

# “The virtual self”

Exploring the influence of virtual worlds on self-concept and psychological well-being: a qualitative study

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## **Abstract**

Massively multiplayer online role-playing games (MMORPGs) offer gamers the possibility to define themselves anew in front of an unknown audience, allowing them to be more the person they ideally wish to be. The present study set out to explore in which ways the maintenance of online identities can influence the self-concept and psychological well-being of gamers. Nine semi-structured, face-to-face interviews with Dutch and German undergraduate students were conducted and analyzed with the help of the framework approach, out of which five themes emerged: (a) play-style & preferences, (b) social aspects of MMORPGs, (c) avatar creation & maintenance, (d) I/Ideal/Avatar relations and (e) real life & well-being. The findings of the study clarified the meaning of the virtual self and uncovered novel aspects with regard to avatar creation and maintenance, which the study related to player's real life well-being.

## **Samenvatting**

Massively multiplayer online role-playing games (MMORPGs) bieden gamers de mogelijkheid om zichzelf voor een onbekend publiek opnieuw te definiëren. Op deze manier zouden ze dichterbij hun ideaalbeeld kunnen komen. Het doel van het onderzoek is het bestuderen van de manier waarop het behouden van online identiteiten invloed zou kunnen hebben op het zelf-concept en het psychologische welzijn van gamers. Er werden in totaal negen semi-gestructureerde, face-to-face interviews bij Nederlandse en Duitse studenten afgenomen. Deze zijn vervolgens geanalyseerd met behulp van de framework methode. Uit de analyse kwamen vijf thema's naar voren: (a) speel-stijl & voorkeuren, (b) sociale aspecten van MMORPGs, (c) avatar creatie & behoud, (d) Ik/Ideaal/Avataar verhoudingen en (e) het echte leven & welzijn. De resultaten van de studie verduidelijken de betekenis van het "virtuele ik" en brengen nieuwe aspecten met betrekking tot de avatar creatie tot licht, die vervolgens in verbinding werden gezet met het welzijn van de respondenten.

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## Introduction

Every day it becomes harder to tell where exactly the physical world ends and the virtual world begins. The online world, once used to simply gather and share information, has widened out to a place where people can meet, chat, learn and play together. However, there are at least two contrasting virtual community types between which one can differentiate: *utilitarian* communities and *hedonic* communities (Suh, 2013).

In an utilitarian virtual community where the main emphasis lies on the seeking and sharing of information (for example social networking sites such as “Facebook”), people tend to represent themselves rather closely to reality. Hedonic virtual environments on the other hand (such as the online role-playing game “World of Warcraft”) center on fun, fantasy and entertainment. They particularly encourage people to invent an entirely “new self”. The resulting difference in people’s online representation in utilitarian and hedonic virtual communities can be explained by the fact that different needs, constraints and resources of a particular context bring out different aspects of self-identity (Suh, 2013; Tajfel & Turner, 2004). According to previous research, online role playing games set the perfect stage for people to define themselves anew in front of an unknown audience, allowing them to be more the person they desire to be (Kim & Sundar, 2012; Przybylski, Weinstein, Murayama, Lynch, & Ryan, 2012).

Massively multiplayer online role playing games (MMORPGs) enable users to do exactly that; to adopt entirely novel identities through which they can explore the vastness of virtual environments today. In these anonymous fantasies, free of their real-life narratives and constraints, players can create their virtual self close to who they ideally wish to be (Bessière, Seay, & Kiesler, 2007). Throughout the game most of the players will keep their avatar for a long time (months to years), allowing themselves to get emotionally and psychologically attached to their virtual characters. The crucial question is: could the creation of “another”

(online) identity change the way people perceive themselves and thereby influence their offline well-being?

Previous research indicates that the (online) access to ideal aspects of oneself can have positive short-term effects on emotion (Przybylski et al., 2012). MMORPGs allow players to have this kind of (online) access by letting them create their avatars close to their ideal selves. However, potential long-term influences on emotion remain unstudied. Gaming with these “ideal avatars” can also raise levels of autonomy (extent to which individuals try out new behaviors, engage in creative activity and shed inhibitions) and recovery (extent to which individuals heal psychological wounds they incur in the real world) (Suh, 2013). These findings suggest that gamers with ideal avatars experience fewer constraints in the (online) world, which can make personal development much less difficult. In addition to that, players seem to cope better with setbacks they suffer in real life. Ideal avatars have also been used in health research. People that created an avatar close to their ideal self were more likely to show (preventive) health behaviors than other participants (Kim & Sundar, 2012). The virtual representation of their ideal selves helped them visualize their ideal body, which in turn resulted in participants’ tendency for prevention-focused self-preservation such as no smoking or no drinking. On the other hand, there are also potentially detrimental consequences of playing with an ideal avatar. Rating one’s avatar superior to one’s actual self is correlated with lower levels of self-esteem (Bessière et al., 2007). However, this correlation does not clarify cause and effect of the relationship between superior avatars and low levels of self-esteem. One explanation could be that gamers with low self-esteem tend to create their avatars more idealistic. Another reason could be that the discrepancy that people perceive between their actual self and their (superior) avatars could make them feel less worthy. The player might come short in comparison to their avatar and end up with a low sense of self-worth. Seeing as the creation of ideal avatars might influence a persons’ sense of self-esteem, this

matter deserves to be addressed with more depth in studies concerning MMORPGs and well-being.

Another study on MMORPGs proposes that the motivation for some players to create an ideal avatar might stem alone from the desire to temporarily escape the uncomfortable awareness of self-discrepancies in real life (Przybylski et al., 2012). Instead of trying to confront the conflicting beliefs, gamers just escape into virtual worlds to avoid any unpleasant feelings. “Being” with their ideal self for a while (even if it is only in a virtual world) might give them a temporary feeling of inner consistency. Psychologists, such as Rogers and Koch (1959) argue that this kind of incongruent beliefs about oneself can lead to psychological problems and lower levels of well-being.

### **Self-discrepancy**

Numerous psychological theories regarding the structure of personality are based on the idea that individuals are guided by multiple domains of the self. For instance the *Id*, *Ego* and *Superego* in psychoanalysis (Freud, 1920); the *self-image*, *ideal-self* and *self-worth* of Carl Roger’s personality theory (Rogers, 1961); the *ideal*, *actual* and *ought self* in self-discrepancy theory (Higgins, 1987). All of the theories above share the assumption that conflicting perceptions and beliefs about the self can lead to feelings of discomfort that might manifest themselves as frustration, guilt, embarrassment, anger and anxiety.

Whereas Freud centers his theory on how conflicts between the three domains of the self could potentially cause psychological problems, Rogers looks deeper into how they influence peoples’ well-being. According to Rogers, man has the tendency to actualize himself. Every individual is constantly pushed by the drive to fulfill its potentials. However, in order to self-actualize a person has to be in a state of congruence (meaning that her “self-image” comes very close to her “ideal self”). Only then a person could live a life high in well-

being (Rogers, 1961). The different psychological states that are evoked by discrepancies between the three domains of the self were later specified by Higgins (1987).

### **Higgins' theory**

Higgins (1987) differentiates between three domains of the self. The “*actual self*” (how a person perceives herself), the “*ideal self*” (how a person would like to be) and the “*ought self*” (a person’s ideas about how she should be). Different kinds of discrepancies cause different kinds of emotional distress. For the purpose of this study the emphasis will lie on the discrepancy between the actual and ideal self.

Games allow their players to develop their avatars without too many constraints and hindrances. However, the ought self is a concept especially present in real life; where every act is directly linked to consequences that one cannot easily avoid. Virtual worlds are built to exceed these limitations. Consequences of virtual actions are less severe and paralyzing than negative outcomes in real life, which allows players to take greater risks in fulfilling their desires. Players can live out ideals that might seem too risky in the real world. The ought self is therefore not much of an issue when one can escape all consequences and responsibilities by simply turning off the computer.

***Actual – ideal discrepancy*** is associated with dejection related emotions, such as: disappointment, dissatisfaction and frustration (Higgins, 1987; Rogers 1961). A great gap between peoples’ actual and ideal self thus indicates missed opportunities to obtain own hopes and dreams. The discomfort stems from the absence of positive outcomes rather than the presence of negative outcomes. Discrepancies between the different domains of the self can therefore be harmful to individuals’ emotional well-being and impact overall levels of happiness, social integration, self-esteem and life-satisfaction (Higgins, 1987). Being in a state of congruence on the contrary, when all domains of the self are to a greater or lesser

extent in alignment with each other, facilitates self-actualizing, flourishing and enables individuals' to fulfill their potentials (Rogers, 1961).

### **The virtual self**

Higgins (1987) self-discrepancy theory already contains the actual, ideal and ought self. As virtual worlds manage to further transcend our perceived limits of physical reality (Biocca & Levy, 1995) it might become necessary to add a fourth domain to the concept of the self: the “*virtual self*”.

The term virtual self has already been used by many researchers (Behm-Morawitz, 2013; Bessière et al., 2007; Crowe, 2010; Lawson, 2000; Suh, 2013; Yee, Bailenson, & Ducheneaut, 2009) without a very clear or general definition. However, it is an important one to make, since the majority of conclusions that has been drawn from past studies could not be directly compared and related to each other, because of differing definitions of this concept. The meaning of the virtual self might even vary from person to person. Some might consider it an extension of their physical self into the online world, whereas others experience it as an entirely different identity. In a qualitative study, Crowe (2010) reports information about players who regard their virtual selves as inseparable from their everyday lives. The avatars are simply used to act out social narratives on a virtual platform, meaning that there is no difference in identity but only in place (the virtual instead of the real world). The avatar only functions as an *extension* of one's physical self into the virtual world and could not be considered another domain of the self. Others have defined the virtual self as a “somewhat idealized actual self” (Bessière et al., 2007; Lawson, 2000), supporting the idea that people act out ideal aspects of themselves through their avatars. In that case, the virtual self becomes the ideal self taking form in online worlds and thus a new domain of the self.

Seen as part of the actual self, the virtual self might help to explore ideal aspects of the self and lessen perceived self-discrepancy; therefore assisting emotional well-being (Behm-



Morawitz, 2013). If on the other hand, the virtual self is regarded as separate from the actual self, gaming with a superior virtual self could strengthen the perceived self-discrepancy between actual and ideal self (Bessière et al., 2007). The player is confronted with the shortcomings of the actual self more frequently and that could lower a persons' well-being.

Although these assumptions might seem coherent, there is still insufficient knowledge to draw any firm conclusions. The contradictory results of the studies mentioned above reveal that we know very little about how and to what extent self-concept and wellbeing are affected by the maintenance of online identities. Ideal avatars can apparently lessen but also strengthen a person's perceived self-discrepancy. For this reason it remains obscure whether a strong attachment to avatars would be beneficial or detrimental for gamers' real-life well-being. In response, this study attempts to attain a broader view on the virtual self and its relationship with other domains of the self and psychological well-being.

