

Rapid Communication

Motivations for Play in Online Games

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ABSTRACT

An empirical model of player motivations in online games provides the foundation to understand and assess 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 three overarching components (achievement, social, and immersion). Relationships between motivations and demographic variables (age, gender, and usage patterns) are also presented.

INTRODUCTION

EVERY DAY, millions of people¹ 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 h per week in these environments.² Asking MMORPG players why they play reveals a wide variation of motives:

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 [male, age 30].

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 [female, age 34].

Indeed, the variation suggests that MMORPGs may appeal to many players because they are able to cater to many different kinds of play styles. Being able to articulate and quantify these motivations provides the foundation to explore whether different sections

of the player demographic are motivated differently, and whether certain motivations are more highly correlated with usage patterns or other in-game behaviors. Such a model has value for both researchers and game designers. For researchers, findings may clarify whether certain kinds of players are more susceptible to problematic usage, for example. For game developers, findings may clarify how certain game mechanics may attract or alienate certain kinds of players.

While Bartle's Player Types³ is a well-known player taxonomy of Multi-User Dungeon (MUD) users, the underlying assumptions of the model have never been empirically tested. For example, Bartle assumed that preference for one type of play (e.g., achievement) suppressed other types of play (e.g., socializing or exploring). Also, it has never been empirically shown that the four player types are indeed independent types. In other words, several of the types may correlate to a high degree. 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. In the following work, I describe a factor analytic approach to creating an empirically grounded player motivation model.

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METHODS

A list of 40 questions that related to player motivations was generated based on Bartle’s Player Types³ and qualitative information from earlier surveys of MMORPG players. Players used a five-point fully labeled construct-specific scale to respond. For example, respondents were asked, “How important is it you to level up as fast as possible?” After the inventory of items was prepared, data was then collected from 3,000 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.

RESULTS

A principle components analysis was used to arrive at a more parsimonious representation of the 40-item inventory set. Ten components emerged with eigenvalues greater than 1. Together, these 10 components accounted for 60% of the overall variance. An oblique rotation (Promax, kappa = 4) was used to reflect the inherent correlations between the components. Most loadings were in excess of 0.55, and no secondary loadings exceeded 30% of the primary loadings. Almost all components had a Cronbach’s alpha of over 0.70. Due to the high number of components, an additional PCA was performed on the 10 components in order to explore

whether certain components should be grouped together. Three main components emerged with eigenvalues greater than 1. Together, these three main components accounted for 55% of the overall variance. Again, an oblique rotation was used. The 10 components are shown here grouped according to the second PCA (Table 1). The components will now be described briefly:

Achievement component

- Advancement—The desire to gain power, progress rapidly, and accumulate in-game symbols of wealth or status
- Mechanics—Having an interest in analyzing the underlying rules and system in order to optimize character performance
- Competition—The desire to challenge and compete with others

Social component

- Socializing—Having an interest in helping and chatting with other players
- Relationship—The desire to form long-term meaningful relationships with others
- Teamwork—Deriving satisfaction from being part of a group effort.

Immersion component

- Discovery—Finding and knowing things that most other players don’t know about
- Role-Playing—Creating a persona with a background story and interacting with other players to create an improvised story
- Customization—Having an interest in customizing the appearance of their character

TABLE 1. SUBCOMPONENTS REVEALED BY THE FACTOR ANALYSIS GROUPED BY THE MAIN COMPONENT THEY FALL UNDER

<i>Achievement</i>	<i>Social</i>	<i>Immersion</i>
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 Real Life, Avoid Real-Life Problems

Escapism—Using the online environment to avoid thinking about real life problems

The factor analysis revealed that play motivations in MMORPGs do not suppress each other as Bartle suggested. If a player scored high on the achievement component that did not mean they scored low on the social component. This is supported by the data; correlations among the three main components are weak (r values of < 0.10).

