

Examining behavioral effects of player sex in two large-scale MMOs

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Abstract

Previous games research has shown a difference between male and female players in terms of their gaming behaviors, such as choice of avatar gender and engagement in combat or social activities. This article builds on such research by examining these types of behaviors within two massively multiplayer online games, CR3 and EVE, as they relate to player gender and differ between the game and cultural contexts. A multitude of variables reflecting such behaviors, pulled from privacy-protected, server log data, are used to test the hypotheses that males, compared to females, engage in more combat-related behaviors and fewer social behaviors. This analysis is currently incomplete, but will hopefully be consistent with previous findings and contribute new insights into gender differences player behavior.

Extended Abstract

Previous games research has shown a difference between male and female players in terms of their gaming behavior. For example, Huh and Williams (2010) examined gender swapping in the multiplayer online game EQII and reported that a majority of players pick characters that are gendered to match their own biological sex. However, some players do choose oppositely gendered avatars and have a variety of reasons for doing so. MacCallum and Stewart, 2008, described that some males choose female avatars to enjoy more attention and gifts from other males; similarly, some females use male avatars to avoid unwanted advances and chauvinistic treatment (Roberts & Parks, 1999; Yee, 2008). Overall, there are many studies that have examined how player sex influences attitudes about gendered gameplay behaviors (e.g., Huh and Williams, 2010; Ratan, Lehdonvirta, Kennedy, & Williams, 2012). However, only a handful of studies have looked into how sex and gender associate with actual play behaviors within online games. This article builds on such research by examining two types of behaviors—social and combat - of two massively multiplayer online games (MMOs)—CR3 and EVE—as they relate to player gender. Further, this study compares how this relationship between gender and play behaviors differs between Chinese and American game contexts.

Based on the findings of previous research (Huh and Williams, 2010; MacCallum and Stewart, 2008; Yee, 2008), we hypothesize the following:

Hypothesis 1: Males engage in more combat-related behaviors than females.

Hypothesis 2: Females engage in more social behaviors in the game than males.

Method

To address the above hypotheses, we propose to analyze and compare the behavioral data from two large-scale MMOs, Chevalier's Romance 3 (CR3) and EVE online. The operators of these two games, Kingsoft Co. Ltd. and CPP games, respectively, granted access to their privacy-protected, server log data. These MMOs were specifically selected for a number of reasons. The games themselves are also very different from each other. CR3 is set in ancient China, while EVE is set in the galaxy of a distant future. It is difficult to compare the spaceship avatars of EVE players to the human avatars of those who play CR3. But the differences are not only skin-deep, these games demand very different playing styles. EVE is much more skill-oriented than CR3, which focuses more on the completion of quests and “level-grinding.” EVE players do not complete tasks in order to advance their skills, they simply choose which skills they would like to refine, and let the skill progression run in the background as they perform other tasks. This is a heavy contrast from the very “hands-on” approach to advancing levels in CR3, which requires killing enemies, completing quests, and even receiving help from other players in the form of “Mentoring,” in which players request help from their higher level peers in order to complete special quests or receive aid in battle.

However, the fundamental social and combat aspects of these games, at their most basic levels, are quite similar. Both games implement the use of chat messages, in which players send each other messages to one another, even when they are not near each other in the game world.

Players are naturally drawn to one another to form groups, and both games employ mechanics to make this process more easy and accessible for their players. CR3 players can form groups with one another, to perform raids or to compete in PVP arenas. EVE players instead form corporations, which are essentially the same, though their group activities are much different due to the nature of the game.

Although these games have very different styles, they share many fundamental game mechanics. The games were selected for this reason, as we aim to discover associations between gender and game behavior that can be applied across a wide spectrum of various video games.

Materials

CR3 is a massively multiplayer online role-playing game designed by Kingsoft Corporation. The game is considered a milestone in the Chinese game industry. It was released on Aug. 28, 2009. This game is the third in a series, all of which are set in the same fantasy world. The game includes role-playing Swordsman and supports questing, grouping, and guild features. The martial arts-themed game is embedded in historical events, specifically, the Tang dynasty, 745 AD. As of May 2010, CR3 contains three genders: Male, Female and Lolli.

EVE was released in 2003 by Iceland-based CCP Games. The multiplayer game has more than 300,000 players (Guðmundsson, 2010). It is a space-themed game. In EVE, players take the role of spaceship pilots; the pilots seek fame, fortune, and adventure within a complex and exciting-but-hostile galaxy. Players are represented by spaceships most often, but also have avatars within the spaceships. Players can organize groups within corporations and specialize in numerous game-related activities, such as mining, trading, exploration, combat. The game has a detailed virtual economy that revolves around the production, distribution, and marketing of spaceships and other virtual goods.

The behavioral server log data includes player sex (when they first sign up for the game), and other demographics, such as player age (calculated from the date of birth). The social and combat variables are defined based on the game features, as described below. For EVE ONLINE, we also have the access of Character Genders of players.

Table 1

Descriptions of Social and Combat Variables for CR3 and EVE

Game	Social Variables		Combat Variables	
	Variable Name	Description	Variable Name	Description
CR3	Join Group	When a player joins a group in the game.	Quest Count	Number of quests.
	Add a Friend	When a player adds friends in the game.		
	Mentoring	When a player mentors or is mentored		
	Chat Count	Number of chat messages sent		

	Chat Length	Length of chat messages		
EVE ONLINE	Join Corporation	When a player joins a corporation.	Ship/Pod Kill	When a player kills a ship or pod
	Corporate Management	When a player manages a corporation.	Bounties	Kill bounties paid/received
	Email Message	When a player sends chat messages.	Gunnery Skill Training	Training “gunnery” skill type
	Friends Count	Total number of friends a player has.	Missile Launcher Skill Training	Training “missile launcher” skill type
	Number of Corporation	Number of corporations a player has joined.	Drone Skill Training	Training “drone” skill type

Analysis

Once complete, analysis of the data will aim to provide insights about how player sex influences social and combat behaviors within these MMO environments. The analysis will be conducted using a combination of techniques, such as regressions and machine learning. For example, a logistic regression will be conducted to estimate the percentage of social and combat behaviors that are explained by player sex. Next, we will apply K-fold cross validations, a machine learning approach, to examine the generalizability of the model. The machine learning approach will validate how the regression model fits across the two different datasets.

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