## **Methods**

Considering the purpose of the study, semi-structured, face-to-face interviews were regarded the most suitable method for bringing people's experiences, beliefs, concerns, and attitudes to light. The interviews were conducted in the Netherlands over a two month period from October to November 2013. The interview setting was kept in a rather informal manner and was more equal to a topic-related dialogue than a formal interview in question-answer pattern. All participants were informed of the research purposes, the confidentiality of records and the possibility to discontinue participation at all times. In addition, an informed consent form was signed by every participant. At the end of each interview, there was also time left for questions, comments and suggestions from the respondents. The interviews took place either at the participant's home or at the University of Twente (depending on how they were recruited) and varied from 18 to 35 minutes.

## **Participants**

The sample consisted of 10 undergraduate students, who were either active gamers or gamers who recently stopped playing. Altogether there were three inclusive criteria for participation: experience with MMORPGs, being a student, and being able to speak Dutch, German or English. The study was limited to students due to the high proportion of gamers among this population. Furthermore, Nagygyörgy et al. (2013) analyzed the typology and characteristics of 4.373 MMORPG players and found that the average age for those players was around 22 years ( $\bar{X}=21.84$ ;  $SD=6.07$ ) which was very similar to the average age of the sample ( $\bar{X}=22.44$ ;  $SD=1.74$ ). Some respondents were recruited with the help of an academical system for research study participation ("Sona Systems") which rewards participation with credits ( $n=6$ ; all male). Other participants were derived from the researcher's network of friends and acquaintances who received no reward for their attendance ( $n=3$ ; 2 male, 1 female). One participant did not fulfill the inclusive criteria of the study, because she had no experience with MMORPGs and was dropped from the sample, leaving 9 valid respondents for analysis. The sample includes both Dutch ( $n=6$ ; male) and German ( $n=3$ ; 2 male, 1 female) students, who all completed the interview in their native language. As already mentioned, the age of the participants ranged from 19 to 25 ( $\bar{X}= 22.44$  years,  $SD= 1.74$ ). The majority were undergraduate psychology students ( $n=6$ ; male), though there were also students of Industrial Design ( $n=1$ ; 1 male), ICT ( $n=1$ ; male) and Digital Media Design ( $n=1$ ; female).

## **Instruments**

A semi-structured topic guide was prepared, involving a few key themes that were addressed in every interview: information about the MMORPG(s), participants' gaming behavior, their avatars, their real life and well-being. The interviews were taped with an audio recording device and eventually transcribed for data analysis. An edited version of the

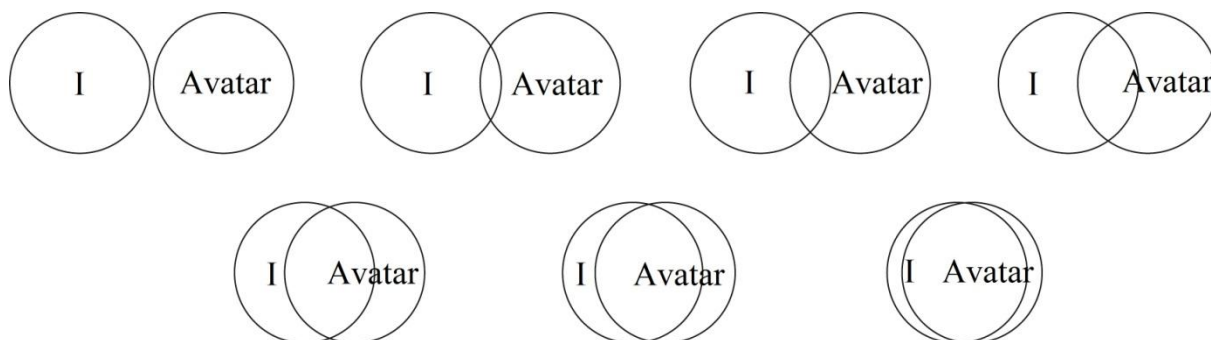
“Inclusion of the other in the self scale” by Aron, Aron, and Smollan (1992) was used as a measurement tool for the construct “discrepancy between the domains of the self”. “Well-being” was assessed with the help of the Flourishing Scale by Diener et al. (2010), while the general interview topic guide was created on the basis of the literature selection presented in the introduction.

### **Measuring discrepancy: IOS Scale**

The “Inclusion of other in the self scale” (IOS Scale) by Aron, Aron and Smollan (1992) originated in social psychology as a measure of emotional closeness between individuals. It is a single-item pictorial measure used to assess people’s sense of intrapersonal interconnectedness (Aron et al., 1992). The scale consists of a series of circles that each overlap to a different degree. The scoring ranges from 1 (completely separate) to 7 (almost complete overlap). Participants are usually asked to indicate which pair of circles best represents their connection with another person (Woosnam, 2010). After being administered to a sample of 208 people, the average score of the scale (across relationship type) was 4.74 (SD = 1.48) (Aron et al., 1992). The different types of relationships were described as one out of the following categories: family member, nonromantic friend, romantic partner, long-distance relationship partner and close friend, whereas some selected a closest other that fit none of these categories.

Evidently, the scale is not limited to one specific kind of relationship. Next to closeness in romantic relationships (Agnew, Loving, Le, & Goodfriend, 2004), the scale has been applied to several other fields, such as relationships between family members, colleagues and neighbors (Li, Zhang, Bhatt, & Yum, 2006) or closeness between residents and tourists (Woosnam, 2010). Rather than measuring another *interpersonal* relationship, the current study adapted the scale to assess participants’ *intrapersonal* relationships, that is to say, the relationships between the actual, ideal and virtual self. Or in other words: the congruency

and/or discrepancy respondents felt between the domains of their self. The scale has been used for similar purposes before: Gabriel, Carvallo, Jaremka, and Tippin (2008) adjusted the scale to measure self-liking based on the relationship between a person's ideal and actual aspects of the self.



**Figure 1.** This scale shows the “Actual – Virtual” version of the edited IOS Scale. The same was done for “Actual – Ideal” and “Ideal – Virtual” discrepancy. The terms of the *Actual*, *Ideal* and *Virtual* self have been spelled out as respectively: *I*, *Ideal* and *Avatar* to clarify their meaning to the respondents.

Given that the concept of the virtual self is most likely unknown among the participants of the study, it seemed most appropriate to rely on people's intuition when asking about the discrepancy between their virtual, actual and ideal selves. A self-discrepancy measure such as “The Selves Questionnaire” by Higgins, Klein and Strauman (1985) had been considered for the present research, but was eventually dismissed because it might have been too reliant on cognition as to bring about any feasible results. The Selves Questionnaire asks participants to list up to 10 traits or attributes associated with the different domains of the self (Higgins et al., 1985). In a subsequent analysis, the traits of the domains are compared and either coded a “match” or a “mismatch”. The score is then calculated by subtracting the total number of matches from the total number of mismatches. However, the virtual world provides avatars with imaginary traits, which could be irrelevant or even unthinkable in the real world. Those traits would have been prematurely discarded from the comparison with the other selves,

because they simply could not match a description of a person's actual (or ideal) self. Verbalizing those traits could have made it much harder to detect an overlap between the virtual self and the actual or ideal self, even though the respondent might have felt strongly connected to her avatar. A pictorial measure such as the IOS Scale was therefore expected to be more sensitive to people's subjective experience and deliver more reliable results than a measurement tool such as The Selves Questionnaire.

### **Measuring well-being: Flourishing Scale**

Although the IOS Scale for actual – ideal discrepancy already indicates a respondent's self-congruence and therefore an important aspect of psychological well-being (Rogers, 1961), an additional measure of psychological well-being and flourishing has been used in the study. The Flourishing Scale by Diener et al. (2010) is a brief 8-item summary measure of self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The respondent makes use of a scale ranging from 7 (strongly agree) to 1 (strongly disagree), to indicate her agreement with each item (see table 1). As a result, the scale provides a single psychological well-being score.

***Table 1. Items used by the Flourishing Scale***

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___	I lead a purposeful and meaningful life
___	My social relationships are supportive and rewarding
___	I am engaged and interested in my daily activities
___	I actively contribute to the happiness and well-being of others
___	I am competent and capable in the activities that are important to me
___	I am a good person and live a good life
___	I am optimistic about my future
___	People respect me

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The scores of the Flourishing Scale are strongly associated with other measures for psychological well-being (Diener et al., 2010). The scale was even called "Psychological

Well-being” in an earlier publication, but was later on altered because it includes content that goes beyond psychological well-being narrowly defined. The Flourishing Scale by Diener et al. (2010) was chosen as the measure of psychological well-being because it connects to Roger’s idea of a fully-functioning person that needs to flourish in order to live a life high in well-being (Rogers, 1951). In addition, it covers various areas that could affect psychological well-being such as relationships, self-esteem, purpose, and optimism. Furthermore it was selected for its shortness in that it eases the completion for participants after a possibly strenuous interview and the administration of data.

### **Topic guide**

Although each interview went its own unique way, there were a few topics that reoccurred in all of them. In order to gain a general impression of the player’s involvement into the game world, most of the interviews started off with the question: “What are your experiences with MMORPGs?” Furthermore, there were questions asked about the type of games, for how long they have been played, what the games were about and the player’s reasons for playing and choosing those particular games (table 1).

***Table 1 Information about the MMORPG(s)***

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1. Personal experiences with MMORPGs (which games for how long?)
2. Main purpose of the game(s) (e.g. avatar advancement, attaining gear...)
3. Reasons for playing (fun, adventure, social, boredom...)
4. Criteria for choosing the game(s)

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These questions mainly served the purpose to create an overview of the various games and gamer preferences of their users, which came in useful for creating a personal game profile for each participant and noticing fundamental differences between games (see appendix A for individual gaming profiles). Table 2 contains the questions concerning the respondents’ gaming behavior. The time spent playing can oftentimes be an indicator for the degree to

which a player becomes present and immersed into a game (Lee, 2004). The motivation to play a game can furthermore increase with the experience of ideal characteristics in the game (Przybylski et al., 2012), which might lead to longer gaming sessions.

***Table 2 Gaming Behavior***

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5. Time spent playing
6. How many avatars do you maintain?
7. Communication with other players (how and with whom?)
8. Presence/immersion in the game (awareness of surroundings)

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It was also crucial to discuss the in-game communication with other players, because MMORPGs' aspect of social networking significantly differentiated them from traditional games. This might be a reason for MMORPGs having a substantially greater influence on usage behavior than other games (Smyth, 2007). The third table finally touches on the subject of avatars.

***Table 3 The avatar(s)***

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9. Customization of the avatar (choice and possibilities)
10. Character and features, narrative/story behind the role
11. Comparison to real self
12. Avatar: a separate entity or an extension of the real self into the virtual?
13. Edited version of IOS Scale by Aron et al. (1992)

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The possibilities and choices offered in the customization of the avatar can vary a lot from game to game. Some MMORPGs allow their players to adjust every little detail of the avatar's face while others only let them choose between a number of preset characters that could at most be dressed differently. Participants were asked about their own avatar creation in the game and if they felt restricted by the game's possibilities. The purpose of broad

questions such as “Could you describe your avatar?” was to gain an overall impression of the chosen character. Furthermore, the features of the avatar and the story behind it (if available) were discussed and also set in comparison with the participant’s real character, to figure out “how much of themselves” they liked to see reflected in their avatar. Furthermore, the respondents were asked if they simply saw themselves as a person represented by the avatar into the virtual world (extension of the real self) or as separate from the avatar (adopting a role in a game) (Behm-Morawitz, 2013). After the introduction of their avatar, participants were confronted with the three edited versions of the IOS Scale by (Aron et al., 1992) in the following order: I – Avatar, I – Ideal, Ideal – Avatar.

