MOTIVATIONAL FACTORS AND SOCIAL RELATIONS ACROSS DIFFERENT TYPES OF PLAYERS AND GAMES

Timo Baur

Macromedia Hochschule für Medien und Kommunikation
Gollierstraße 4
80339 München

Castulus Kolo
Macromedia Hochschule für Medien und Kommunikation
Gollierstraße 4
80339 München

ABSTRACT

The paper presents first results from a study on gamers in Germany devoted to the observation and comparison of several socio-demographic, motivational and psychological factors in a variety of computer games differing by genre, recommended age and number of players. It can be shown that for a given socio-demographic segment every game exhibits a distinct motivational footprint depending on the game's characteristics. Furthermore, depending on the game under consideration, the median values for the perceived social integration of the players differ significantly from game to game. On the other hand, no evidence was found for game-specific differences of gamers' personality strength or perceived social support.

KEYWORDS

computer games, playing motivation, personality strength, social support, social integration

1. INTRODUCTION

1.1. Starting Point

Online games are no longer an exotic leisure activity, but well-known Internet applications used by a considerably large number of people. In contrast to early text-based games for a few simultaneous players, today up to many thousands interact via their chosen online personae or "avatars" in distributed simulated environments with graphical representations of a variety of real-world or fictional objects.

Considering that 37 percent of all Germans between 14 and 64 years of age play computer games and 57 percent of these gamers play more than 2 h per week (ACTA 2009), gaming is a relevant (social) activity. At least players spend a tremendous amount of time in such virtual worlds. Most probably (and other publications already point to that direction) this time-consuming activity does not occur without having effects on every-day life or in turn being influenced itself by the latter (see e.g. Kolo/Baur 2004; Smith 2007; Yee 2005, 2009). Here we present first results from a meta-analysis of data for several different games.

The data results from a research project treating computer games less as neatly separated virtual worlds in themself but rather as interface and medium for the interaction of humans with the game (i.e. game play, the rules of the game and its content) and thus indirectly with the games' designers and providers. Ultimately and most importantly games are considered in that respect also as an environment to communicate end-to-end with other gamers (assuming roles, that may differ according to the specific contexts within the game world and beyond). In that latter respect we can expect, since identity is a social construct, that player characteristics, i.e. identities and identities of players' personae are shaped at least in part by such online

interactions as well as the online interactions are shaped by the players' identity, related also to other, not game specific aspects (see for example also Chee 2006). Hence, conceptually, the analysis draws on earlier research in gaming environments (e.g. Goetzenbrucker 2001; Jakobsson/Taylor 2003; Manninen 2003; Seifert/Jöckel 2007) but also on similar questions in other online communication arenae (e.g. Wellman/Gulia 1998; Thiedeke 2000; Nguyen 2006).

1.2. Focus on Online Games

Computer games may be, among other aspects, subdivided according to their underlying technical platform. A common division is into console games (among them also the handheld consoles), wireless games (i.e. games played on mobile phones), the classic PC games played offline and finally online games requiring a network connection (commonly to the Internet and its WWW service). Of all computer gamers in Germany 44 percent play online games (ACTA 2009). We focus mainly on games which can be played online in a local or wide area network, because they naturally provide the option to also connect to other players. Many players do not only play solitary games but engage in social interactions of various sorts with different kinds or numbers of partners. On the other hand, we did not focus on games recommended for a specific age group or specific genres but broadened the scope as much as possible.

Most games nowadays provide a graphic environment that resembles more or less the real world in functionality (in the sense of possible actions) and appearance. The players control their online personae via a variety of modes of the human-computer-interface, confined by technical restrictions and more or less, formalised and sanctioned rules. This thereby creates a parallel space of social interactions among the characters in the gameworld.

Massive Multiplayer Online Games, which require the user's long term-commitment and long playing sessions, will be contrasted with so-called casual games that are typically distinguished by their simple rules and lack of long-term time commitment or special skills required. Casual games typically are played on a personal computer online, often browser-based on the WWW. Also, their demographics vary from those of other computer games, as the typical casual gamer is older and more females are among the gamers (see for example the surveys cited in Quandt 2007).

