

Beyond P-1: Who Plays Online?

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ABSTRACT

Academics and industry professionals alike have long been interested in developing a nuanced and empirically sound typography of online gamers. Designers and engineers are aware of the value of well-considered "personas" to help guide the software development process. This study takes a new, quantitative approach to analyzing the aggregation of empirical characteristics for more than 1100 gamers.

A statistical process called "factor analysis" reduces the dimensionality of this study's survey data and mathematically suggests four distinct archetypes of online gamers that statistically account for more than two-thirds of play preferences. The significance of these findings is that they offer quantitative support for characterizing different kinds of online gamers in the way that other researchers have qualitatively interpreted their experiences.

Keywords

video game, computer game, Internet, archetype, prototype, persona

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THEORETICAL RATIONALE

A game is far more than a simple economic commodity, technological wonder, or child's plaything. Like television, film, radio or any other mass medium, the digital game can have unexpected social and ideological influence. As societies worldwide rapidly embrace computer-mediated communication in all forums of social life, the need to study these online interactions is becoming pressing.

Marshal McLuhan writes:

Games are popular art, collective, social reactions to the main drive or action of any culture. [They] . . . are extensions of social man and of the body politic . . . As extensions of the popular response to the workaday stress, games become faithful models of a culture. They incorporate both the action and the reaction of whole populations in a single dynamic image . . . The games of a people reveal a great deal about them. [4]

McLuhan suggests that people's games are tied in with broader social phenomena in their lives and societies. Games, framed as such, are not only children's activities, they are communicative

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media and symptomatic by-products of human culture; symptoms in which we can see reflected the conflicts of social life. McLuhan suggests that there is a strong implicational connection between the pervading social undercurrents in a particular culture or sub-culture and what styles of games and game play that become popular in that group. In addition to this, traditional play theorists assert that games also influence culture in the reverse of the above implication. There is a synergy between people and their games, both influencing the other dynamically.

In a psychoanalytical sense, play is intrinsically self-motivated. Play can be seen as an activity born of desires that players wish to fulfill through playing. Some take this idea a step further and suggest that these efforts to fulfill these desires come from deeper-seated psychological drives, and that our play is a reflection of our psychological needs. Freudian theory suggests that play is a mechanism through which players can relieve themselves of anxieties. Players that feel anxiety about a lack of control in their lives, such as children and the young who must rely upon others for their survival, often play in such a way that they can feel mastery over their situation and control over their environment [3]. This can be seen as a release of anxiety in that play offers relief from feelings of powerlessness in this case, and these themes are echoed in much of the lay literature that surrounds gaming worldwide.

TYPOGRAPHY OF GAMERS

One frequently overlooked element in the in analysis of Internet gaming is the player. This study suggests that gamers are each differently motivated by a number of social and non-social factors, and that dedicated gamers congregate, or cluster, around certain gaming gratifications. By identifying these gaming motivations and the types of gamers that associate with each we can build a framework for the future understanding of gamers themselves.

An Extant Typography

This study is not the first to undertake a typology of Internet gamers, however. Many researchers have attempted a loose, qualitative designation system for all sorts of players. Of these works, perhaps the one most applicable here was contributed in 1996, and later refined in 2003, by Richard Bartle [1, 2]; one of the progenitors of multi-user dungeon games (MUDs). In his study, Bartle performed a participant observation of one such MUD community. By looking at the posts dedicated MUD gamers left on an Internet message board during heated debate, Bartle formed a qualitative theory of the four types of players in these games. Each type he likens to a suit in a deck of cards. There are the "Explorers," whom he likens to spades because they like to dig for secrets in their environment. Also there are the "Socializers," whose love for talking and sharing makes them the suit of hearts. "Achievers," strive to gain power and accumulate wealth in MUDs, which naturally makes them the diamonds. Finally, Bartle's "Killers," are the clubs, simply because they like to club other players to death.

Bartle sets his players who suit MUDs up in a two-by-two grid of 'players'-'world' and 'interact with'-'act upon' axes, wherein each of Bartle's types can be described qualitatively by their position within the grid. For instance, spades like to interact with the game world, while socializers like to interact with other players. These axes form a meaningful theory with which to chart MUD players.

While his observations are keen and his writing is both thought-provoking and of great use to people who write and administer MUDs and some other games, Bartle [1] acknowledges that the

article is neither academically rigorous, nor generalizable to wider populations of gamers. Instead, it was written as an insightful treatise on how to keep a MUD running smoothly by keeping the ecology of player types in careful balance.

