

Motivations of Play in MMORPGs

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ABSTRACT

An empirical model of player motivations in MMORPGs provides the foundation to understanding and assessing how players differ from one another and how motivations of play relate to age, gender, usage patterns and in-game behaviors. In the current study, a factor analytic approach was used to create an empirical model of player motivations. The analysis revealed 10 motivation subcomponents that grouped into 3 overarching components (Achievement, Social, and Immersion). Relationships between motivations and demographic variables (age, gender, and usage patterns) are also presented.

Keywords

MMORPGs, motivations, online games, massively-multiplayer online role-playing games

INTRODUCTION

Every day, millions of people [1] interact with each other in online environments known as Massively-Multiplayer Online Role-Playing Games (MMORPGs). MMORPG players, who on average are 26 years old, typically spend 22 hours a week in these environments [2]. Asking MMORPG players why they play reveals a dazzling array of varied motivations. Indeed, this wide variation illustrates why MMORPGs are so appealing - because they are able to attract people with very different motivations for playing.

The fact that I was able to immerse myself in the game and relate to other people or just listen in to the 'chatter' was appealing. [F, 34]

I like the whole progression, advancement thing ... gradually getting better and better as a player, being able to handle situations that previously I wouldn't have been able to. [M, 48]

No one complains about jobs or other meaningless things. It's a great stress reducer. I like that I can be someone else for a couple hours. [M, 28]

Currently, I am trying to establish a working corporation within the economic boundaries of the virtual world. Primarily, to learn more about how real world social theories play out in a virtual economy. [M, 30]

Articulating motivational differences among different players is the precursor to understanding

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the emergence of more complex behaviors and interactions in these environments, as well as providing a framework to differentiate one player from another. Such a framework provides the foundation to explore whether different sections of the demographic are motivated differently, and whether certain motivations are more highly correlated with usage patterns or in-game preferences or behaviors. The following paper describes a study that used a factor analytic approach to create an empirical model of player motivations in MMORPGs.

BARTLE'S PLAYER TYPES

Bartle's Player Types [3] is a well-known taxonomy of Multi-User Domain (MUD) users derived from his experiences in creating and managing MUDs. These 4 Types - Achievers, Socializers, Explorers, and Killers - each have different in-game preferences and motivations for using the MUD environment. For example, Explorers are users who are interested in understanding the mechanics and rules of the system as well as mapping out the world, while Socializers are users who enjoy chatting, interacting and role-playing with other users.

Bartle's model provides an important foundation in understanding the motivations of different players, however, it suffers from three significant weaknesses. First, the proposed components of each Type may not be highly correlated. For example, the desire to chat may be uncorrelated with the desire to role-play. Second, the proposed Types might be overlapping and not truly distinct Types. For example, a member of a raid-oriented guild may be equally an Achiever and a Socializer at the same time. Bartle's model forces this player to be either one or the other. In fact, Bartle asserts that when Achievers socialize, they are socializing to achieve rather than socializing for its own sake¹. And the final weakness of a purely theoretical model is that it provides no practical way to assess users as to what Type they might be. In more recent work [4], Bartle has subdivided the original 4 Player Types into 8 Player Types, but the weaknesses mentioned above apply to both models.

In essence, it would be hard to use Bartle's model on a practical basis unless it was validated with and grounded in empirical data. For example, Bartle suggested that different Player Types influenced each other in certain ways. But unless we have a way of assessing and identifying players of different Types, theories built on top of Bartle's model are inherently unfalsifiable. While a "Bartle Test" (not made by Bartle) does exist, the dichotomous, forced-choice nature of that assessment tool merely perpetuates the assumptions of Bartle's Types rather than validating them.

METHOD

To resolve these weaknesses and build a more solid foundation for understanding player motivations, a factor analysis on survey data was performed. A list of 40 questions that related to player motivations was generated based on Bartle's Types and qualitative information from earlier surveys of MMORPG players [5]. Players used a 5-point fully-labeled construct-specific scale to respond. Examples of these statements are:

- How important is it you to level up as fast as possible?
- How much do you enjoy helping other players?