***Table 4 Real life and well-being***

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14. Influences of the game
15. Important in-game life experiences/lessons
16. Life more/less satisfying without the game
17. Flourishing Scale by Diener et al. (2010)

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The last table’s topic concerns the real life of the respondents. These questions were meant to connect the in-game experiences of the participants to their real life and to encourage them to think about any influences gaming (might have) had on their self-development. Besides, they were asked if they felt more or less satisfaction in life with or without the game. In the end, every respondent filled in the translated Dutch or German Flourishing Scale by Diener et al. (2010).

## **Data analysis**

The framework approach is a dynamic, full and comprehensive qualitative method especially suited to interview data that is gathered with (some) a priori issues and specific questions. Those issues and questions were established in the topic guide shown above;



additional themes emerged through the interviews and on the grounds of participants' input. Furthermore, it is a common approach in health research (Srivastava & Thomson, 2009) and especially qualified for studies where time and resources are limited. The framework approach is open to change and addition throughout the process of analysis and allows for both within-case and between-case analysis, which can provide a rich framework favorable for interpretation.

The familiarization with the interview data was the first step taken in the analysis. The interviews were transcribed and repeatedly re-read to generate an overall picture of the gathered data. Then, themes started to emerge from a thematic analysis of the transcribed interviews (additional to the themes of the topic guide that was prepared beforehand) and were put together as a framework for further analysis. The established themes were also used as labels for coding and sorting the raw interview data. To improve on the consistency and reliability of the analysis, the coding of the raw data and the definition of the themes was also reviewed by another person, which brought about minor changes to the themes. All codes for each participant were then put together as a "gamer profile" (see appendix A). These profiles were meant to facilitate within-case analysis in that they give a summarized overview of the coded data for each respondent. In addition, they could provide assistance for people other than the primary analyst to reconstruct and understand how the raw data was coded and interpreted.

## **Results**

Five themes emerged from the thematic analysis of the interview transcripts: (a) play style & preferences, (b) social aspects of MMORPGs, (c) avatar creation & maintenance, (d) I/Ideal/Avatar relations and (e) real life & well-being.

## **Play-style & preferences**

Gamers varied greatly in their personal play-style and preferences concerning games. A few significant variables were uncovered that might have influenced their game-experience in a way that changed their relationship to their avatars. While the majority of gamers were still active at the time of the study, most of them mentioned a decrease in total gaming-time due to their studies and/or diminishing interest ( $n=6$ ; 5 male, 1 female). Two of the participants (male) were coded “recent players” as they had stopped playing MMORPGs altogether, but resumed playing offline RPGs which they experienced as less time-consuming and more relaxing. The length of gaming sessions varied greatly between and within players, depending on a multitude of variables. Firstly, the respondents could be grouped into different gamer categories according to the average time spent playing during a week (Hussain & Griffiths, 2009). Most participants fell into the category of “casual gamers” ( $n=6$ ; 5 male, 1 female), who play less than 15 hours a week:

*Extract 1:* ...when I have a free weekend and nothing else to do, I can instantly sit there for four hours, because there is usually enough to do and lots of new content to discover [...] I enjoy doing that and invest some time, but at some point I get the feeling that it's been enough. (P2, male, 23, casual gamer)

Often, casual gamers who played more sporadically (e.g. just in the weekends) would have longer gaming sessions than gamers who played regularly. This could be due to periodical updates of MMORPGs which continually provide new content that might cumulate when gamers stay away for a while. Then, as P2 states, “there is usually enough to do”. Two of the participants (male) fluctuated between being a “regular gamer”, who spend 15 to 30 hours a week gaming and a “casual gamer” (Hussain & Griffiths, 2009). There was also one “excessive gamer” (male) among the respondents, who played even up to 12 hours a day (see appendix B for detailed display):

*Extract 2:* At first it was still within limitations. But soon I certainly played... 8 to 12 hours a day. (...) There has been a time in my life when gaming was the only thing I was doing... I actually came home from school and turned on my computer. (P7, male, 25, excessive gamer)

The excess showed itself in P7's inability to limit the length of his gaming sessions, which in contrast was very natural to P2 after a while of gaming, when he felt that "it's been enough". But even within these different categories there was still a lot of scope. The length of gaming sessions also depended on the setting (participants tended to play longer in social contexts), whether they played sporadically or regularly (gamers who played sporadically tended to have longer gaming sessions), whether they played in the weekends or on weekdays (gamers played longer in the weekends) and simply their mood.

Throughout the interviews, further differences in play-style revealed themselves. Some players rotated between all kinds of games and avatars and did not stick to one specific routine ( $n=3$ ; all male) resembling a kind of "shifting play-style". On the other hand there were also people who played their games over a longer period of time. Those players also had the tendency to focus on one (favorite) avatar ( $n=3$ ; 2 male, 1 female), while others played all their avatars to the same degree. The rest of the participants ( $n=3$ ; all male) resembled a mixture between those two styles. They either kept playing the same games while frequently switching avatars or maintained permanent avatars in a number of games they played simultaneously. The majority of gamers that played multiple avatars did so because of different features and functions that only certain avatars could adopt (this aspect will be further explored in "avatar creation & maintenance").

The participants were also asked about their in-game presence. This implies the immersion into the virtual world, players' focus and concentration on the tasks at hand and possible side occupations and/or distractions from gaming. Some players reported extremely focused

gaming, to the extent that talking to another person present in the same room was nearly impossible.

*Extract 3:* No, you really have to be focused. If you want to be good, the game is going to demand your full attention. Then you can't just talk to someone, or else you would have to pause the game. (P1, male, 23, casual gamer)

What needs to be mentioned is that the players who reported such an immersion into their games ( $n=3$ ; 2 male, 1 female) either played strategically challenging games, which center on action and battle or regular MMORPGs at the maximum level of difficulty. The rest of the respondents agreed that their presence depended heavily on the nature of the game and specific game situations.

*Extract 4:* There were lots of moments when I also had other things on my mind. One time I even managed to simultaneously revise a text someone else gave me to correct (laughs). (...) Part of the time you spend online with a group of people (...) is waiting. Because you have to wait until everyone chose the right character to play, until everyone clicked the right button... and that can take some time. So in the meantime you can (...) do other stuff. (P5, male, 23, casual/regular gamer)

But participants also described situations where they found themselves deeply immersed into the game and less aware of any real-life surroundings, e.g. when using the flight mode in a game (which is available in some games), while gazing into the virtual landscape, or when one of their (mortal) characters died. Summarized, they experienced that the more realistic, animate, emotional and beautiful a game was, the easier it became to fully immerse into that virtual space ( $n=4$ ; all male). The degree to which one can immerse into a game was also one of the criteria the respondents mentioned when choosing a game ( $n=3$ ; all male). Others relied on professional journals and reviews ( $n=1$ ; male), some kept buying games by developers

they were already familiar with ( $n=1$ ; male) and some simply felt influenced by (online) advertisement ( $n=1$ ; male). But a striking majority of the respondents ( $n=8$ ; 7 male, 1 female) mentioned friends and schoolmates as the main reason to start a game, which brings us to the social aspects of MMORPGs.

### **Social aspects of MMORPGs**

In every interview, participants mentioned at least one social aspect of playing a MMORPG. They talked about the online community, playing together with friends or in online-teams (so-called “guilds”), getting to know new people, how they communicated with each other and the social order within the games. The majority of gamers started playing in their early teens (high school age) if not already in childhood ( $n=6$ ; all male). The onset was mostly based on social influences, such as friends and schoolmates who already played a MMORPG ( $n=7$ ; 6 male, 1 female). They also relied on each other’s recommendations when choosing a game, which had the advantage of being able to start together, which was experienced as more fun and efficient than starting out alone (exchanging information with friends sped up in-game learning processes). 8 out of 9 participants mainly played together with friends they had encountered in real life, whereas some of them started to additionally play with online acquaintances ( $n=6$ ; all male). Two of the participants were not able to connect with online players, because their game was an offline RPG and wouldn’t allow it ( $n=1$ ; female) or because their game console (Playstation) impeded online communication, which is easier on the computer due to the keyboard and several voice-over-IP software for chatting ( $n=1$ ; male). Therefore they stuck to playing with real-life friends. But even though most of the respondents made some use of the possibility to connect with online players, they all did it in a different way. Their contact ranged from open to closed, friendly to hostile and game-based to private.

*Extract 5:* [contacts online players]...only when people start whining. A lot of games are played in teams that share a channel, and the whole team

just starts to flame that person. "You're such a lousy player! Try harder!" Then sometimes I get involved. Just shut up and play. (P1, male, 23, casual gamer)

Comparing this rather closed, unfriendly and game-based approach with the statement below (open, friendly and personal) shows how different an approach gamers can have to online communication in MMORPGs:

*Extract 6:* I started talking to some people via the chat-channel of the game and eventually we ended up in a guild together. (...) At a certain point we knew all these things about each other... our real names, how old we were, where everybody lived and that developed until we started meeting at Skype even on evenings, when we were actually playing different games. (P5, 23, male, casual/regular gamer)

Half of the players that had contact with online players ( $n=3$ ; all male) even found real-life friends through MMORPGs. But it seemed to also work the other way around. One player noticed that MMORPGs were the only thing connecting him to his colleagues:

*Extract 7:* I don't know it was just (...) kind of a shared hobby. And since I stopped gaming I noticed that I didn't keep doing a lot with them. (P8, male, 21, casual/regular player)

Apparently MMORPGs possess the power to connect people, just as well as any other "real-life hobby" could. Whereas a simile between online guilds and real-life sport-teams might go a little too far, there are definitely some analogies to be found: Guilds are a group of online players with similar (in-game) interests and ambitions. They demand and motivate active participation and regular presence, enter tournaments and other online competitions and also engage in free-time activities:

*Extract 8:* Sometimes we have "guild events" and that's a lot of fun. Both organized by game developers and guild leaders. And sometimes they

think of activities like playing “hide-and-seek” in an area. (P2, male, 23, casual gamer)

This counters the common stereotype of gaming being an “unsocial” activity that solely distances people from each other (Granic, Lobel, & Engels, 2013). Although it might separate them physically, it can bring them closer together in another realm. However, not all of the participants enjoyed the contact with online players as much as P2. Just as in other areas of life, it might take some time to acquire the necessary skills and knowledge to effectively participate in a field.