Rationale and Methodology

We know that games are more than technologies, products, or toys. They are also more than media; they are a realms that can act as social forums in which gamers can create their own, (sometimes oppositional), social narratives.

What are the primary motivations and benefits of online play as experienced by different gamers? How are gamers gratified and fulfilled through this social interaction? Through probing these questions we can generate a theoretical framework from which to approach online game play motivation and satisfaction measures.

Such a model can do away with false dichotomies of 'character vs. action', 'fantasy vs. sci-fi', 'teamwork vs. competition', and others, while providing a more meaningful way of looking at the tensions that lead to game and genre preference. An empirically sound method to typify and characterize different gamers offers the opportunity for future gamer research to have a firm model of game play motivations and demographics to work from when looking at this vital new form of leisure.

This study utilizes a survey methodology to accomplish these tasks. The survey was administered the survey to 1178 gamers, all through a website online (still accessible at www.sfu.ca/medialab/onlinegaming). The questionnaire was 327 questions long, and approximately one twentieth of the questions administered in the survey are utilized in this study.

Sampling and Collection Considerations

With a survey being administered via the worldwide web, the participants are a self-selecting body of the dedicated and "hardcore" gamers with access to the Internet. Nonetheless, using the Internet as a survey vehicle does not leave out too many gamers, as a 2004 study suggests that 54% of PC/Mac and console gamers play games via the Internet, with even more gamers surfing the Web even if they do not play online [4]. Unfortunately, this means that each respondent is presumably be involved in "extra-gaming" online activity, such as reading Internet message boards within the gamer community. Furthermore, all recruiting was done on web sites and bulletin boards, although there is a possibility of "clumping" sample bias, due to friends and associates encouraging one another to take the survey. All respondents necessarily speak English, but otherwise participants were quite diverse in terms of age, gender and location. Finally, there is the possibility that some respondents may have taken the survey several times. This possibility was minimized by ensuring that no two responses came from the same IP address, unless the demographic responses were very different; such as may be if a different family member undertook the questionnaire. These sampling biases skew the volunteer sample towards dedicated and expressive gamers in the West, and this is partially accounted for by the fact that it is these very gamers that form the leading edge of gamer culture.

As with any research study, there are important ethical concerns to consider before allowing any respondent to participate. In order to ensure the anonymity of respondents, each IP address was erased after checking for duplicate responses from the same computer, and the respondents'

email addresses were not required. It would be extremely difficult to discern the identity of any respondent because there was limited characteristic data gathered in the survey other than basic demographic data such as nationality, gender, age, income and so forth.

Questions for the survey were designed based upon pilot ethnographic, participant observatory and interview analysis to get at how gamers comparatively rated a number of popular game features and interactions. These queries were worded to minimize coverage and measurement error, while non-response error was eliminated by ensuring that any respondent who did not answer a given question was not calculated into analysis of that question. In order to account for instrument effects present within the survey, the pilot survey was first administered to about 250 test respondents, and evaluated for errors and poor questions. As a final meager test of external validity, the original questionnaire has been available for public scrutiny for two years.

RESULTS

Overall Gaming Behaviors

Almost all the survey respondents are net-savvy online gamers, with only 7.3% of them playing an average of less than two hours per week online gaming and fully a quarter of respondents playing online more than 25 hours each week. One in ten respondents is female, and nearly half of respondents report having been in conflict with family or friends over their gaming, yet continue to play. Many of them are somehow socially involved in online gaming, whether through reading online game forums and news sites, chatting with other players, or just going to their local ‘net café for a game. In fact, most respondents came across this survey in one such manner or another, as it was not administered to a random sample of the world’s populace, but publicized in these places that devoted online gamers are likely to see.