¹ In Bartle's model, a player cannot be an Achiever and a Socializer at the same time. An Achiever might become a Socializer, but according to Bartle, at any given time, each player has one primary motivation that defines his or her play style and non-primary motivations are done solely for the sake of the primary motivation.

- How often do you make up stories and histories for your characters?

After the inventory of items (see Appendix A) was prepared, data was then collected from 3000 MMORPG players through online surveys publicized at online portals that catered to MMORPG players from several popular MMORPGs - EverQuest, Dark Age of Camelot, Ultima Online, and Star Wars Galaxies. A factor analysis was then performed on this data to detect the relationships among the inventory items in order to reveal its underlying structure. The methodology achieved three goals that overcame the inherent weaknesses of Bartle's model. First, it ensured that the components of each motivation were indeed correlated. Second, it ensured that different motivations were indeed different. And finally, it would provide a way to assess player motivations. In a sense, this methodology was testing Bartle's Types for validity and correcting for problems with a theoretical model.

FACTOR ANALYSIS RESULTS

A principle components analysis revealed 10 subcomponents with eigenvalues greater than 1 that accounted for 60% of the overall variance. These 10 subcomponents factored into 3 main components. In other words, subcomponents within the same main component are correlated with each other but largely uncorrelated with subcomponents from the other two main components. All subcomponents have a Cronbach's alpha of over .70. The 3 main components are presented here with their subcomponents (see Figure 1.1).

Achievement	Social	Immersion
Advancement Progress, Power, Accumulation, Status	Socializing Casual Chat, Helping Others, Making Friends	Discovery Exploration, Lore, Finding Hidden Things
Mechanics Numbers, Optimization, Templating, Analysis	Relationship Personal, Self-Disclosure, Find and Give Support	Role-Playing Story Line, Character History, Roles, Fantasy
Competition Challenging Others, Provocation, Domination	Teamwork Collaboration, Groups, Group Achievements	Customization Appearances, Accessories, Style, Color Schemes
		Escapism Relax, Escape from RL, Avoid RL Problems

Figure 1.1: The subcomponents revealed by the factor analysis grouped by the main component they fall under.

The Achievement Component

Advancement

Players who score high on this motivation derive satisfaction from reaching goals, leveling quickly and accumulating in-game resources such as gold. They enjoy making constant progress and gaining power in the forms offered by the game - combat prowess, social recognition, or financial/industrial superiority.

Mechanics

Players who score high on Mechanics derive satisfaction from analyzing and understanding the

underlying numerical mechanics of the system. Their goal in understanding the underlying system is typically to facilitate templating or optimizing a character that excels in a particular domain.

Competition

Players who score high on this subcomponent enjoy competing with other gamers on the battlefield or economy. They also enjoy the power that derives from beating or dominating other players.

The Social Component

Socializing

Players who score high on this subcomponent enjoy meeting and getting to know other gamers. They like to chit-chat and gossip with other players as well as helping out others in general.

Relationship

Players who score high on this subcomponent are looking to form sustained, meaningful relationships with others. They typically seek out close online friends when they need support and give support when others are dealing with RL crises or problems.

Teamwork

Players who score high on Teamwork enjoy working and collaborating with others. They would rather group than solo, and derive more satisfaction from group achievements than from individual achievements.

The Immersion Component

Discovery

Players who score high on Discovery enjoy exploring the world and discovering locations, quests or artifacts that others may not know about. They enjoy collecting information, artifacts or trinkets that few others have.

Role-Playing

Players who score high on Role-Playing enjoy being immersed in a story through the eyes of a character that they designed. Also, they enjoy role-playing their characters as a way of integrating their character into the larger ongoing story of the world.

Customization

Players who score high on this subcomponent enjoy customizing the appearance of their characters. It is very important to them that their character has a unique style or appearance.

Escapism

Gamers who score high on Escapism use the environment as a place to relax or relieve their stress from the real world. These players may use the game as a way to avoid thinking about their RL problems or in general as a way to escape RL.

One important theoretical distinction between Bartle's types and the factors resulting from this study is that the axial model of Bartle's Player Types presumes that certain motivations are

antithetical to or suppress other motivations. For example, Achievers and Socializers are on opposing corners of the graph. The factor model suggests something very different. Just because a player scores high on the Achievement component doesn't mean they can't also score high on the Social component. This is supported by the data - correlations among the 3 main components are weak (r 's < .10).