*Extract 9:* I am just not Nerd enough. For example, I can’t understand their language (laughs). They all have these acronyms (...)and if I would talk to somebody, they would just consider me a fool (...). Socially I wouldn’t come through to the online players, we wouldn’t get anywhere. That’s why offline RPGs can even give me more. (P4, male, 24, casual gamer)

Naturally, social structures emerge from enormous online platforms such as MMORPGs. What P4 describes is the necessity to adapt oneself to the online community in order to be respected. In fact, a lot of players felt the need to conform themselves to the online world in some way ( $n=4$ ; all male). Either in language (to understand each other), in skill (to measure up), to fulfill one’s online obligations (activity in a guild etc.) or to simply customize and dress the avatar in a way that shows one’s game experience. Seemingly, the “virtual self” is a social self with a need for admission, meaning that it cannot be seen apart from its social context. Many respondents talked about an “in-game status” in their game ( $n=4$ ; 3 male, 1 female), that could be improved by avatar experience, achievements, skills and “superior” looks. Even in offline RPGs, which have no multiplayer function, game developers arranged for an “artificial social status” through computer-steered NPCs (non-player characters) that worship the avatar for his or her special skills and powers. But of course this comes short in comparison with the admiration one could receive from real players:

*Extract 10:* Well, I did identify with it [avatar] strongly, especially when I was fairly good and often contacted by other players who went like... "Oh wicked!" Yes, you somehow develop a kind of social status there (...) and because I was good I had a pretty high reputation. (P7, male, 25, excessive player)

### **Avatar creation & maintenance**

The word "avatar", in relation to games and computers, refers to electronic images which represent a human user. But which aspects of the user's self-identity are actually represented by his avatar and which parts remain invisible to the online world? This section centers on how gamers designed and maintained their virtual selves on MMORPG platforms. Although current games offer a great amount of possibilities in creating a personalized avatar, there are still some limitations that need to be recognized. There are games that provide an extraordinarily detailed avatar creation while others let the gamer solely choose between a preset of characters. Other games would even ask for real payment for adjusting their looks, which is why not all players would customize their avatar. But the majority of (fantasy) MMORPGs correspond in that they offer their players at least these basic choices: the choice of race (e.g. humans, elves or dwarfs), class ("Damage Dealers", "Healers" and "Tanks"), gender and some concerning looks (face, body, and clothing). The race primarily influences the narrative, belonging and basic looks of an avatar, whereas the three (main) classes provide the avatar with different features, skills and aptitudes: "Damage Dealers", as the name may already suggest, are particularly skilled in harming their opponents. "Healers" are a class that is specialized in recovering allies and "Tanks" have the ability to occupy aggressors and survive the longest while taking the most damage. Interestingly, the class seemed to determine the social position one would adopt in a game or a guild (group of MMORPG players). Healers and Tanks have a more complex function in combat and are attributed a great amount



of responsibility, while Damage Dealers take on a rather simple task that can easily be replaced by someone else.

*Extract 11:* In some game-situations you have to be alert, but as a Damage Dealer you don't have to deepen your knowledge about that class as much as the other two [Healer and Tank]. Thus, even if you play very little as a Damage Dealer, you can still be fairly good. (P5, 23, male, casual/regular gamer)

*Extract 12:* I never wanted to be the guy that everyone relied on in a raid [in-game mission]. There were always 2 Healers and 2 Tanks in a raid, and everyone relied on them. Their gear had to be absolutely perfect. I didn't want to be that guy. I mean, there are so many Damage Dealers and if one falls out it's not that fatal. (P8, male, 21, casual/regular gamer)

Certain classes can therefore be better suited for different personality types than others. Because these three classes basically exist in every standard MMORPG, players will be encouraged to create at least three different avatars, in order to fully experience the possibilities a game offers and to find out their personal preferences. Accordingly, the majority of the respondents created multiple avatars ( $n=5$ ; all male), although all of them mentioned having at least some preferences for one specific avatar or a specific class. E.g. this player matched the class and play-style of his avatar with his real-life character:

*Extract 13:* A Mesmer [class in Guild Wars 1 and 2] tries to interfere with everything the opponent tries to do and I really like that. (...)I am very much of a thinker. And then you also have to constantly think about what the other might be up to. (P6, male, 22, casual player)

When P6 was asked whether he also enjoyed 'Warriors', which are Damage Dealers known to require the least amount of thought and coordination in combat, he answered that these were indeed his least favorite class. Their in-game avatar preferences might therefore reflect people's real-life characteristics.

Since no gamer has to keep his real-life gender in the virtual world, some of the respondents made use of the possibility to switch theirs at least one time, probably for similar reasons as to experiment with the different races and classes offered by the game ( $n=4$ ; all male). However, some did not consider or even reject the idea of gender bending because they would feel less empathy for their virtual characters ( $n=3$ ; 2 male, 1 female).

*Extract 14:* I actually chose all-male characters to play. Well, there are lots of men who play women to just look at their butts the whole time. But (...) I can simply say for myself... For me it increases the identification, so I'll just be a man. (P4, male, 24, casual gamer)

It might be true that identification becomes harder as aspects of the avatar start to considerably differ from our actual selves. One participant exclusively played woman and agreed that it felt differently than playing a male character (which would have been the congruent choice). This applied just as well to the race of the avatar, as a few of the participants ( $n=2$ ; 1 male, 1 female) strongly preferred playing with humans over playing with other creatures.

*Extract 15:* If I can choose a race, I choose a human. Often I find this the nicest race to play. (...) But indeed, I wouldn't choose one of those weird beasts (...) I think that I couldn't identify with them as well. When you are role-playing and your avatar resembles you a bit, that's nice. (P9, male, 22, casual player)

Regarding the looks of the avatar, most of the participants just mentioned that esthetics and “cool looks” were important ( $n=7$ ; 6 male, 1 female). But what was it exactly that consciously guided their creation of an avatar?

A group of gamers did not care too much about the appearance of their avatar ( $n=3$ ; all male) but rather focused on the function and aptitude of the character.

*Extract 16:* Just as I said, always a Damage Dealer, then I look at the features... I usually check their attributes and passive attributes. (...) When it comes to the looks, I couldn't care less. (P8, male, 21, casual/regular gamer)

Two of those players, who had their focus on the functionalities of their avatar, were also among the gamers with the highest degree of immersion into their games ( $n=2$ ; all male), as had already been mentioned in play-style & preferences. Their games centered on action and battle instead of fantasy and role-playing and they also showed a higher incentive to be good at those games than the rest of the group ( $n=3$ ; all male). Therefore it seemed only logical that they would select the skills of an avatar prior to looks and narrative. In addition, and maybe by chance, those players were also the one to score lowest on the scale for well-being (Flourishing Scale) that was used in the study ( $n=3$ ; all male; P1, P7, and P8). A possible explanation for this result could be the competitive attitude (which might be causing stress) and the emphasis on action and battle in their games, which favor conflict above collaboration.

On the other hand, players who did care about the appearance, narrative and belonging of their avatars had widely varied ideas and reasons for creating their avatar as they did. One respondent was very clear in how he wanted his virtual self to look like:

*Extract 17:* I really try to make them look like me, because that really increases my identification. (...) I also want to find him likable (laughs). (...) When I was a kid, I once played a blue man. (...) And playing him was just so unrealistic, that I lost my complete interest in the story because the discrepancy was simply too great. That's when I started thinking: "Okay, just try to make them similar to yourself". (P4, male, 24, casual gamer)

Furthermore he explained that also the characteristics and the narrative of his avatars were chosen consciously to match his real character as good as possible. Therefore, playing a

graceful character when he regarded himself as “unhandy” would weaken his gaming experience in that he would have trouble putting himself into the avatar’s shoes. Apparently, not making use of the possibility to correct one’s own flaws in the virtual space can have some advantages for players’ gaming experience. This stands in contrast to the assumption of Bessière et al. (2007) and Lawson (2000), who defined the virtual self as a “somewhat idealized self”.

Adjusting the avatar to one’s ideal concepts was also not used by gamers who liked experimenting with new and various identities ( $n=2$ ; all male). Some created their avatar in a way that came very close to role-playing in its pure form: they first came up with a character in their minds, transformed these ideas into an avatar and afterwards tried to adhere to that role while playing the game. Those thought-out identities did not necessarily align with ideal aspects of the players, but were rather random choices based on players’ curiousness to try certain things out.

However, there were also players who implemented aspects of their ideal selves into their virtual selves. After asking a player whether he would like to possess some attributes of his avatar (a “Ranger”) in real life, he said:

*Extract 18:* Well, I do like the thought of independently wandering through nature. (...) Making use of nature in order to get the upper hand... That is... I think that’s pretty cool and also archery of course, something that I also do in real life! In every game, when there is a bow available, it can be found on my back! (laughs) (P2, male, 23, casual gamer)

Summarized, some players do not care too much about the role-playing aspects of the game and just create their avatars to be the most powerful and advantageous. Other gamers adjusted their avatars completely to their actual selves in order to intensify their identification with the avatar and hence their gaming-experience, whereas some also tried to bring in aspects of their ideal selves. Some just experimented with different characters and stories that

might at times disagree strongly with their real-life personality and at times be more complementary. Thus, the way people create their avatars depends strongly on their ambitions and goals concerning the game.

### **I / Ideal / Avatar relations**

This theme finally touches on one of the main concerns of the study: to learn about the relationships between the different domains of the self (actual self, ideal self and virtual self) in gamers. MMORPGs (Massively Multiplayer Online Role-Playing Games) did not receive their name for no reason. The role-playing part was mentioned by a great number of respondents ( $n=6$ ; 5 male, 1 female) and although they created their own virtual identities, most of them still saw those as a role, external from their concept of self ( $n=5$ ; 4 male, 1 female). Reasons for this division were that current games still have too many restrictions and limitations concerning free will, speech and action. Instead of acting out aspects of themselves online, they had to fit into certain roles that the game designed for them beforehand. Furthermore, most of the avatars possessed some kind of supernatural powers (e.g. immortality), that could not fit into the self-concept of people and might therefore strengthen the feeling of solely playing a role.

*Extract 19:* I can't identify with someone who falls 200 feet, dies and later wakes up in the hospital and then he's back. Well... that just gets in the way. (P4, male, 24, casual gamer)

Another reason is that games often ask players to do things that would be incredibly immoral in the real world. Stealing, destroying things and murdering a person are rather common incidents in the world of MMORPGs.

*Extract 20:* Normally, I would not have wanted this! The thieves' guild... I certainly don't want to be a thief! But I had to join them, because I had to complete some quests there to progress. (P3, 19, female, casual gamer)

*Extract 21:* Often there are things in games that are possible, though I would never do them in real life. E.g. in Skyrim you can steal from people and it has no further consequences than that you can sell the loot. (...) And as a player I don't feel guilty about this. (P5, 23, male, casual/regular gamer)

As had already been suggested, their "ought self" seemed to be excluded from the online world or at least radically adjusted to the unwritten laws of virtual worlds. Although players reported that when confronted with an in-game decision, which bore the same consequences, they would probably act according to their real-life ethics ( $n=3$ ; 2 male, 1 female). One player mentioned that it was not enjoyable to diverge too far from his morals anyway.