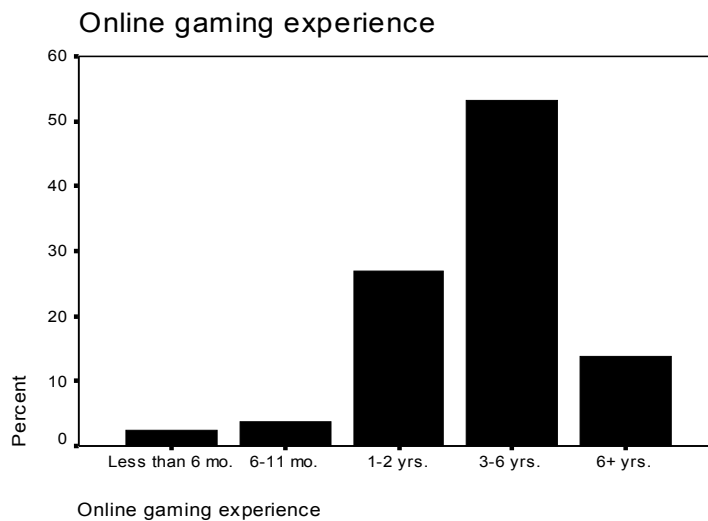


Figure 1.1: Respondent online gaming experience

And many respondents are devoted gamers indeed. More than 87% of respondents feel that people become addicted to the games, yet less than 19% feel that they themselves are addicted. Nearly half the respondents report that they have been in conflict with family or friends over their online gaming, yet continue to play.

The majority of respondents have been playing online games for 3 to 6 years. In overall terms of what is important or very important in a game, they tend to rate exploration (88.5%) and themes or plot (88.5%) most highly, then good characters (86.2%), graphics (79.3%), the opportunity to cooperate with other players (76.1%) and innovation in game design (74.6%) well ahead of other game play elements. Following these were unpredictable game play (68.9%) game play that make them think a lot (66.9%) and feelings of control while they play (66.8%). Complex strategies (60.1), imaginative game play (59.5%), constant excitement (56.0%), challenge (54.8%), and competition against other players (53.9%) ranked ahead of weapons and technology (48.1%), realism (41.3%), fast-reaction play (36.9%), and military or combat themes (31.9%). Finally, gamers were evenly split between feeling calming game play is important or unimportant. Later, we will see how these numbers vary across different aggregates of gamers.

Many males find weapons and technology (49.4% vs. 35.2%) and competitiveness (56.3% vs. 33.3%) to be important or very important, and they are less likely to rate unpredictability (6.1% vs. 21.6%) and combat or military themes (30.2% vs. 64.0%) as unimportant or very unimportant. While males and females on average feel the same about cooperation in game play, females tend towards indifference on these game play factors more than male players.

In terms of overall online genre preferences, most respondents like or strongly like RPG's and fantasy games online (85.7%), followed by fighting and shooting games (75.9%), real-time and turn based strategy or conquest games (67.4%), simulations (38.0%), platformer, maze and adventure games (36.0%), racing games (25.8%), puzzle, educational and board games (25.2%), sports games (17.4%), and finally gambling games (9.2%).

Gamer Archetypes

Factor analysis on gamer preferences yields data that suggests four distinct archetypes, (or "factors" in statistical terminology) of online gamers. The most distinct are those we may call "Warriors" who prioritize weapons and technology, combat and military themes, realism, graphics, and to a lesser degree, fast-reaction and unpredictable play. Comparatively, they do not find interesting characters or being made to think a lot during game play to be very important. Here we see one of this study's more surprising breaks; knowledge of tactics and strategy, master and competition, (the realms of the Strategist,) are often conflated with the Warriors' preferences and forte.

Second in order of distinctness, there are the gamers we may call "Narrators" who place priority on themes and plot, characters, exploration, using their imagination and thinking a lot. While prototypical Narrators enjoy thinking about the game environment and storyline, they do not like games that are challenging and hard to master. Likewise they do not enjoy competition with other players or combat and military themes as much as other gamer archetypes.

The third group could be called "Strategists." These gamers focus on complex strategies, challenging game play and mastery over the game and other players. They enjoy being made to think a lot, use of their imaginations, and that their game play experience be unpredictable. For the strategist, everything else – from characters and story, to realism – is comparatively unimportant.

Finally, there are the "Interactors" whom rate competition and cooperation with other players

above all else, while they do not care about unpredictability or being made to use their imaginations. This group is characterized largely with ambivalence towards other game qualities. Interactors primarily use online gaming as a vehicle for socialization. It has long been known that online multiplayer gaming appeals to many gamers more than single-player games, yet traditionally industry professionals have considered the online interaction element of game play to be a meta-quality of games, like icing on a cake, instead of a primary, defining quality. The emergence of the Interactors shows us that they are not simply gamers with a preference for social gaming within their favored game genre, but gamers who seek social activity *before* all other factors.

While archetypes seem intuitive, the significance of these findings is that they offer quantitative support for characterizing different kinds of online gamers. Each gamer can be said to be comprised of a unique combination of Warrior, Narrator, Strategist, and Interactor. Once established, such a system for identifying a gamer's personality offers numerous avenues for in-depth research on the social interactions and networks that are formed in online game spaces.

