix) against the Horde. We received 7 survey results for this server, and only 1 of the participants numerically reported complete satisfaction with their gameplay experience (raiding, PvP, economy) on the realm. This player stated in their survey that they were in the guild Singularity (which includes only Alliance players) and that their experience with raiding was “great, [because] we fucking own.” The other 6 participants numerically reported lackluster impressions ($M = 5.5, SD = 2.15$) on at least 2 elements of their experiences. Two of these players described the raiding experience as “bloody terrible”, and that “there’s more idiots than anything.” When we averaged all of the numerical results for individual gameplay elements for this server, no element received a

rating higher than a 6.8 on a scale out of 10, which is only slightly better than a completely neutral rating.

Area 52 is dominated by Horde players in a nearly 5:1 ratio (again, see Table 1 in the Appendix for detailed data) against Alliance players. For this server, we received 8 results. Generally, the reporting players of this server ranked raiding experience ($M = 8.5, SD = 1.3$), in-game economy ($M = 8, SD = 2$), and general experience ($M = 9, SD = 1$) positively. Players described raiding on this server as “pretty badass” and that it “seems quite productive.” On the other hand, they didn't feel so strongly about PvP experience ($M = 5.9, SD = 2.7$).

Medivh and Bladefist only received 3 and 2 results, respectively, but we still gleaned relevant data from both. Medivh is dominated by Alliance in a 2.7:1 ratio, and when the results for that server were averaged, we found that players were generally satisfied with raiding ($M = 7.7, SD = 1.5$) and the economy ($M = 7.3, SD = .6$), and overall had a positive experience ($M = 8.3, SD = .5$) on the server. They had neutral feelings towards the PvP experience ($M = 4.7, SD = .6$). The two Bladefist players play on a server dominated by Alliance in a 1.7:1 ratio, and couldn't agree on whether or not raiding offered a satisfactory experience. They did

agree that the PvP experience (ratings of 2 and 5) was lacking, but that the economy was great (ratings of 8 and 9) and overall, that they had a good time on the server (ratings of 7 and 9).

For the rest of the individual servers, we noticed that for the “balanced” (a server having a population ratio between the two factions being between .8 and 1.25) servers, not a single negative survey result was given. In fact, every player reporting for a balanced server reported having a positive general experience ($M = 7.7, SD = .6$). The other elements ranged from slightly below neutral to very good. Overall, the results showed balanced servers received at least neutral reports, and the unbalanced servers received the highest positive and the lowest negative reports.

5. ANALYSIS

Based on all the results we have accumulated through the survey, we believe we have sufficient evidence to support our proposed answer to our original research question. The servers with the most survey results support our hypothesis, and the individual balanced servers expand upon it. We did not specifically ask for each survey participant’s faction in the survey, but we have enough information from the data in the surveys

and on the corresponding realms to infer the faction of some of the players surveyed.

For the Doomhammer server, the participant whose survey drastically differed from those of the other players in that realm is, as mentioned, in the guild Singularity, which is an Alliance only guild. We can infer based on his survey response versus the other 6 negative responses that he was most likely the only Alliance player from that realm to be surveyed. This means that for Doomhammer, an Alliance dominated realm, Alliance players are more likely to have a better experience than Horde players.

On Area 52, a Horde dominated server, all of the responses given were very positive. It therefore makes sense to infer that each of the players surveyed were primarily Horde players. We noticed that these players in general rated PvP to be a rather negative experience, which, in the context of the Horde dominant 5:1 ratio on this realm, is logically consistent. There must, at some point, be insufficient Alliance players to keep PvP gameplay interesting or balanced. Note that the survey specifically asked only for the participant’s opinions on PvP experiences within their particular realm, thus not including Battlegrounds or Arenas. While random world PvP is not as common, there do exist specific PvP areas in each

realm that implement battles between members of each faction on that server. Experiences in these battles (Tol Barad, Wintergrasp) are within the scope of the study and applicable, even on servers marked "PvE". Our data supports the theory that for realms with large population ratios in favor of either faction, this PvP gameplay may possibly be less satisfactory an experience as it could be, due to the absence of players in one faction as compared to the other.

The data for some servers primarily consisted of players who offered contradictory responses in their surveys, such as Medivh and Bladefist. Medivh's players responded quantitatively that they had a good experience in that realm, while their qualitative responses suggested otherwise. They ranked their realm numerically with 8's and above, but simultaneously implied in their verbal responses that their gameplay experiences were mostly negative. Bladefist's participants struggled to answer consistently in terms of raiding, but responded positively to all of the other gameplay elements. These servers reminded us of the possibility of error in our survey results and of the weaknesses inherent in taking both quantitative and qualitative data simultaneously. While they did not immediately lend themselves to supporting any particular theory, we did not

throw out their data, as it kept our overall research well-rounded.