*Extract 22:* I tried to play a complete asshole and to beat everybody up. But I don't enjoy it as much (...) as being the one that goes off, kills the dragon, returns and says: "Hey, I killed the dragon!" (laughs) Well that's why I don't use all the possibilities of games, because something of myself flows into them. (P4, male, 24, casual gamer)

The role P4 tried to adopt probably did not resonate very well with his actual or ideal self, which made it hard and unpleasant for him to keep it up. This might add an interesting point to the all-time debate about video-games calling forth real-life aggression (Granic et al., 2013); maybe, when there is no preliminary tendency for violence in gamers, games do not possess the power to create this tendency in them. However, if the virtual self is simply a role that gamers are playing, what is their relationship to that role? This is what the first scale of the edited IOS scale tried to measure.

## **I – Avatar**

Generally, the respondents seemed to answer in comprehension of the concepts of the edited IOS scale version. A few stumbled upon the meaning of the scale or how they specifically had to understand the question ( $n=3$ ; 2 male, 1 female), but for most participants it seemed to be quite self-evident because they gave a quick and confident answer. The fact

that more than half of the respondents maintained a multitude of avatars ( $n=5$ ; all male) slightly complicated the matter, because they perceived the strength of the relation differently for every avatar, but eventually they were able to choose one “main” or “most actively played avatar” for answering all three edited versions of the IOS scale.

Respondents whose answer was above the average score of 3.44 ( $n=5$ ; all male) had various reasons for that. Some felt a great overlap between the avatar’s in-game role and their real character and others reported high identification with the avatar due to social acceptance by other MMORPG players.

*Extract 23:* It’s not like I tried to be one with it [the avatar]... I don’t know I just identified very strongly with the game and the status I held in that game. (P7, male, 25, excessive gamer)

On the other hand, players who indicated a weak relationship between their actual and virtual self either regarded their in-game role as unfitting to their real character or simply experienced no consistencies between the two concepts.

*Extract 24:* Well, I usually take the role of the Damage Dealer (...) In real life I would rather describe myself as a Tank [translates into being a reliable/responsible person]. (...) I wouldn’t say that I didn’t care at all about my avatar, but I don’t think that we are connected in some way. (P8, 21, male, casual/regular gamer)

*Extract 25:* Phew! No idea, well, she doesn’t look like me. (...) What do we have in common? Actually not that much. (...) But it can’t be absolutely nothing because I created and play her. (P3, female, 19, casual gamer)

Of course there were also players who thought that a certain discrepancy between themselves and their avatars would be nice, especially for experimenting with new identities. However, that did not make them necessarily score below average on this scale ( $n=3$ ; all male), maybe because they were just playing out different aspects of their identity, rather than

trying out characteristics that were against their nature. Only one participant scored lower than expected. P4 tried to construct his avatar as closely as possible to his actual self, however, limited game-possibilities kept the perceived overlap between his actual and virtual self at an average of 3:

*Extract 26:* As I already said, the reason that it doesn't work is simply the lack of freedom. (P4, male, 24, casual gamer)

### **I – Ideal**

The second IOS scale essentially measured well-being as defined in humanistic psychology (Rogers & Koch, 1959), that is to say the congruence between a person's actual and ideal self. The respondents scored on average rather high on the scale ( $\bar{X}$  = 4.77; SD = 1.44) suggesting that the chosen sample resembled a fraction of the population that enjoys particularly high well-being, which was in agreement with their statements.

*Extract 27:* I am pretty content with myself. Look, there are always things about yourself that could be different... (P2, male, 23, casual gamer)

When asking the respondents whether they thought that their games could have an influence (positive or negative beside the point) on their “I – Ideal” relation, most of them answered “no” ( $n=6$ ; 5 male, 1 female) and admitted that they had never really thought about that before. Oftentimes they declared their ideal selves separate from their games.

*Extract 28:* I try to live my ideals out as well as I can. And for me gaming is just entertainment. (P5, male, 23, casual/regular gamer)

One player stood out of the sample in that he scored significantly lower than the rest of the group in the “I – Ideal” overlap. Recalling his most excessive gaming phase, he estimated his overlap being no higher than 2, due to his lack of self-confidence at the time and his constant attempt to comply with what other people (especially schoolmates) thought. When he was



asked whether the game had any influence in changing the relation between the “I” and “Ideal” for the better (he would score a 6 on the scale today), he also answered “no” and proposed that the game fulfilled a different role at that time.

*Extract 29:* Well I am pretty sure that the game had nothing to do with that. The game was more to distract me from that situation. (P7, male, 25, excessive gamer)

This finding validates Przybylski et al. (2012) notion of MMORPG players creating ideal avatars in order to escape their less ideal situation in real life. In the end, none of the respondents were convinced that the games had any influence on their “I – Ideal” relation. Apparently, this concept is left untouched by games, the only function they could adopt is to distract players from painful “I – Ideal” relations.

### **Ideal – Avatar**

The last edited IOS scale centered on how the respondents experienced the relation between their ideal and virtual selves. First of all, these constructs were the ones that participants had the most difficulties with ( $n=3$ ; 2 male, 1 female). These conflicts arose because their (real-life) ideal self could not be connected to the virtual self, which seemed to be of a different kind. The concepts were perceived as completely separate from each other ( $n=3$ ; 2 male, 1 female).

*Extract 30:* Well, they have absolutely nothing to do with each other, because all the values I have in real life just don't play a role in the game. (...) Then, of course it would be cool to be like her, never being afraid, being good at fighting etc. (...) but all that is just not relevant for my life in the real world. (P3, female, 19, casual gamer)

Especially fantasy MMORPGs failed to engage peoples' ideal selves, because they simply differed too much from the real world. Players like P3 did admire their avatar but could not

live out real life ideals in the game environment, because her real life values were completely irrelevant in that place. However, some respondents perceived this matter quite differently ( $n=4$ ; all male). One respondent experienced the possibility to live out at least some aspects of his ideal self in the virtual world.

*Extract 31:* I am an archer and I like to look at something and hit it right away. And in games this can happen quite fast and well. So yeah... my ideal to be perfect in archery is in my avatar. Let's put it that way: in Tibia [MMORPG] you can always train a "skill". Archery was one of them (...) and I put a lot of in-game effort into this skill, much more than I actually did in real life, to stand out in that skill in comparison to other players. So that's kind of weird. (P2, male, 23, casual gamer)

It seems as though the complete set of ideals could not find its full expression in virtual worlds, but some aspects of a gamers' ideal self could, just as with P2's ideal of being good at archery. Other players mentioned that games offered more possibilities than real life to help others or to perfect their own appearance, even though they did not always make use of those opportunities. In addition, one player suggested that some real-life ideals would flow unconsciously into the avatar, such as how one behaves around other players or how one communicates with them. These behaviors will most likely be similar to what one already does in real life.

Another interesting position was the idea that a perfect alignment between virtual self and ideal self could never be accomplished, due to the reason that one would always be dependent on the virtual world in order to live them out ( $n=1$ ; male). Since dependency on something external probably does not fit into anyone's idea of living out his or her ideals, the question about an alignment between the ideal and virtual self started to look rather insignificant. Another player who had difficulty with this notion even suggested to replace it altogether with a new concept, namely the "in-game ideal".

*Extract 32:* Let's say you have the ideal of "Oh, I want to become a 'sturdy motherfucker' who can do a lot of damage". Then you have to put a lot of effort into developing certain skills and to obtaining gear. And if you achieve all this, you've practically fulfilled your "in-game ideal". You make a new ideal. (P2, male, 23, casual gamer)

Some players agreed with that position ( $n=2$ ; all male) because they resonated with the idea that the avatar had some ideals (just not their own) while the majority still disagreed ( $n=4$ ; 3 male, 1 female) and described something that sounded more like in-game ambitions.

*Extract 33:* Well, it's an ideal in the sense of "the gear needs to be perfect"... Well, those are things you don't want to accomplish in real life. Otherwise I would sit here with expensive cloths, would be approximately 5 inches larger and had very big muscles. And of course that's not the ideal I aspire in real life. The avatar is completely different; also in the materialistic realm (...) there [in the virtual world] I want a lot of money and the best gear. (P8, male, 21, casual/regular gamer)

Several times respondents mentioned the emphasis of material values in the game world, which might have influenced their attitudes in-game as well as in real life, which brings us to the last theme of the study.

### **Real life & well-being**

Overall, games were mostly seen as a good way to relax, socialize and relieve stress ( $n=6$ ; all male) among the respondents. They compared it to all sorts of free-time activities and entertainment such as watching a movie, reading a book or hanging-out (online) with friends, only that they regarded gaming as a more interesting activity than "passively watching television".

*Extract 34:* It's just like any other hobby; you choose to spend some time on it. And if you feel good about that, why wouldn't you? (P2, male, 23, casual gamer)

They listed a wide variety of beneficial influences of MMORPGs that differed for almost every player, but a few things were repeated more frequently, such as; finding new friends, learning about cultures and languages (especially English) and gaining factual knowledge about certain topics.

Generally, gamers had to attain a broad knowledge about their MMORPGs and learn how to find and process this knowledge fast.

*Extract 35:* You have to understand and learn a lot of things about a game to play it well. So if you enjoy gaming you will naturally grasp information much faster and you will be able to focus yourself on one single task because a game demands that much of you. (P1, male, 23, casual gamer)

If that attained knowledge can be applied to a player's real life certainly depends on the game and a player's interests. Some things seemed to be astonishingly accurate in games, such as the labeling of weapons or recipes for fusing metal or cooking a meal.

*Extract 36:* You have a cooking skill in Guild Wars (...) where you can combine certain things to create something and that's quite accurate. That's a way you can learn... (P9, male, 22, casual gamer)

More than half of the respondents found new friends online or at least joined a guild ( $n=5$ ; all male) which might have enriched their lives in several ways invisible to this study. One respondent even made friends in England, which helped him in becoming more fluent in English and learning a lot about their culture.

*Extract 37:* My English improved a lot because of them. And socially I also got in touch with more people from other countries. So that was very interesting and you also learn about each other's cultures. (P9, male, 23, casual gamer)

Furthermore, "questing" (completing tasks and challenges) and going on adventures in MMORPGs is usually not a lonely business. Most MMORPG players do not solely play by

themselves, but also in groups that require steering and management just as any other group of people in the real world. Players who take over the responsibility to guide a group can learn a lot from coordinating and organizing their members.

*Extract 38:* Often I took over the guidance and went ahead to (...) show everyone where to go and what to do, because I had quite a lot of experience in arranging the roles. (P8, male, 21, casual/regular gamer)

Similar skills on which respondents improved were “structured working” (e.g. organizing “quests” in an efficient work-order), being more assertive in a group (social skills) or learning how to manage their (in-game) money ( $n=1$ ; male).

But naturally, there were also a number of detrimental influences that gaming had on participants’ real life and well-being. One respondent brought up how he became less and less enthusiastic about the real life after having played a great variety of games. Discovering nature, new cities or unknown places seemed to leave him unimpressed, since he had already seen so much of it in the virtual world.

*Extract 39:* I think that in some moments I don’t appreciate life as much as I did before. Such as... natural spectacles. You’ve already seen so many things extremely well copied into the virtual world. And you can be very close to it. And recently I have been to California (...) and I think that I didn’t bring the same enthusiasm as I would have, hadn’t I already seen all those things a thousand times in digitalized form. (P4, male, 24, casual gamer)

P4’s statement sounds as if he has been blunted by the virtual worlds and was therefore left with less appreciation for all the “real” things around him. Even though his remark might sound alarming, he still affirmed that he would be more content with games than without them.