Gender, age, and usage differences

Component scores were calculated for every participant using a regression method based on the factor loadings. Male players scored significantly higher on all the achievement components than female players ($t[3035] > 9.5, p < 0.001$), while female players scored significantly higher than male players on the relationship subcomponent ($t[3035] = -14.31, p < 0.001$). While these results seem to confirm stereotypical assumptions of gendered play styles, the variation in the achievement component is in fact better explained by age than gender. In a multiple regression using the achievement motivation as a dependent variable, and gender and age as the independent variables, the resulting model had an r^2 of 0.15. The standardized coefficient of gender was 0.16; the standardized coefficient of age was -0.32 . Also worth noting is that there is a gender difference in the relationship subcomponent but not in the socializing subcomponent, although these two subcomponents are highly related. In other words, male players socialize just as much as female players, but are looking for very different things in those relationships.

To explore whether some of these motivation components might be highly correlated with, and thus perhaps predictive of, problematic usage, a variation of Young's⁴ diagnostic questionnaire of internet users was also implemented. The resulting scale had a Cronbach's alpha of 0.77, and a composite value was created to indicate overall problematic usage for each respondent. A multiple regression with the problematic usage score as the dependent variable, and the 10 motivation components, age, gender, and hours played per week as the independent variables revealed a significant model ($r^2 = 0.34, p < 0.001$). The escapism component emerged as the best predictor ($b = 0.31, p < 0.001$), followed by hours played per week ($b = 0.30, p < 0.001$) and the advancement component ($b = 0.17, p < 0.01$). All other predictors had a standardized coefficient of less than 0.10.

This pattern of predictor strength dovetails with commentary from clinicians that pre-existing depression or mood disorders are common among users who develop problematic usage with online games.^{5,6}

DISCUSSION

Oftentimes, both the media and researchers into media effects collapse all video gamers into a simplistic archetype. While this facilitates making sweeping generalizations of potentially deviant behaviors or consequences (i.e., addiction and aggression), this strategy inevitably ignores the important fact that different people choose to play games for very different reasons, and thus, the same video game may have very different meanings or consequences for different players. The study described in this paper was an attempt to articulate the myriad of motivations of play among MMO players, and to explore how these motivational factors can provide us with analytical tools to describe and understand the preference for and effects of game-play for different kinds of players. The empirical model developed in this study provides a solid foundation for future quantitative research in online games 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.

SUPPLEMENTARY MATERIAL

Details of the inventory items, factor loadings, and demographic differences can be found at www.nickyee.com/cpb-supp.html.

REFERENCES

1. Woodcock, B.S. (2005). MMOG Chart. Available at: www.mmogchart.com/. Accessed September 13, 2006.
2. Yee, N. The demographics, motivations, and derived experiences of users of massively-multiuser online graphical environments. *Presence: Teleoperators and Virtual Environments* 15:309-329.
3. Bartle, R. (1996). Hearts, clubs, diamonds, spades: players who suit MUDs. *Journal of Virtual Environments*. Available at: www.brandeis.edu/pubs/jove/HTML/v1/bartle.html. Accessed September 13, 2006.

4. Young, K. (1998). Internet addiction: the emergence of a new clinical disorder. *CyberPsychology & Behavior* 1:237-244.
5. Bean, A. (2006). The internet's dangerous power. Washington Square News. Retrieved April 11th, 2006 <<http://www.nyunews.com/vnews/display.v/ART/2006/04/11/443b3b159ffd6>>
6. Kershaw, S. (2005). Hooked on the web: Help is on the way. The New York Times. Retrieved December 1st, 2005 <<http://www.nytimes.com/2005/12/01/fashion/thursdaystyles/01addict.html?ei=5090&en=la8916920717f083&ex=1291093200>>