1.3. Guiding Questions

In order to better understand the interplay of the players' online persona in a game and their individual characteristics outside the gaming environment, we think it is important to disentangle game related aspects from other aspects as far as possible, while comparing the observations across various games. Hence, we first set out with a number of general questions, that guided the overall project in an explorative way:

- What are the characteristics of the game as given by the game designers?
- Who are the players of the particular game (socio-demographic criteria) and what other experiences with computer games do they have?
- Why do players think to engage in the specific game, i.e. what is their playing motivation?
- How integrated are the players in their social networks, and how much social support do these networks provide to them? How strong is the personality of the players?
- And finally: Is there an interrelationship between a player's integration in his social network, the support this network provides to him, or the strength of the player's personality with the specific game he is playing; i.e., are gamers with a specific social environment attracted to specific games?

2. MODEL AND METHOD

2.1. Observational Model

To answer these questions, we set out from an observational model as shown in figure 1. The core of that model is based on the concept of a structured "lifeworld" (the literal translation of the concept of

"Lebenswelt" in German language), as it is known from communication sociology (e.g. Schütz & Luckmann 1979). According to this concept, there are finite "provinces of meaning", which can be distinguished by their specific style of experience and awareness. In every day life a person's experience changes from the experience of a specific finite province of meaning into another, e.g. into a specific scientific, religious or fictional awareness.

We chose this model to describe the interrelationship between the player's experience of a specific game-world and the more general notion of his lifeworld as conveyed by his motivation to play a specific game. The province of meaning regarding a specific game is governed by the game play, its rules and content. This recalls of the notion of a playing field or "magic circle", within a game takes place, as it first was mentioned by Huizinga (Huizinga 1955) and discussed by other authors in the context of computer games (e.g. Castronova 2005).

The province of meaning regarding a specific game interplays with the player's overall lifeworld. In our observational model, both, the lifeworld and the game province interplay in different ways according to the specific socio-demographic factors, as well as the personality of the players and the characteristics of their social networks. The model also comprises the frequency and duration of the meaningful contact with the game; i.e. the measurements for the intensity of playing the game.
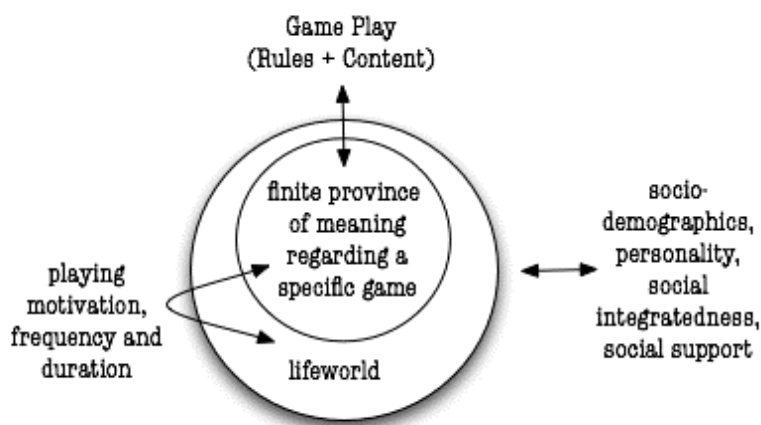

Figure 1: Observational model.

2.2. Method and Data Collection

In order to examine the interplay of specific provinces of meaning in different games with the overall lifeworld but also the provinces of meaning apart from the game, we choose for the first phase of the project the following games: Pro Evolution Soccer 2009 (PES 2009 in the following), FIFA 09, Quake Live, World of Warcraft (WoW in the following), Little Big Planet, Diablo 2 as well as several kinds of browser based casual games (summarised as "casual games" in the following). After this first phase we intend to systematically complement and broaden this portfolio, in order to cover a sufficiently large spectrum of games to identify differences in the results related to the questions mentioned above.

For a thorough investigation of the phenomena in and around the chosen games, we thought it necessary to combine different methods. There are several ways of acquiring knowledge about multi-user games: Among them by studying the information given by the developers, by gathering information from users playing the game (either by asking them or by observing them via technical means or by participant observation in the gaming environment or in their domestic situation whilst playing the game). Ideally several methods are combined (see also Kolo/Baur 2004) to end up with sufficient data for statistical analysis and to have enough details for a "thick description" (Geertz 1973) of the specific game. Each of the studied games then provides a "data point" for the meta-level of analysis.