The factor analysis also revealed taxonomic errors in Bartle's model. For example, Bartle suggested Grievers and Achievers are separate Types, but the factor analysis revealed that grieving and competing cluster together and are higher correlated to the advancement subcomponent ($r = .40$). Bartle also suggested that role-playing is an overarching motivation that exists through all of the Player Types as well as a specific preference of Socializers, however, the factor analysis reveals that neither of these suggestions is correct and that role-playing is a separate and unique motivation largely unrelated to the Social component. And finally, Bartle's Explorer Type exists as two subcomponents - mechanics and discovery - that do not cluster together. In fact, the two subcomponents are related to Achievement and Immersion respectively.

GENDER, AGE, AND USAGE DIFFERENCES

As shown in Table 1.1, male players scored significantly higher on all the Achievement components than female players (t 's[3035] > 9.5, p 's < .001), while female players scored significantly higher than male players on the Relationship subcomponent (t [3035] = -14.31, p < .001]). Worth noting is that there is a gender difference in the relationship subcomponent but not in the socializing subcomponent although these two subcomponents may seem highly related. In other words, male players socialize just as much as female players but are looking for very different things in those relationships.

Table 1.1: Gender differences in motivation components and correlations with age and usage. (N male = 2769, N female = 431)

	Gender Differences*	r^{**}	Age Correlation Coefficients (M / F)	Hours Correlation Coefficients (M / F)
ACHIEVEMENT	Male > Female	.26	-.35 / -.26	.22 / .12
Advancement	Male > Female	.19	-.30 / -.24	.20 / .10
Mechanics	Male > Female	.24	-.15 / -.08	.17 / .12
Competition	Male > Female	.17	-.34 / -.27	.06 / -.02
SOCIAL	Female > Male	.12	-.16 / -.02	.05 / .11
Socializing	Female > Male	-.07	-.08 / -.04	.05 / .07
Relationship	Female > Male	-.25	-.08 / -.01	.11 / .15
Teamwork	---	---	-.14 / -.02	.01 / .05
IMMERSION	Female > Male	.15	-.02 / -.13	.09 / .05
Discovery	---	---	-.02 / -.16	.05 / -.01
Role-Play	Female > Male	-.06	.02 / -.02	-.02 / .00
Customization	Female > Male	-.18	-.13 / -.12	.04 / .03
Escapism	Female > Male	-.04	.02 / -.08	.11 / .11

* All reported gender differences are significant at the $p < .001$ level with t-tests.

** r is a measure of the effect size of the gender differences (t-tests), and thus an approximation of how much the overall variance in the subcomponent can be explained by gender alone.

Older players are most unlike younger players in the Achievement subcomponents for both male and female players. Younger players are more likely to be driven by advancement ($r = -.31$), competition ($r = -.35$) and understanding the underlying mechanics ($r = -.20$). Older players and younger players are not significantly different in terms of the Socializing ($r = -.11$) or Immersion subcomponents ($r = .00$).

For male players, the best correlates with hours played per week were the advancement ($r = .22$) and mechanics subcomponents ($r = .17$), and the relationship component for female players ($r = .15$). In other words, the reasons why men spend a lot of time in the game are different from the reasons why women spend a lot of time in the game. Men who spend a lot of time in the game are using that time to gain levels, get rare items and understand the game mechanics, whereas women who spend a lot of time in the game are using that time to build personal relationships.

SUMMARY

The factor analytic approach is, of course, not without its limitations. The primary weakness is that the resulting components are dependent on the initial inventory set. In other words, it is possible that other motivations exist that are unaccounted for. Nonetheless, the factor analytic approach does resolve several important limitations of Bartle's theoretical model. For example, the analysis revealed that the correlation between Achievers and Grievers is too high for these types to be truly distinct. The analysis also revealed that role-playing is a distinct motivation that is uncorrelated with the desire to socialize.