The balanced servers' results imply to us that balanced population ratios result in generally positive gameplay. Games tend to be most fair when each team has the same amount of players. This fairness results in at least a neutral if not a positive experience, as is supported by the responses of the players of the 3 balanced servers. At the same time, the results from the servers from which we gathered the most data have shown that unbalanced servers may at times offer a better gameplay experience, most likely depending on whether a player is a member of the numerous faction or the outnumbered one. Due to the instability of the ratio between faction populations, players who deliberately choose unbalanced servers take a risk in how satisfying their gameplay experience can be. While this is rewarding to some (a few players reported that their experience was generally good despite the fact they felt negatively about the other elements), others are unsatisfied with the experience.

6. CONCLUSION

Our starting hypothesis was that the more balanced the faction populations were on a

player's server, the better gameplay experiences that player was likely to have. Based on the information we obtained, we were able to infer that as a server becomes more unbalanced, a player on that server is able to have a more heavily positive or negative gameplay experience. This is most likely dependent upon which faction the player chooses. We also learned that balanced servers seem to guarantee that players will not have a particularly negative experience, but any given player will also not have as positive an experience as is possible on an unbalanced realm. Figure 1 in the Appendix illustrates this. Doomhammer and Area 52, unbalanced servers, had higher ratings on average for each gameplay element than Crushridge, a balanced server. This suggests that our hypothesis is fundamentally flawed, and that the balance of faction populations is not directly related to positive gameplay experience. Our data seems to suggest instead that players tend to enjoy gameplay wherein their faction dominates (either in raids or PvP), as balanced servers cannot provide such experiences to the extent that unbalanced servers can. In future studies, we would like to be able to refine

our original question and scientifically determine (through more detailed surveys, specifically asking for the faction of each participant) if it is indeed the members of dominant factions that have the most positive gameplay experiences. We would also address certain shortcomings of our research, such as the relatively small sample size and the resultant lack of detailed survey data for most of the realms studied. We might also study the populations of each realm over a longer course of time, so as to obtain a more accurate impression of their proportional faction ratios. It might also be a good idea to separate the qualitative survey portion from the qualitative data so as to obtain a better sense of the results of each type of data individually, as we encountered some surveys that seemed to indicate a disconnection between the two. We could also research whether or not our conclusions remain valid and unchanged depending upon the specific realm type (PvP, PvE, RP, RPPVP) or whether Horde dominated servers tend to affect gameplay differently than Alliance dominated ones.