Accordingly, we have gathered qualitative data by open interviews via the Internet (in-game communication, e-mail), by direct participant observation of players in their (domestic) playing environment and by participant observation of the game from the perspective of a fellow player via his/her avatar. In all cases the players have been informed of the study situation.

In order to also obtain quantitative data, we developed a questionnaire for a survey compatible with different types of games. By collecting the same kind of data for different games we hope to overcome some of the possible biases of previous studies on similar issues (e.g. Jakobsson/Taylor 2003; Kolo/Baur 2004; Yee 2009) that focus on only one game. The questionnaires were distributed by different means, taking into account the virtual arenas where the players of each of the games interact (not necessarily only in the specific game world itself but also via general online social network sites such as e.g. facebook).

When designing the questionnaire, we compared established scales on player motivation and specific roles assumed in the game (Bartle 1996; Alix 2005; Yee 2007; Seifert/Jöckel 2007), opinion leadership (Feick/Price 1987; Schenk/Rössler 1997; Lyons/Henderson 2005) and strength of personality (Noelle-Neumann 1993).

A central functional aspect of a social network is the mediation of social support (see e.g. Paulus 1997). We have measured the instrumental and emotional social support of the examined gamers, as well as their need for social support and the intensity the latter is sought. For this purpose, we used the Berliner Social Support Scales (Schwarzer & Schulz 2000, Schulz & Schwarzer 2003) that are based on the individual's perceptions of the above mentioned variables.

Additionally, we have compiled our own set of questions (taking into account the work of Trösken 2003, Doeglas et. al. 1996 and Fydrich, Sommer & Brähler 2007) which measure the social integration of the participants in their network. These scales were then complemented with questions on socio-demographic characteristics (amongst others age, gender, formal education, profession) as well as on the (previous) experiences with other games and the financial restrictions to engage in the game.

From seven quantitative surveys conducted online using the same standardised questions we received 2421 complete questionnaires. Hence, we gathered enough data for a sufficient variety of different games to systematically test first hypotheses derived from the generally guiding questions above. In the following, we present a first meta-analysis of results for the group of players aged 20-24 and distinguish between male and female players. This appeared to be necessary as not only do gamers differ (e.g. in their motivations) from game to game but also between different socio-demographic segments within one and the same game.

3. RESULTS

3.1. Game-specific Motivational Footprints

We observed that for a given socio-demographic segment every gaming environment has a distinct motivational footprint which differs significantly from the motivational footprint of other gaming environments given by the game play, its rules and the content of the game.

To obtain such a footprint, we asked according to the questions derived on the basis of Yee's 10 factor model (Yee 2007) and corresponding Likert scales, which in a few cases had to be generalized (and to be translated into German) as the model was developed in the context of MMORPGs (particularly for English speaking players of WoW). We then computed an aggregated value for each motivational aspect, weighting the items according to Yee's factor loadings. Table 1 shows the resulting means and the grouping of the motivational factors into the three categories "achievement", "social" and "immersion".

In order to compare the results across games we employed the Kruskal-Wallis test. It is a non-parametric method for testing equality of population medians among more than two groups and hence an extension of the Mann-Whitney U test. No distinction was drawn at this point of the analysis between male and female players, as the few female players in the selected games – though different in their motivational footprints – would not have shifted the medians significantly when excluded. The test of the data has shown that over all age groups the motivational factors for different games were significantly different. Motivational factors may differ slightly between different socio-demographic segments and we propose to relate them at least to different age groups (in figure 2 gender-differences also become apparent).

Game		Achievement			Social			Immersion			
		advancement	game mechanics	competition	community	relationships	teamwork	discovery	roleplaying	personalisation	escapism
WoW	Mean	3,32	3,61	2,23	3,86	2,97	3,37	2,98	2,42	3,21	2,86
	n	305	301	302	303	303	302	305	302	305	306
QuakeLive	Mean	3,19		3,14	3,08	2,08	2,89			2,62	2,82
	n	38		39	39	38	37			39	40
PES09	Mean	3,49		3,42	2,87	2,34	3,56			3,55	3,05
	n	38		40	41	38	42			38	42
Diablo 2	Mean	3,20	3,94	2,16	3,20	2,21	3,66	2,90	1,90	2,83	2,56
	n	184	184	183	183	181	185	182	184	186	184

Table 1: Motivational footprints of specific games for age group 20-24 on a scale of 1 to 5 (empty cells: no sufficient data available).