Another respondent, the only excessive gamer among the participants, disclosed to what extent the MMORPG “World of Warcraft” consumed his life. His gaming behavior became more and more excessive over time until he spent almost all day online. As a consequence, he neglected his friends, school, and to many parts, also the rest of his life. Being a very self-conscious boy in school and constantly worried about other people’s opinion of him, he found a place of refuge in the virtual world.

*Extract 40:* I think that it had a lot to do with my social status, which was different in the game. (...) you meet a lot of people you don’t know in private. But you got to know each other through the game and then you also only talked about the game and ignored the other stuff. And I think that I was just feeling more comfortable there. (P7, male, 25, excessive gamer)

P7 only scored a 2 on the “I – Ideal” scale, which shows how little congruence he felt between his actual and ideal self at that time. Neglecting this discrepant condition and finally enjoying a high status (in-game), which might come closer to his idea of an “ideal self”, could have created a space in which P7 felt more comfortable than in real life, where he constantly had to restrain himself.

*Extract 41:* (...) simply being able to say what I want and all... that was possible in-game. In real life I often stood back when it came to that. (P7, male, 25, excessive gamer)

As has already been mentioned, Suh (2013) suggested in his study that gaming (with “ideal avatars”) could raise a player’s levels of autonomy and recovery. P7 was clearly able to shed his inhibitions online and found a way to speak up to his fellow players, which shows that his autonomy was able to grow within that virtual environment. The anonymity was probably an additional help in that it might have exposed the irrelevance of other people’s judgment, which he was so afraid of.

However, soon his mother became concerned and confronted him with the notion that he was trying to escape his real world conditions.

*Extract 42:* In the end, when it really started having a huge impact, my mother told me quite bluntly what she thought. And when it didn't work for me anymore, I really got symptoms of withdrawal like having fits of rage and all that. (P7, male, 25, excessive gamer)

The confrontation by his mother and the sudden awareness about his conditions apparently lessened the soothing effects of his “safe place” online. P7 added that he did not force himself to stop playing the game, it simply became “less interesting” to him. Curious about this case is that the pure awareness about the circumstances seemed to have eliminated the comforting effects that MMORPGs had, which was enough for P7 to reduce his excessive gaming behavior and to address his problems differently. Now, he is more content without the games, which might come as no surprise.

*Extract 43:* I am definitely more content. But I did resume playing a little, just not online. I now exclusively play offline RPGs (...) I still enjoy playing for relaxation. (P7, male, 25, excessive gamer)

Participants' feelings about imagining their lives without MMORPGs were very evenly distributed. A third of them would miss gaming, for they still enjoy it and regarded other recreational activities as less interesting or engaging ( $n=3$ ; all male). Other reasons have been the otherwise “lacking possibility to escape and hide” and losing a pleasant way of socializing with friends from all over the world ( $n=1$ ; male). Another third of the sample was convinced that they would just find another activity to pass their time with, gaming was not necessarily irreplaceable to them ( $n=3$ ; 2 male). The rest of the group would not miss gaming at all, because they experienced it as too time-consuming or simply lost their interest over time ( $n=3$ ; 2 male, 1 female).

*Extract 44:* Actually, I find it much better to develop some things in real life. That's why I resumed playing the guitar, that's why I am exercising a great deal. And naturally, this has multiple effects. And also during the marathon I thought "Well, actually you are athletic enough", then I feel it's a shame to sit on a chair and to do nothing about it. (P2, male, 23, casual gamer)

## **Discussion**

The purpose of this study was to gain a broader view on the virtual self and its relation to other domains of the self, such as the actual self and ideal self, in order to observe possible influences on psychological well-being and people's perception of themselves. Furthermore the study attempted to define the concept of the virtual self in a more distinct way and to discover where gamers might place this domain within their self-concept. Generally the study aimed at attaining a broader view on the topic and was open to novel aspects and variables concerning the subject that might not have been considered before. The study was not set up to acquire knowledge that could be generalized, but rather prioritized the finding of rich and meaningful data to enable an in-depth analysis of the material.

As the results of the study exhibited, most of the respondents (at least partially) resembled a "shifting play-style". This particular play-style stands for gamers who simultaneously maintain multiple avatars in their games instead of focusing on one main character ("maintaining play-style"). This is an important variable to be considered in analyzing the relationship people develop with their avatars. One might expect that maintaining multiple avatars would lessen the degree to which a gamer identifies with them, because the gamer will spend less time with each one of his or her avatars. Gamers with one main avatar, on the other hand, who spend all their time on one particular avatar, might even develop more preference for it, simply due to "mere exposure" (the tendency to develop a preference for things that are



familiar). However, the results disclosed no significant differences in scores on the IOS scale (I – Avatar) between gamers with a shifting play-style and gamers with a maintaining play-style. Nonetheless, in other cases (outside this study), the play-style might have a considerable influence on a players' level of identification with an avatar. This effect might be more visible in excessive gamers, who spend a tremendous amount of time with their avatars. The possible influence of different play-styles on the identification with avatars should therefore not be discarded too quickly.

Participants' definitions of the virtual self ranged from having the feeling to “just be playing a role in a role” to the idea that there was actually not a great difference between themselves and the avatar. However, most of the respondents seemed to perceive their avatars as roles that were fundamentally separate from their real selves and their real lives. The virtual self was more or less seen as external to their self-identity and as separate from both the actual and ideal self. Therefore, their definition of an avatar did not match the idea of an “extended version of themselves into the virtual realm”, as had been offered by Crowe (2010). It was also not the “somewhat idealized actual self” that Bessière et al. (2007) and Lawson (2000) described. Apparently, the concept of the virtual self took in another place for the respondents of the study.

If gamers did not integrate their virtual selves into their self-concept, naturally it should be found somewhere outside the domains of the self (actual and ideal self). The concept of the virtual self could therefore be regarded an independent domain of the self, a kind of “floating identity” that gamers would only step into when diving into the virtual world. This is actually very similar to the role-adoption that regularly happens in our everyday lives, such as adopting the role of a “student” when going to university or adopting the role of a “parent” when one has his first child. Except that gamers might step into roles like: “guild leader”, “great warrior” or “loyal ally”. These roles, virtual and real alike, are essentially created on a

societal level through social consent, which is mirrored by the social structure in MMORPGs. Some roles (such as the role of a Healer or Tank) seemed to be attributed greater amounts of responsibility than others. These roles might attract people who also felt more responsible in real life, but could also be adopted by people whose real life characteristics did not match this description. Nonetheless, adopting a new role (just as when one becomes a “student” or a “parent”) can be greatly instructive and teach us a lot about ourselves and others. This might relate to the experience of one respondent who found it easier to help people online than in the real world, because in the online world, one would already be in the role of “helping one another” (which is very commonplace in most MMORPGs). But helping people online might start to transfer to the real world when players fully emerge into that role online. It could be easier to implement behavior in real life when it has already been practiced a lot in the virtual. The frequent switching of roles could therefore bring about empathy and a greater understanding of the circumstances of an other. In addition, the role-playing part seemed to possess some potential to be used in psychological therapy (e.g. in cases of phobia, anxiety disorders, social anxiety disorder, etc.), as the avatar could be used to train behaviors that might seem impossible to the client in real life. Similar to the approach of desensitization, people could learn step by step to engage in these behaviors, eased by the knowledge that they are only present in a virtual world.

But what happens when one applies this definition of “the virtual self” to the theories of well-being and flourishing, which have been addressed in the introduction of the study? If the virtual self was in fact integrated into a player’s actual self and not solely a role, ideal avatars could help to improve the congruency between the actual and ideal self. Discovering ideal aspects about oneself through an avatar would then bring the actual self closer to ideal aspects of a person. However, the virtual self seemed to be separate from the actual self and more like a “role” that gamers adopted when playing a game. Therefore, the virtual self should not be

able to influence the actual – ideal congruency of a person. Everything the avatar does (even if it is equal to what the ideal self would do), remains connected to that separate role and would not be integrated into the concept of self.

The study also brought up other results regarding the influence that a virtual self could have on a person's psychological well-being and real life. The fact that gamers were willing to acquire a vast amount of knowledge in a short period of time to become good at a game, might imply some aspects that could be integrated into motivational and learning theories. As one of the respondents stated, players would grasp information concerning their game much faster, which might be due to their strong involvement into the virtual world and its interactive character. When gamers inform themselves about an in-game issue, they have the possibility to implement it immediately, which might enhance and motivate learning processes. Furthermore, some of the participants learned some valuable skills in managing a group of people, e.g. when taking the role of a “guild leader”. Other social skills they learned online are also to a certain degree transferable to the business world: “coordinating groups” and “efficiently ordering tasks” are among the skills that gamers learned in virtual worlds which can be perfectly applicable to real world problems.

What needs to be considered though is the fact that most of the respondents did not resemble the “average gamer”. The mean number of hours played per week are approximately 22 hours (Yee, 2013), which would fall into the category of a “regular gamer”. However, within the sample of the study there was only one “excessive gamer”, whereas the rest consisted of nearly all “casual gamers” (see appendix B for detailed display). Furthermore they were all students who had to manage their time according to their studies which was reflected by their time-management and clear priority-setting. Besides, participants were selected with rather weak inclusive criteria, such as “experience with MMORPGs” which had the effect that people who primarily played other games were also admitted to the study, such

as players of “Skyrim” (an offline RPG), League of Legends, which is more of a MOBA (Multiplayer Online Battle Arena) and players of Diablo I, II or III (Action RPG with multiplayer element). Gamers that primarily played those games had slightly different approaches and attitudes toward gaming. Most MMORPGs focus on (fantasy) role-playing and are less battle-oriented and competitive than the games mentioned above. Players of these games were more ambitious and had little interest in the looks, role and the narrative of their avatar. They mainly focused on function and usefulness of their avatars, which probably led to another approach toward gaming.

Moreover, the sample consisted of respondents who seemed to enjoy particularly high well-being. All respondents scored in the upper third of the Flourishing Scale ( $\bar{X}$  = 44; SD = 4.44) with scores ranging from 53 to 39, the highest possible score being 56. This was further reflected by the responses that participants gave when asked about their well-being during the interview. Almost all participants reported beneficial influences that MMORPGs had on their lives. Curiously, little of them found that the game could fundamentally improve the quality of their life (which was of course already high). They rather saw the game as a pleasant addition to their lives, which they did not depend on. Naturally, this study would bring about very different results if the sample would include more problematic and excessive gamers, which was reflected by one respondent who reported highly detrimental consequences of playing MMORPGs (excessively).