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APPENDIX

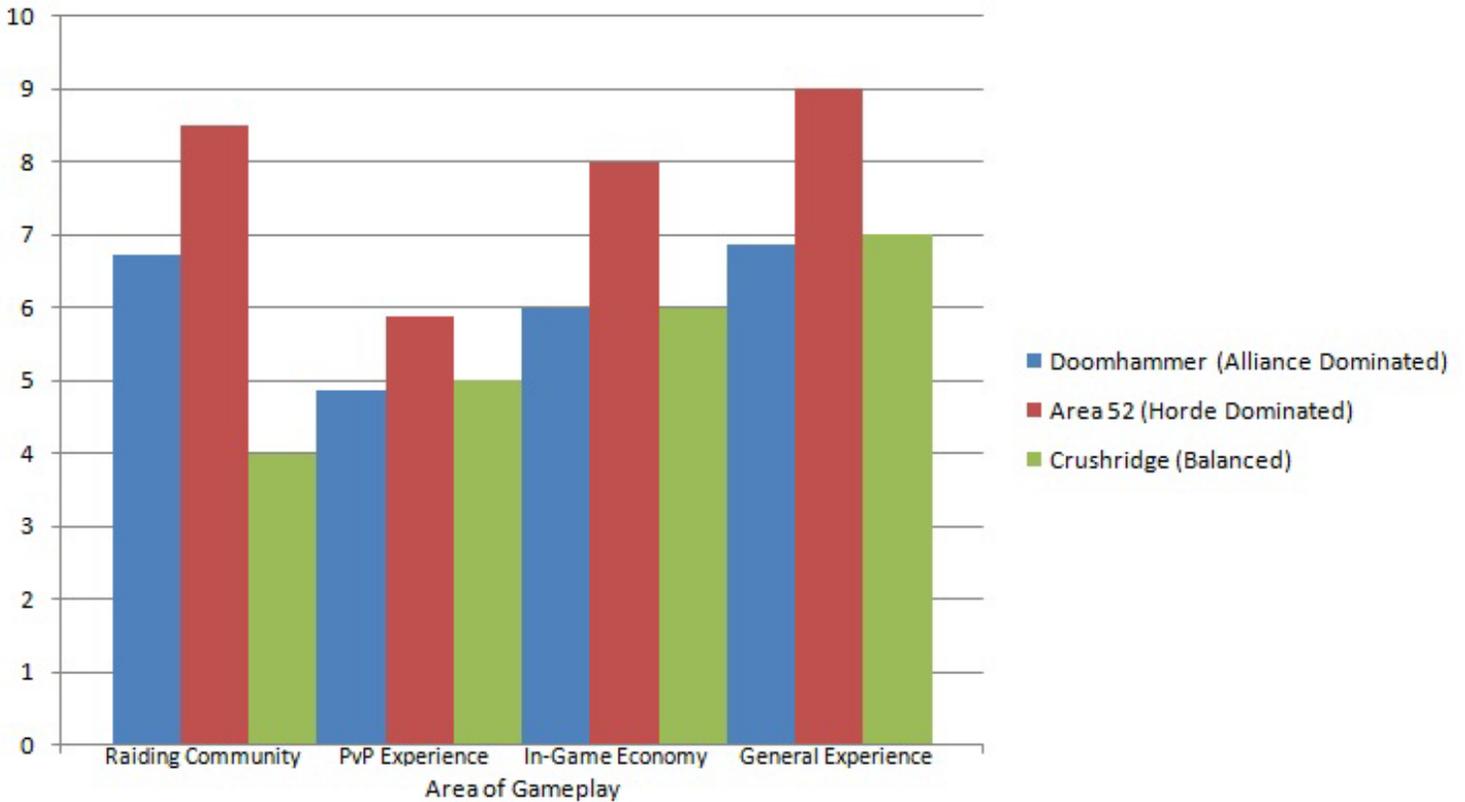


Figure 1

This graph compares the Areas of Gameplay experience numbers of an unbalanced, Alliance dominated server, an unbalanced, Horde dominated server, and a balanced server.

Realm	Doomhammer	Area 52	Medivh	Bladefist
# of Players Reporting	7	8	3	2
Horde Pop'n Observed	505	1858	1483	534
Alliance Pop'n Observed	951	383	4046	900
Faction Pop'n Ratio	0.53102	4.851175	0.36653	0.59333
Avg. Rating of Raiding Community	6.714285714	8.5	7.66667	5.5
Avg. Rating of PvP Experience	4.857142857	5.875	4.66667	3.5
Avg. Rating of In-Game Economy	6	8	7.33333	8.5
Avg. Rating of General Experience	6.857142857	9	8.33333	8

Table 1

This table shows the data collected for the 4 most popular realms surveyed in terms of player responses. The number of players reporting refers to how many players surveyed represent each realm, population numbers were obtained from CensusPlus, ratios were calculated based on population numbers, and averages were calculated based on survey responses.

Realm	Horde Pop'n Observed	Alliance Pop'n Observed	Faction Pop'n Ratio	Avg. Rating of Raiding Community	Avg. Rating of PvP Experience	Avg. Rating of In-Game Economy	Avg. Rating of General Experience
Kel'thuzad	527	1312	0.40167683	7	5	4	6
Blackwater Raiders	446	702	0.63532764	5	3	8	3
Sentinels	333	497	0.67002012	4	2	6	8
Thrall	1231	405	3.03950617	10	9	9	10
Fenris	483	674	0.71661721	2	5	6	3
Black Dragonflight	944	421	2.24228029	6	6	6	6
Spinebreaker PvP	862	217	3.97235023	5	7	8	8
The Scryers	384	636	0.60377358	8	5	3	9
Bleeding Hollow	1178	898	1.31180401	8	10	9	8
Blackrock	1439	349	4.12320917	9	9	4	7
Mok'Nathal	963	527	1.82732448	3	1	4	3
Sisters of Elune	517	548	0.94343066	6	7	8	8
Crushridge	637	538	1.18401487	4	5	6	7
Kirin Tor	449	735	0.61088435	7	5	7	8

Table 2

This table is similar in format to Table 1, but shows the data for each realm that only had one player response.