We suspect that the footprints are further related to the characteristics of the gaming environment like the game play, the rules and the content of the particular game under consideration. Thus, every game has its own characteristic motivational footprint.

For example, in contrast to the other games, WoW had the highest value on the motivational factor "community" and the one to foster "relationships". This can be understood, when looking at the game play in WoW, which encourages players to communicate with each other. Even though the motivation for "teamwork" has not been as highly valued by the WoW players as for example by the Diablo 2 players or the soccer players of PES 2009, the game stimulates social exchange with other players, e.g., via chat and voice communication. Furthermore, so-called guilds, a particular social formation are an important aspect of WoW. Our qualitative findings from the participant observation and player interviews support this view: In their gaming sessions, advanced players usually were heavily involved with contacting their social network of fellow players built up in previous playing sessions.

When looking at PES 2009, one can see that the motivations "community" and "relationships" are not as important for the players as they are for WoW players; nevertheless, "teamwork" is. A possible cause for this result could be that the game play of PES 2009 does not support socializing or chatting functions and that in a soccer game, teamwork naturally is very important.

3.2. Personality Strength, Social Integration and Social Support

Our results (see figure 2) show that the average players (referring to the median) in the age group from 20 to 24 have quite a strong personality. Our measurements on the scale of Noelle-Neumann (1983) lead to a median in personality strength of 1,8 on a scale of 1 to 5 (1 being the strongest). However, personality strength in this age group usually is predominantly strong or above-average (Müller 1994).

Based on the Berliner Social Support Scales (Schwarzer & Schulz 2000), we have also measured the instrumental and emotional social support the players perceive. If a player, e.g., has friends or relatives who can transport him to the train station if he cannot go alone, this would be an example for instrumental support. Emotional social support, for example, is if somebody is there to solace the player when he is sad. The median values for social support varied between 3,4 and 3,9 on a scale of 1 to 4, depending on the game observed. Thus, generally, with a median of 3,5 (instrumental) and 3,6 (emotional) players perceived to have sufficient social support.

Regarding social integration we have measured game specific medians between 3,4 and 4,5 (on a scale between 1 and 5) that led to an overall median of 3,8. It seemed that there were differences between the medians of strength of personality, social support and social integration in different gaming environments.

