#### Computers in Human Behavior 29 (2013) 103-109



### Computers in Human Behavior

journal homepage: www.elsevier.com/locate/comphumbeh

# Why do you play *World of Warcraft*? An in-depth exploration of self-reported motivations to play online and in-game behaviours in the virtual world of Azeroth

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#### ARTICLE INFO

Article history: Available online 19 August 2012

Keywords: Massively multiplayer online role-playing games Motivation Longitudinal World of Warcraft Virtual worlds Internet addiction

#### ABSTRACT

Massively multiplayer online role-playing games (MMORPGs) are video games in which players create an avatar that evolves and interacts with other avatars in a persistent virtual world. Motivations to play MMORPGs are heterogeneous (e.g. achievement, socialisation, immersion in virtual worlds). This study investigates in detail the relationships between self-reported motives and actual in-game behaviours. We recruited a sample of 690 *World of Warcraft* players (the most popular MMORPG) who agreed to have their avatar monitored for 8 months. Participants completed an initial online survey about their motives to play. Their actual in-game behaviours were measured through the game's official database (the *Armory* website). Results showed specific associations between motives and in-game behaviours. Moreover, lon-gitudinal analyses revealed that teamwork- and competition-oriented motives are the most accurate predictors of fast progression in the game. In addition, although specific associations exist between problematic use and certain motives (e.g. advancement, escapism), longitudinal analyses showed that high involvement in the game is not necessarily associated with a negative impact upon daily living.

#### 1. Introduction

Video game play has become a major leisure activity during the past 30 years. For a long time, it was mainly considered to be a teenage male activity. Recent studies broke this stereotype by showing that the number of adults and females playing video games has grown exponentially in recent years (Griffiths, Davies, & Chappell, 2003, 2004). This is particularly true for one of the most recent and popular types of video games called massively multiplayer online role-playing games (MMORPGs). MMORPGs are computer role-playing games in which thousands of players interact with one another in a persistent virtual world-an environment that exists independently of the players. Thus, in an MMORPG, the world continues to exist when the user is not logged in, and events and interactions between other players occur while the user is absent from the persistent virtual environment. The most popular MMORPG is World of Warcraft (WoW), a game that takes place in a heroic fantasy-based world called "Azeroth,"

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resembling I.R.R. Tolkien's Middle Earth described in the saga The Lord of the Rings (Tolkien, 1954). When plaving WoW, plavers assume the role of a fictional character evolving in the world of Azeroth. Character creation involves various components such as the selection of an avatar (a visual representation of the character in the virtual world), gender, race (e.g. human, elf, dwarf, orc), class (e.g. warrior, mage, rogue, priest) and faction ("good" characters are regrouped in the Alliance, and "bad" characters are regrouped in the Horde). The concept of progression is a central feature of WoW, implying that a player's character will acquire new skills and powers as rewards for succeeding in missions or quests (e.g. defeating a powerful monster, finding a specific item). Another fundamental aspect of WoW is its social interactions. Indeed, when playing, it is possible to communicate easily with other players (written chat or audio). In addition, players also regroup themselves in guilds (persistent hierarchical organisations of characters with common objectives and backgrounds). Each guild has its own rules. Players who want to be enrolled generally need to contact the guild's master and present their motivations and proofs that their characters meet the guild's requirement (Taylor, 2006). An estimation of the total number of MMORPG players worldwide is 20 million (10 million accounting only for WoW) (MMOdata.net, 2012). These numbers suggest the importance of studying the



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motivations to play specific popular games such as MMORPG in order to better characterise the reasons that video game play is so successful and to eventually prevent both problematic usage and arbitrary stigmatisation by the media (e.g. with regard to addiction or violence).

Research on online games has highlighted that an individual's motivations for playing MMORPGs have a crucial role in the onset of online game involvement and in its continuation (Yee, 2006a, 2006b). Initial work on people's motivation to play online was conducted by Richard Bartle (1996) on the basis of qualitative interviews. Bartle formulated a taxonomy with four different types of players: Achievers (players who give themselves game-related goals and persevere until they achieve them), Explorers (players who try to find out as much as they can about the game's virtual world), Socializers (players who use the game's communication facilities to interact with other players), and Killers (players who use the tools provided by the game to cause distress or to beat other players). Ten years later, Nick Yee conducted the first empirical studies aimed at identifying the various motivations of online game players (2006a, 2006b). Yee (2006b) in particular conducted an online survey of 3000 MMORPG players. Three broad types of motivations were identified: those related to achievement, to social activity, and to immersion in a virtual world. Each was subdivided into specific subcomponents (e.g. the social factor comprises distinct types of motives such as playing to create new relationships or seeking to solve problems through teamwork). To date, motivations for playing have been related to self-reported use (e.g. hours played per week, preferences regarding certain aspects of the game) (Yee, 2006a, 2006b; Zanetta Dauriat et al., 2011), as well as to problematic or "addictive" use of MMORPGs (e.g. loss of control of time spent playing, negative outcomes resulting from excessive play; see Kuss & Griffiths, 2011, for a review regarding psychological predictors of problematic online game use).