Table 1.1: Rotated Component Matrix*

	Warriors	Narrators	Strategists	Interactors
Graphics	.636	.301	-.098	.117
Realism	.668	.011	.147	.200
Weapons and technology	.829	.029	.084	.048
Combat or military themes	.763	-.087	-.101	.104
Characters	-.183	.770	-.073	-.048
Themes and plot	.089	.780	-.012	-.036
Complex strategies	-.016	.066	.749	-.044
Fast reactions	.456	.307	.290	.289
Imagination	.226	.584	.475	-.176
Exploration	.221	.593	.058	.078
Make me think a lot	-.121	.448	.608	.042
Unpredictable	.385	.024	.475	-.266
Competition with other players	.212	-.097	-.014	.882
Cooperation with other players	.166	.038	.008	.843
Challenging and hard to master	.039	-.239	.675	.165

* Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. (Rotation converged in 5 iterations.)

In the rotated component matrix (Table 1.1 above), values close to zero, either positive or negative, indicate relative indifference to that element of game play, while highly positive values indicate a strong comparative regard for that element, while a highly negative value indicates a relative dislike for that element of game play.

Without getting into too much depth, we can see a number of revealing details represented in the numbers here. For instance, we see that Interactors rate both cooperative and competitive play foremost and equally; this does not mean that anyone that likes competition equally likes cooperation, not at all. What this does indicate, however, is that those who rate competition and cooperation very highly rate the other game play so similarly that, provided these results are

sound, these gamers can be grouped together! They put very similar emphasis on exploration, unpredictability, and all the other elements they were asked about. For game developers, this suggests that cooperative and competitive games can be quite similar indeed.

Statistical Validity

A KMO Sampling test indicates a valid analysis at greater than 0.654, as does the null-hypothesis of Bartlett's test of sphericity under 0.05. A summary of the Varimax-rotated component matrix indicates scores between -1 and 1 that indicate association with the values on the left to each given component. Note that the variable "fast reactions" appears across all components. Removal of this variable from the matrix increases the apparent differences between components, but doing so decreases the rotated sum of squared loadings which are indicative of how much behavior is accounted for by the included components.

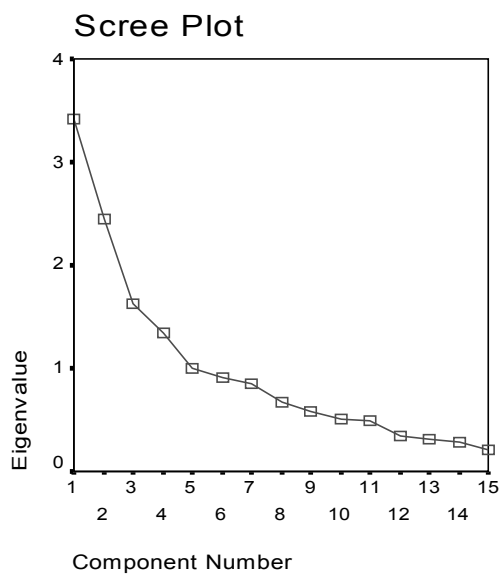


Figure 1.2: A scree plot indicates that the first four factor components (the 4 archetypes) have an Eigenvalue greater than one, as well as representing the steepest region of the slope.

So, why choose four archetypes, and not three, or ten? In Fig. 1.2 we see thirteen different factors (or archetypes) distinguishing themselves to various degrees. We can clearly see that while factors 5 to thirteen vary in Eigenvalue, the approximate slope of that section of the graph is nearly uniform, while the first four factors (Warrior, Narrator, Strategist, Interactor) distinguish themselves more clearly from each other, in respective order. Note, also, that the graph bears some similarity to the positive portion of a ($y = 5 / x$) function..

CONCLUSION

While these archetypes seem intuitive at first glance, the significance of these findings is that they offer quantitative support for characterizing different kinds of online gamers into four categories that may not have seemed the most intuitive aggregative breaks. The taxonomy suggested here is not rigid and complete in stereotyping every player. Instead, each gamer can be said to be comprised of a unique combination of Warrior, Narrator, Strategist, and Interactor.

Now, with an empirical framework for distinguishing players, we can next address basic questions about gamers' behaviors and demographics can then be cross-indexed against these findings to determine if there is covariance between factors.

Although the length of this paper does not allow for this sort of deeper investigation at this time, future analysis such as this could prove fruitful. Furthermore, comparing these results to Nicholas Yee's [6] factor analysis of *EverQuest* players may offer access to a whole new body of data if there is an empirically sound linkage between the two sets of models.

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