However, a closer look on the diagrams in figure 2 reveals that the average measured personality strengths (given by the median values) of the players from different gaming environments were not very different. Indeed, we could not show statistically significant differences with Kruskal-Wallis tests on both male and female players. Thus, the data suggests that personality strength is mostly independent to playing specific computer games.
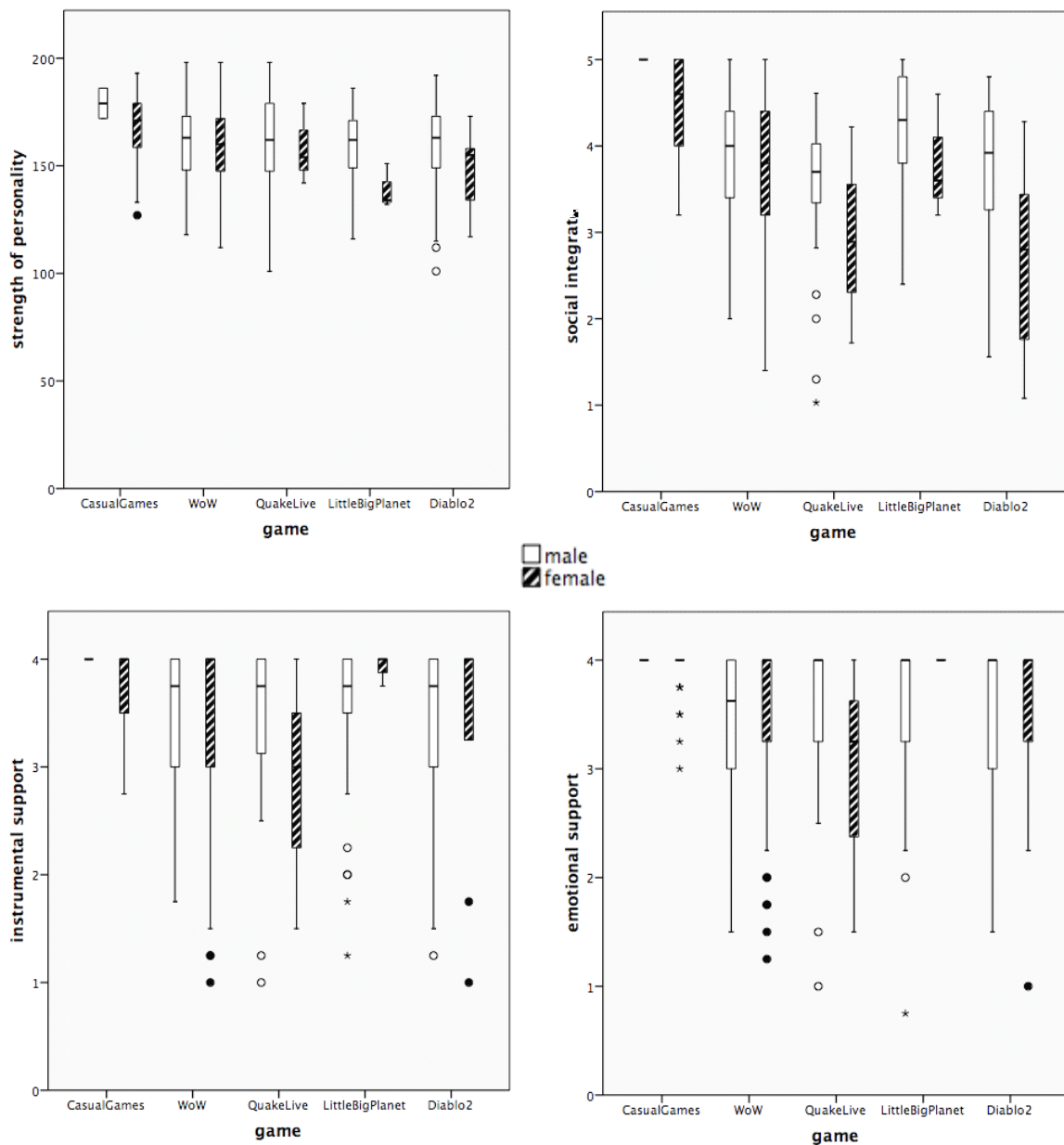
Figure 2: Median values for personality strength, perceived social integration and instrumental as well as emotional social support. Boxes correspond to the range of data denoted by 25 % of answers lower and higher than the median value (lower and upper quartile). Lines mark 1,5 times the inter-quartile range. Stars and circles outside of this range represent extreme values. For each game the results are calculated separately according to the gender of the players.

Regarding the social integration of the players, however, according to the Kruskal-Wallis test there are statistically significant differences between the values we have measured in different games. It can be derived, that e.g. the players of casual games feel better integrated than players of Quake Life and Diablo 2.

For instrumental and emotional social support, the analysis shows that (even though we observed some extreme cases) most players of all the studied games feel socially well-supported. This resulted in very high median values. Hence, a Kruskall-Wallis test on the data did not show significant differences between the medians for that parameter.

3. CONCLUSION

We acknowledge that computer gaming should not be thought of as a monolithic phenomenon, as some studies that focus on the analysis of individual computer games may suggest. We thus emphasise the importance of an analysis of variations (in this article in particular of the different motivational aspects) of the gaming experience across games and socio-demographic segments.

The analysis of the data from our surveys also suggests a statistical interrelationship between the players' social integration and the kind of game they were playing. Particularly in the group of casual gamers, players with high social integration seemed to prevail.

It was not possible to show such an interrelationship for the players' average personality strengths or the instrumental and emotional social support the players perceived. The median values of these parameters were quite similar throughout the observed games and may solely be shaped by socio-demographic factors.

In subsequent steps of our project, we aim at a more differentiated picture by analysing more age groups as well as the relationship of playing intensity (i.e. frequency and duration) with personality strength, perceived social integration and instrumental as well as emotional social support. By also taking into account qualitative data from interviews and participant observation, future work could also show in more detail whether the realms of computer and in particular online games are more integrated into the social practice of the players overall lifeworld than they may initially appear at a first glance.

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