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1. 2012. Antecedents of Online Game Dependency:. *Journal of Database Management* 21:2. . [[CrossRef](#)]
2. 2012. Team Identification, Team Performance and Leader-Member Exchange Relationships in Virtual Groups:. *International Journal of Virtual Communities and Social Networking* 2:1. . [[CrossRef](#)]
3. Jean Oggins, Jeffrey Sammis. 2010. Notions of Video Game Addiction and Their Relation to Self-Reported Addiction Among Players of World of Warcraft. *International Journal of Mental Health and Addiction* . [[CrossRef](#)]
4. Chang-Su Kim, Eun-Hai Oh, Kyung Hoon Yang, Jae Kyung Kim. 2010. The appealing characteristics of download type mobile games. *Service Business* 4:3-4, 253-269. [[CrossRef](#)]
5. Victoria Anne Sublette, Barbara Mullan. 2010. Consequences of Play: A Systematic Review of the Effects of Online Gaming. *International Journal of Mental Health and Addiction* . [[CrossRef](#)]
6. Dmitri Williams. 2010. The Mapping Principle, and a Research Framework for Virtual Worlds. *Communication Theory* 20:4, 451-470. [[CrossRef](#)]
7. Antonius J. Van Rooij, Tim M. Schoenmakers, Ad A. Vermulst, Regina J.J.M. Van Den Eijnden, Dike Van De Mheen. 2010. Online video game addiction: identification of addicted adolescent gamers. *Addiction* no-no. [[CrossRef](#)]
8. Seth Cooper, Firas Khatib, Adrien Treuille, Janos Barbero, Jeehyung Lee, Michael Beenen, Andrew Leaver-Fay, David Baker, Zoran Popović, Foldit players. 2010. Predicting protein structures with a multiplayer online game. *Nature* 466:7307, 756-760. [[CrossRef](#)]
9. Bobby Hoffman, Louis Nadelson. 2010. Motivational engagement and video gaming: a mixed methods study. *Educational Technology Research and Development* 58:3, 245-270. [[CrossRef](#)]
10. Faltn Karlsen. 2010. Entrapment and Near Miss: A Comparative Analysis of Psycho-Structural Elements in Gambling Games and Massively Multiplayer Online Role-Playing Games. *International Journal of Mental Health and Addiction* . [[CrossRef](#)]
11. Bong-Won Park, Jae-Hyeon Ahn. 2010. Policy analysis for online game addiction problems. *System Dynamics Review* 26:2, 117-138. [[CrossRef](#)]
12. Daniel King, Paul Delfabbro, Mark Griffiths. 2010. Video Game Structural Characteristics: A New Psychological Taxonomy. *International Journal of Mental Health and Addiction* 8:1, 90-106. [[CrossRef](#)]
13. Zaheer Hussain , Mark D. Griffiths . 2009. The Attitudes, Feelings, and Experiences of Online Gamers: A Qualitative AnalysisThe Attitudes, Feelings, and Experiences of Online Gamers: A Qualitative Analysis. *CyberPsychology & Behavior* 12:6, 747-753. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
14. Kimberly Young. 2009. Internet Addiction: Diagnosis and Treatment Considerations. *Journal of Contemporary Psychotherapy* 39:4, 241-246. [[CrossRef](#)]
15. Dmitri Williams, Mia Consalvo, Scott Caplan, Nick Yee. 2009. Looking for Gender: Gender Roles and Behaviors Among Online Gamers. *Journal of Communication* 59:4, 700-725. [[CrossRef](#)]
16. Klimmt Christoph, Hefner Dorothee, Vorderer Peter. 2009. The Video Game Experience as “True” Identification: A Theory of Enjoyable Alterations of Players' Self-Perception. *Communication Theory* 19:4, 351-373. [[CrossRef](#)]
17. Maria Frostling-Henningsson . 2009. First-Person Shooter Games as a Way of Connecting to People: “Brothers in Blood”First-Person Shooter Games as a Way of Connecting to People: “Brothers in Blood”. *CyberPsychology & Behavior* 12:5, 557-562. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
18. Huon Longman , Dr. Erin O'Connor , Patricia Obst . 2009. The Effect of Social Support Derived from World of Warcraft on Negative Psychological SymptomsThe Effect of Social Support Derived from World of Warcraft on Negative Psychological Symptoms. *CyberPsychology & Behavior* 12:5, 563-566. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
19. Michael Bourlakis, Savvas Papagiannidis, Feng Li. 2009. Retail spatial evolution: paving the way from traditional to metaverse retailing. *Electronic Commerce Research* 9:1-2, 135-148. [[CrossRef](#)]
20. Christian Schmieder. 2009. World of Maskcraft vs. World of Queercraft? Communication, sex and gender in the online role-playing game World of Warcraft. *Journal of Gaming & Virtual Worlds* 1:1, 5-21. [[CrossRef](#)]
21. Kuan-Ta Chen, Polly Huang, Chin-Laung Lei. 2009. Effect of Network Quality on Player Departure Behavior in Online Games. *IEEE Transactions on Parallel and Distributed Systems* 20:5, 593-606. [[CrossRef](#)]
22. 2009. Teaching and Learning. *TechTrends* 53:3, 30-32. [[CrossRef](#)]
23. Christoph Klimmt , Hannah Schmid , Julia Orthmann . 2009. Exploring the Enjoyment of Playing Browser GamesExploring the Enjoyment of Playing Browser Games. *CyberPsychology & Behavior* 12:2, 231-234. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]