The present study succeeded in revealing some experiences and attitudes around the subject of the virtual self and its relation to real life and well-being, although there is still a lot left to discover. Further research in the field of motivation and learning could lead to a more playful and productive learning environment in schools and universities, which might in turn inspire game developers to induce positive behavioral and societal changes through pioneering progressive models of that realm in the virtual world. Using MMORPGs in

therapeutic environments exhibits another subject in need for further research. However, the most striking finding of this study remains the definition of the virtual self as a “role” rather than a permanent domain of the self. The flexibility of virtual roles enables players to frequently switch between them and also to experiment with a great amount of them. Different than in real life, people do not have to remain bound to a certain role when it no longer serves their well-being. Instead they learn how to remain more flexible and how to continually adopt new and unfamiliar roles. Future studies might proceed to analyze the effects that the adoption of different roles might produce and which roles in MMORPGs might be the most beneficial for people and their well-being.

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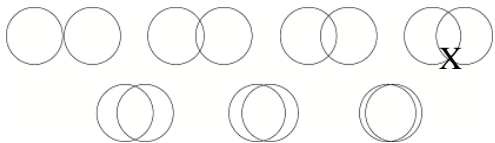
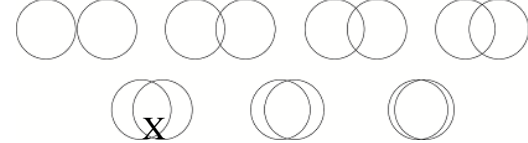
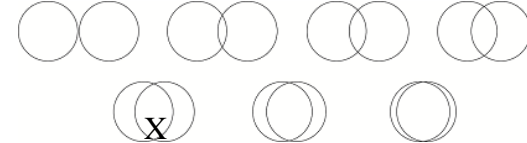
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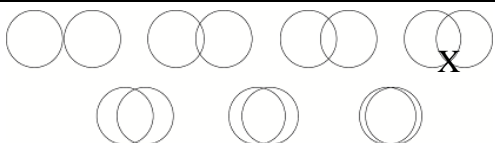
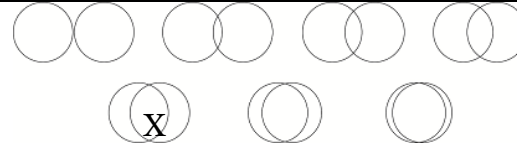
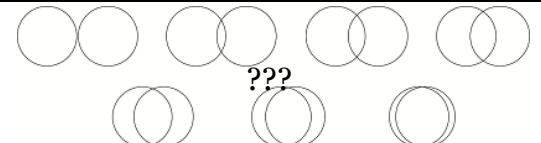


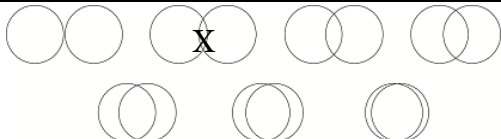
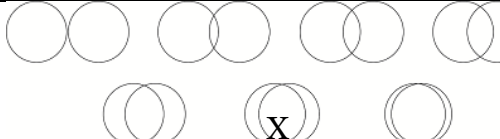
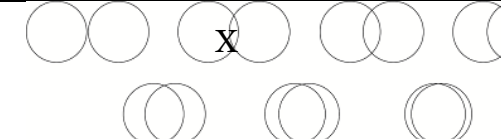
## Appendices

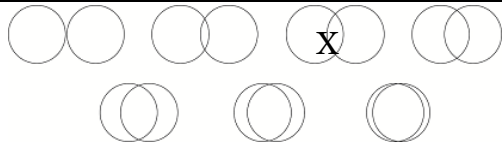
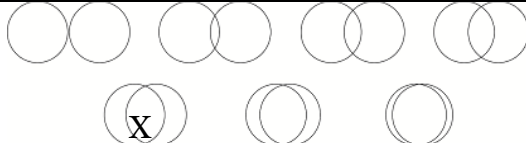
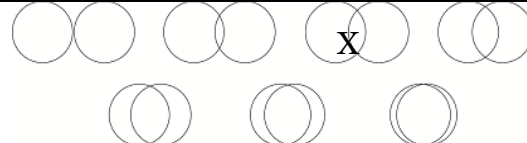
### Appendix A: Gamer profiles

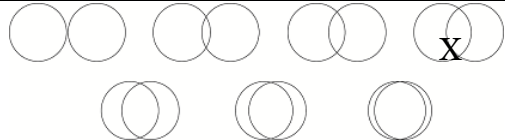
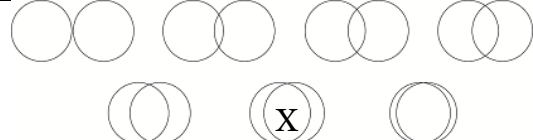
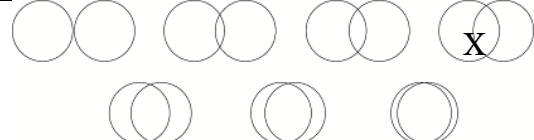
(a) Play style & preferences, (b) Social aspect of MMORPGs, (c) Avatar creation & maintenance, (d) I/Ideal/Avatar relations, (e) Real life & well-being

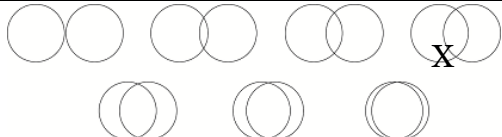
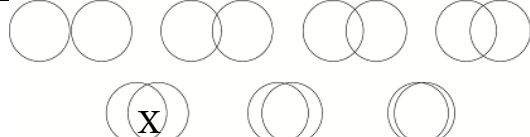
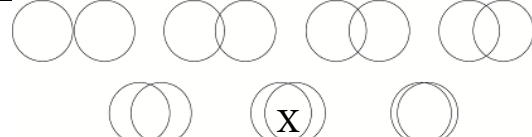
P1	Male	23	Dutch	Industrial Design	Casual gamer
Games	League of Legends, Diablo (Guild Wars, World of Warcraft, Maple Story)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Shifting play-style (both games and avatars)</li><li>- Focused player (no distractions)</li><li>- Game selection: good games that enhance in-game presence (role-playing), or social</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Closed/negative/game-based contact with other players</li><li>- Easier to start a game with friends: easier to learn/possibility to ask questions</li><li>- In-game status through avatar looks/behavior</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Multiple avatars: one main avatar (favorite play-style) with a lot of variation</li><li>- Cool looks, male</li><li>- Customizing avatar for status (to show other people how successful/how much experience the avatar has)</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- More role-playing when personalization is broader (also: online aspect, narrative, decisions)</li><li>- Avatars no influence on how he perceives himself (never really thought about it)</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (friends: help in deciding which game to play) and out of interest</li><li>- Stress relieve; short-term</li><li>- Aware of danger in going too far</li><li>- Grasping information faster, knowledge for the game</li><li>- Less satisfied without games, missing possibility to escape and hide</li></ul>				
Flourishing Scale	42				

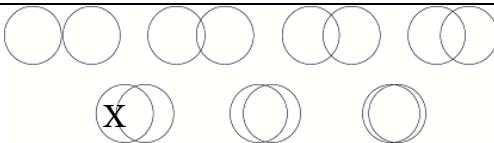
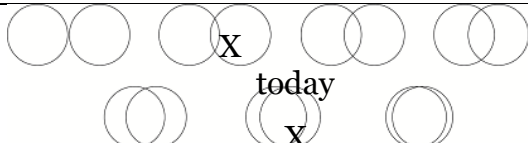
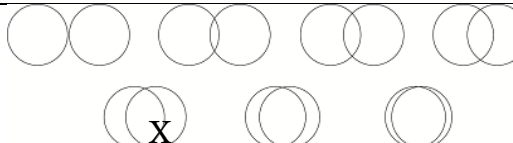
P2	Male	23	Dutch	ICT	Casual gamer
Games	Guild Wars (PlanetSide 2, Tibia, Shooters, Wolfenstein)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Resembling both play-styles</li><li>- Focus depends on game/situation (but the goal is to be deeply focused at times, challenge of games)</li><li>- Game selection: MMOs with strong narrative: a world that feels animate, makes sense, that one can immerse in, or social</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Open/friendly/personal contact with other players</li><li>- Guild: demanded (and motivated) active participation, regular presence; guild events= positive experiences</li><li>- Multiplayer-effect: if you want to play with other people, you have to be good (some ambition, to play badly is no fun)</li><li>- Has a virtual friend (talking via Voice chat), learned about other hobby (RL benefit)</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Multiple avatars, one at a time</li><li>- Gender bending (feels different to play women)</li><li>- Defines beforehand how he wants to be, tries to stick with it (role-playing), sometimes customization to own characteristics</li><li>- Ranger, congruent choice: likes closeness to nature, does archery in RL (I – Avatar match)</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- I – Avatar: discrepancy can be nice (doing something different than in RL); some avatars end up more discrepant: Mesme</li><li>- Ideal – Virtual: ideal for archery, ambition to outperform other players (in-game status?)</li><li>- Ideal – Virtual: New in-game ideal for avatar (or ambitions?)</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (friends in highschool) and out of interest</li><li>- Game= no replacement for things one wishes to do in real life/offline skills, ‘shame to just be sitting on a chair’</li><li>- Influence: thinking, fantasizing, how one spends his pastime (just as any other hobby)</li><li>- Gaming = hobby; relaxation (such as watching a movie)</li><li>- Often: VW based on reality, can teach knowledge (weapons), but depends on the game (less with fantasy MMOs)</li><li>- Without games; would have found other emotional outlet (maybe ‘worse’ things)</li></ul>				
Flourishing Scale	46				

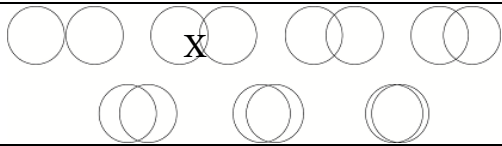
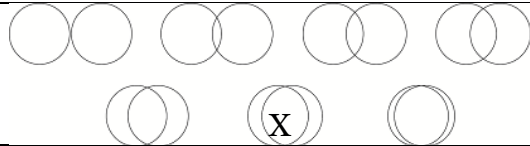
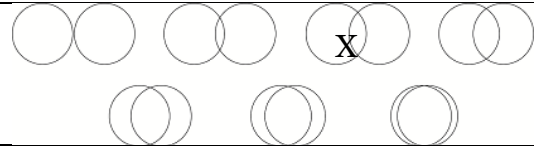
P3	Female	19	German	Digital Media Design	Casual gamer
Games	Skyrim (RPG), AION				
Play-style & preferences	<ul style="list-style-type: none"><li>- Maintaining play-style (both game and avatar)</li><li>- Focused player (very present in-game, needs to take in all information, narrative etc.)</li><li>- Not playing frequently, occasional impulse to game (mostly when busy: escapism?)</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- No contact to other players (RPG)</li><li>- Artificial status in-game: everybody admires the player (special skills/powers)</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Looks and aesthetics seem important</li><li>- Race: Human (congruent)</li><li>- Experiences avatar as character-less (only does what she says)</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- One avatar</li><li>- I – Avatar: not a lot of similarities, but since she is played by her, some overlap</li><li>- Ideal – Avatar: Difficult to say because of different worlds, behavior, ideals in RL and those ideals do not overlap</li><li>- Admiration for avatar</li><li>- Congruence: if given the choice, wants to be good in VW</li><li>- Discrepant behavior in-game; joined the ‘thieves guild’ (would not do something comparable in RL)</li><li>- I – Ideal: not influenced by avatar, separate from RL</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (boyfriend) and curiosity</li><li>- Only plays in social context (never alone)</li><li>- Game has no significant influence: only increases social distance (when playing <i>next</i> to friends/boyfriend instead of <i>with</i>)</li><li>- Benefit: being able to socialize with other people (‘nerds’), especially as a girl</li><li>- Not willing to invest a lot of time in games</li></ul>				
Flourishing Scale	53				