Yee's work (2006a, 2006b) provided a first significant step toward the building of an empirically based framework for studying motivations to play online games. Nevertheless, a second necessary step to strengthen the validity of the postulated motivations for playing online is to test whether these motivations effectively predict the way people behave in virtual worlds (i.e. the actions players realise such as exploring, role playing, competing with other players, involvement in guilds, and type of progression favoured).

The current study is a first attempt to extensively investigate the relationships between players' self-reported motives and their actual in-game behaviours. The study sample consists of WoW players who agreed to have their avatar monitored for 8 months. Participants completed an initial online survey that focused on self-reported motives to play, as well as usage patterns (e.g. number of hours played per week). Actual in-game behaviours were then collected through the French *Armory* website, an official comprehensive database reporting the achievements of the characters evolving in WoW. Our main objectives were to (1) explore specific associations between players' reported motives and actual in-game actions, and (2) determine through a longitudinal design the predictive value of reported motives in players' involvement and progression in WoW.

#### 2. Method

#### 2.1. Procedure

Inclusion criteria were French-speaking WoW players aged 18 years or older. Participants were mainly recruited through advertisements posted in specialised French language European forums: the official Blizzard WoW forum, the guild's forum (almost all guilds in WoW have their own forums), and more general for-

ums about video games and MMORPGs. A part of the sample also learned about the study through articles in the local press or on television. After potential participants connected on the study's website (e.g. after having seen an advertisement in a forum), they had access to information about the study through a disclaimer. Participants were also invited to mention the name of their character and the name of the server in which they play. All participants gave online consent prior to starting the online survey. Anonymity of the participants was guaranteed (no data on the gamers' identities were collected, including their Internet Protocol [IP] address). The study questionnaire went online in June 2010. Every completed survey was followed by avatar data collection (the elapsed time between questionnaire completion and Armory data collection was no more than 7 days). Inclusion in the study ended on December 7, 2010, when the game expansion Cataclysm was implemented in WoW. Longitudinal data collection was operationalised through a second measure of avatars' statistics on the Armory website within a 1-week period (February 14–20, 2011). The study protocol was approved by the ethical committee of the Psychology Department of the University of Geneva. Some questionnaires included in the initial survey did not relate to the current study and will be presented elsewhere.

#### 2.2. Participants

In total, 1601 participants started the survey. Among them, 1059 participants (66.15% of the sample) aged 18 or older completed the entire survey at the time of testing. The final sample consisted of 690 participants (65.16% of the 1059 completers) who agreed to provide the names of their avatar and the realms in which they play (i.e. the name of their server, which is necessary to identify the avatar). The majority of participants were male (87.10%). This gender ratio is comparable with other online gaming studies (e.g. Achab et al., 2011; Peters & Malesky, 2008). The age of the participants ranged from 18 to 66 years (M = 26.22, SD = 8.14). The participants reported living in France (73.6%), Switzerland (18.8%), Belgium (4.8%) or other countries (2.1%). The remaining participants (.7%) did not report their nationalities. At the time of the survey, the participants were employed (54.9%), were undergraduate students (37.5%), were unemployed (5.5%) or did not indicate their profession (2.1%). Among the employed participants, the highest proportion was in IT-related professions (23.8%). Almost all participants reported playing WoW at home (99.7%), but some also played in cybercafés (5.5%) and/or at work (2.5%). The majority of the participants reported playing WoW for more than 4 years (43.5%). The mean hours devoted weekly to WoW is equal to 25.17 h (SD = 15.61, range 2-112), which corresponds to the findings of previous studies (e.g. Billieux et al., 2011; Peters & Malesky, 2008).

#### 2.3. Measures

#### 2.3.1. Motivation to Play in Online Games Questionnaire (MPOGQ)

The MPOGQ was developed by Yee (2006b) to measure players' motives to engage in online games. We adapted the original instructions of the MPOGQ so that the items refer to the motivations for playing WoW (and not online games in general). The French version of the MPOGQ was developed within the framework of a preliminary study (Billieux et al., 2011). It comprises 39 items scored on a 5-point Likert scale. The factorial structure of the scale was verified through confirmatory factor analysis (see Supplementary online material). The various subscales measured by the MPOGQ are as follows: Advancement (desire to gain power, progress rapidly and accumulate in-game symbols of wealth or status, Cronbach's  $\alpha$  = .80), Mechanics (interest in analysing the underlying rules and system in order to optimise character performance, Cronbach's  $\alpha$  = .75), Competition (desire to challenge

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