24. Leonard Reinecke. 2009. Games and Recovery. *Journal of Media Psychology: Theories, Methods, and Applications* 21:3, 126-142. [[CrossRef](#)]
25. David Smahel , Lukas Blinka , Ondrej Ledabyl . 2008. Playing MMORPGs: Connections between Addiction and Identifying with a CharacterPlaying MMORPGs: Connections between Addiction and Identifying with a Character. *CyberPsychology & Behavior* 11:6, 715-718. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
26. De-Lin Sun , Ning Ma , Min Bao , Xang-Chuan Chen , Da-Ren Zhang . 2008. Computer Games: A Double-Edged Sword?Computer Games: A Double-Edged Sword?. *CyberPsychology & Behavior* 11:5, 545-548. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
27. Fu-Yun Yu , Chialing Han , Tak-Wai Chan . 2008. Experimental Comparisons of Face-to-Face and Anonymous Real-Time Team Competition in a Networked Gaming Learning EnvironmentExperimental Comparisons of Face-to-Face and Anonymous Real-Time Team Competition in a Networked Gaming Learning Environment. *CyberPsychology & Behavior* 11:4, 511-514. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
28. Dmitri Williams, Nick Yee, Scott E. Caplan. 2008. Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication* 13:4, 993-1018. [[CrossRef](#)]
29. Elif Ayiter. 2008. Integrative art education in a metaverse: ground<c>. *Technoetic Arts: a Journal of Speculative Research* 6:1, 41-53. [[CrossRef](#)]
30. Ching-I Teng . 2008. Personality Differences between Online Game Players and Nonplayers in a Student SamplePersonality Differences between Online Game Players and Nonplayers in a Student Sample. *CyberPsychology & Behavior* 11:2, 232-234. [[Abstract](#)] [[PDF](#)] [[PDF Plus](#)]
31. Shih-Ping Jeng, Ching-I Teng. 2008. PERSONALITY AND MOTIVATIONS FOR PLAYING ONLINE GAMES. *Social Behavior and Personality: an international journal* 36:8, 1053-1060. [[CrossRef](#)]
32. Ruck Thawonmas, Keita Iizuka. 2008. Visualization of Online-Game Players Based on Their Action Behaviors. *International Journal of Computer Games Technology* 2008, 1-10. [[CrossRef](#)]
33. Hsi-Peng Lu, Shu-ming Wang. 2008. The role of Internet addiction in online game loyalty: an exploratory study. *Internet Research* 18:5, 499-519. [[CrossRef](#)]
34. Claudia Hienerth, Christina Oehler. 2007. Adgamer: Eine spielertypologie zur unterstützung des marketingpolitischen instrumentariums. *der markt* 46:4, 157-167. [[CrossRef](#)]
35. Ashley John Craft. 2007. Sin in cyber-eden: understanding the metaphysics and morals of virtual worlds. *Ethics and Information Technology* 9:3, 205-217. [[CrossRef](#)]