While Bartle posits unique Types, the components model presents a multi-faceted configural approach. In Bartle's model, each player is assigned a Type. In the components model, a player has a score on every motivation component. In other words, a player can score high on Advancement and Socializing at the same time where neither motivation is subservient to the other. More importantly, the components model can differentiate this player from another player who scores high on Advancement but low on Socializing. Also, low scores are just as interesting as high scores. A low score on Socializing means that a player avoids chatting with others. The components model foregrounds the need to take into account dislikes as well as preferences.

Some may argue that Bartle never intended to posit unique Types and that his model does allow a player to be a combination of Types, however, it is only if his Types are assumed to be predominantly unique that the analysis of how these Types influence each other in his paper makes sense. It is only if most players can be uniquely categorized as one of the 4 Types that the analysis of how Types influence each other has any meaning. If it is presumed that most players are a combination of Types, then it makes no sense to talk about how Types impact each other because those Types would never exist independently in the real world. Therefore, Bartle himself must have intended the player Types to be unique. The components model, on the other hand, presumes that a player always operates on a combination of motivations and rejects the notion of a small set of distinct archetypes that a player can be assigned to. This is supported by the data. If Bartle's presumption of unique Types with dominant motivations were true, the motivation components would be negatively correlated. The components, however, are largely uncorrelated (r 's $< .10$), implying that most players do not have a dominant motivation that suppress other motivations.

Bartle's player types and the motivation components described in this paper both seek to address

a fundamental question - why do people play. While intuition and experience can provide important insights to this question, it is also important that theoretical frameworks be tested and validated with empirical data. A quantitative analysis can reveal how a theoretical model does or does not fit actual player motivations. The empirical model developed in this study provides a solid foundation for future quantitative research in MMORPGs by providing a model to understand player motivations, a tool to assess those motivations, and thus also a means to understand usage patterns, in-game behaviors and demographic variables in relation to player motivations.

APPENDIX A

Subcomponent	Inventory Item	Factor Loading
Advancement $\alpha = .79$	Leveling up your character as fast as possible.	.68
	Acquiring rare items that most players will never have.	.77
	Becoming powerful.	.81
	Accumulating resources, items or money.	.69
	How important is it to you to be well-known in the game?	.53
	Being part of a serious, raid/loot-oriented guild.	.60
Mechanics $\alpha = .68$	How interested are you in the precise numbers and percentages underlying the game mechanics?	.78
	How important is it to you that your character is as optimized as possible for their profession / role?	.65
	How often do you use a character builder or a template to plan out your character's advancement at an early level?	.67
	Knowing as much about the game mechanics and rules as possible.	.69
	Competing with other players.	.64
	How often do you purposefully try to provoke or irritate other players?	.81
Competition $\alpha = .75$	Dominating/killing other players.	.72
	Doing things that annoy other players.	.82
	Getting to know other players.	.82
Socializing $\alpha = .74$	Helping other players.	.65
	Chatting with other players.	.77
	Being part of a friendly, casual guild.	.63
Relationship $\alpha = .80$	How often do you find yourself having meaningful conversations with other players?	.71
	How often do you talk to your online friends about your personal issues?	.88
	How often have your online friends offered you support when you had a real life problem?	.86
	Would you rather be grouped or soloing?	.79
Teamwork $\alpha = .71$	How important is it to you that your character can solo well?	.77
	How much do you enjoy working with others in a group?	.60
	Having a self-sufficient character.	.63
	How much do you enjoy exploring the world just for the sake of exploring it?	.82
Discovery $\alpha = .73$	How much do you enjoy finding quests, NPCs or locations that most people do not know about?	.77
	How much do you enjoy collecting distinctive objects or clothing that have no functional value in the game?	.55
	Exploring every map or zone in the world.	.80
	Trying out new roles and personalities with your characters.	.66
Role-Playing $\alpha = .87$	Being immersed in a fantasy world.	.62
	How often do you make up stories and histories for your characters?	.83

	How often do you role-play your character?	.85
Customization	How much time do you spend customizing your character during character creation?	.73
$\alpha = .74$	How important is it to you that your character's armor / outfit matches in color and style?	.81
	How important is it to you that your character looks different from other characters?	.80
Escapism	How often do you play so you can avoid thinking about some of your real-life problems or worries?	.81
$\alpha = .65$	How often do you play to relax from the day's work?	.62
	Escaping from the real world.	.83

REFERENCES