P4	Male	24	German	Psychology	Casual gamer
Games	Playstation: GTA 5, Diablo 3 (Lord of the Rings, Heavy Rain, Skyrim)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Resembling both play-styles (switching and maintaining)</li><li>- Focus depends on game/situation</li><li>- Game selection: professional journals, videos, reviews</li><li>- The less realistic a game, the less he feels present in-game (mortality, freedom of speech, action would intensify experience)</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- No contact to other players (difficult with Playstation), only in RL with friends, MMO also players too different</li><li>- Most role-playing fun with Skyrim (RPG): good game, highly interactive world, no need for online aspect</li><li>- Gaming online with friends</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Role-playing rather than seeing himself in-game: too little freedom of action, no identification with immortal beings, etc.</li><li>- GTA: one main avatar; Diablo: multiple avatars (might depend on game)</li><li>- Trying to built himself: higher identification, likeability, sympathy, ‘cool’; can recognize himself in avatar (a bit)</li><li>- Awareness about choices, consciously tries to choose matching attributes, narratives, looks etc.</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- Too much discrepancy (e.g. a blue man) lessens interest in story (no discrepant, non-fitting attributes)</li><li>- Ideal – Avatar: Looks better in VW, but character doesn’t suit ideals at all</li><li>- Ideal – Avatar: takes some ideals with him when gaming, does not enjoy playing incongruent – does not use all possibilities</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Onset in childhood, always interested in games</li><li>- Social gaming settings (has friends over when gaming)</li><li>- Influence on: sleep, dreams, mood, social life, feeling less sophisticated, physical inactivity (especially after long sessions)</li><li>- Less appreciation for RL (phenomena): extremely well built VW leaves him less enthusiastic about RW (blunted)</li><li>- Benefit: structured working (quest organization)</li><li>- Happier with games, relaxation and social contacts</li><li>- (Maybe) More idealistic/moral goals in life without the games, games stimulate material values</li></ul>				
Flourishing Scale	47				

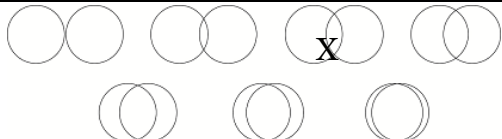
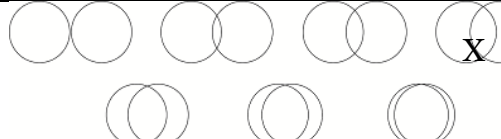
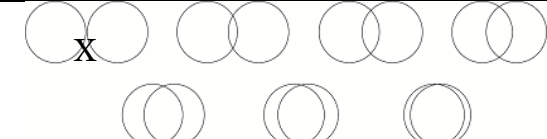
P5	Male	23	Dutch	Psychology	Casual/regular gamer
Games	World of Warcraft, (League of Legends, Guild Wars, Skyrim, Second Life)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Shifting play-style (both games and avatars)</li><li>- Focus/presence depends on situation (when clear-headed and no distractions, he can immerse better into game)</li><li>- Game selection: familiar developers or other people (social)</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Open/friendly/personal contact to other players</li><li>- Guild (game-based friendships: personal, talking to each other while playing different games etc.)</li><li>- Communication via the game (chat)</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Role-playing because he can do things in-game he wouldn't do in real life (and does not feel guilty – no/less of <i>ought self</i>)</li><li>- Multiple avatars (one out of every play-style)</li><li>- Role: DD, don't have to deal a lot with functions (beneficial when playing less) Class: druid/hunter, distance attacker, beast</li><li>- Variation between: someone completely different/someone similar to self (for amusement purposes?)</li><li>- Most of the times no gender bending</li><li>- Makes choices based on in-game advantages, if consequences were the same, tendency to be congruent with RL behavior</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- Ideal – Virtual: separate from each other, no awareness when gaming (simple entertainment), trying to live out ideals in RL</li><li>- No separate set of ideals for avatar (only in Skyrim separate ideals/ambitions, where they can change an avatars play-style)</li><li>- Second Life: too much possibilities and freedom: no goal/storyline, needs some preset to fill in his ideals No consequences in games, discrepant/evil behavior possible without feeling guilty</li><li>- Could place his ideals into an avatar if it doesn't come to close to RL (≠ Second Life)</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Onset duet to general interest in computers and games</li><li>- Games as entertainment (just as reading a book), needs breaks in life to stop looking into the future and just relax</li><li>- Games more interesting than TV</li><li>- No time for a lot of gaming: time management, priorities clear (came with age)</li></ul>				
Flourishing Scale	44				

P6	Male	22	Dutch	Psychology	Casual gamer
Games	Guild Wars, World of Warcraft				
Play-style & preferences	<ul style="list-style-type: none"><li>- Maintaining play-style (both avatar and game)</li><li>- Multitasking (not very present in game)</li><li>- Graphic and lay-out of the game determine immersion in-game, good-looking/personal games = more immersion</li></ul>				
Social aspect of Games MMORPGs	<ul style="list-style-type: none"><li>- Open/friendly/game-based-personal contact</li><li>- Guild</li><li>- Doesn't play RPGs, playing together most fun aspect, doesn't enjoy playing alone</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Multiple avatars (all play-styles), but played one at a time</li><li>- Sometimes gender bending</li><li>- Mesmer, magic character, tall (discrepant), complex/complicated character (more interesting) – character feature preference</li><li>- No aspects of himself (consciously) but tries to select features that match the avatar (creating a role)</li><li>- VW has less limitations: chance for perfection, total control, easy to make someone ideal (but makes no use of it personally)</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- Role-playing: more in more personalized, beautiful virtual environments (immersion)</li><li>- Avatar role demands thinking: strategy and foresight: congruent with himself (considers himself a thinker)</li><li>- Ideal – Virtual: some things easier in-game: likes helping people: in-game easier than in RL (you can faster adopt that role)</li><li>- I – Ideal: Game has no influence</li><li>- No separate set of ideals for avatars</li></ul>				
	<div>Actual – Virtual</div> 		<div>Actual – Ideal</div> 		<div>Ideal – Virtual</div> 
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (friends)</li><li>- Plays less because friends play less (only social player)</li><li>- Benefit: assertiveness (being motivated by other people helps)</li><li>- Wouldn't miss gaming</li><li>- Gaming = online hang-out, hobby</li></ul>				
Flourishing Scale	48				

P7	Male	25	German	Psychology	Excessive gamer (recent)
Games	World of Warcraft, (Guild Wars, League of Legends, Oblivion)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Maintaining play-style (both game and avatar)</li><li>- Focused player (pretty immersed in the game, everything else was excluded)</li><li>- Game selection: social, possibilities of games</li><li>- First within limitations, later in prime time: 8-12h a day (came home from school and turned on the computer)</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Open/friendly/game-based contact with online players</li><li>- Only PVP; Joined pro-team to play tournaments on Asian and American servers</li><li>- (Different) High social status in-game, contacted by many other players</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- One avatar (on multiple servers)</li><li>- Undead mage, looked pretty rotten, grubs, green hair; important feature: especially suited for PVP (main reason)</li><li>- Strong identification with character, especially because of social status</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- Possibility to say everything he wants, self-determination (less in RL)</li><li>- Actual – Virtual: less identification in RPG (no social status)</li><li>- Ideal – Virtual: the virtual cannot be perfectly aligned with ideal because of dependency on the virtual</li><li>- Actual – Ideal: gaming didn’t help to develop actual-ideal relation, more an escape to ignore the discrepant state</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (friends)</li><li>- Awareness about escalation</li><li>- Tried to live out his ideals online, when it didn’t work anymore: symptoms of withdrawal such as <i>anger</i></li><li>- If he wants to see something positive: team-play</li><li>- Detrimental influence because neglected rest of life: school and RL friends, MMO as a withdrawal place/safe haven</li><li>- Happier and more content without the game</li><li>- Still games offline RPGs for relaxation, no temptation to stay too long (social pressure)</li></ul>				
Flourishing Scale	39				

P8	Male	21	German	Psychology	Casual/regular gamer (recent)
Games	Diablo, World of Warcraft, Guild Wars				
Play-style & preferences	<ul style="list-style-type: none"><li>- Resembling both play-styles</li><li>- Focus depends on game/situation (concentrated, but only immersed in game when in viewer perspective, flight mode etc.)</li><li>- Game selection: social, aspect of MMORPGs</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Closed/friendly/game-based contact (not interested in personal contacts, finding friends, finds some of the people idiotic)</li><li>- Chose MMO's because of people joining massively online aspect, appeal of standing in front of another person (online)</li><li>- Guild (not very active)</li><li>- Prefers RPG, better for relaxation, no (chat) interruptions</li><li>- MMOs can connect people (like a shared hobby)</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- One main character</li><li>- Cares more about characteristics and functions than about the looks/name</li><li>- Favorite class: DD (active), doesn't want to be responsible in raids (Healer and Tanks)</li><li>- When playing a game seriously: wants a good avatar, highly skilled, great damage dealer (ambitions)</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- More like a tank in RL (reliable, protective person that takes the responsibility)</li><li>- I – Avatar: doesn't feel connected to avatar, but does care about (the advancement of) his avatar</li><li>- Ideal – Virtual: some ideals flow into game (unintentionally), how to talk/behave around other people (similar to RL)</li><li>- Gaming has no influence on Actual – Ideal relation</li><li>- In-game ideals/ambitions: different from real-life ideals, more materialistic</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (recommendation of friends)</li><li>- Learned how to manage money better (more successful in-game than in RL)</li><li>- Coordination (guild), leading the group, organizing the roles etc.</li><li>- In-game achievements wouldn't enhance real life happiness, only in-game satisfaction (mood)</li></ul>				
Flourishing Scale	40				



P9	Male	22	Dutch	Psychology	Casual gamer
Games	Guild Wars, League of Legends (World of Warcraft, RuneScape, Bioshock Infinite)				
Play-style & preferences	<ul style="list-style-type: none"><li>- Shifting play-styles (both games and avatar)</li><li>- Focus depends on game/situation (strategic game such as LoL demand more focus than fantasy MMORPG such as GW)</li><li>- Game-selection: recommendations of friends, (online) advertisement</li><li>- Active gamer, 1h a day, more at the weekend</li></ul>				
Social aspect of MMORPGs	<ul style="list-style-type: none"><li>- Open/friendly/personal contact to other players</li><li>- Encountered friends in earlier games, proceeded to play other games with them</li><li>- RPG bores fast when playing alone, needs one person in the room at least</li></ul>				
Avatar creation & maintenance	<ul style="list-style-type: none"><li>- Multiple avatars, plays one at a time</li><li>- No gender bending</li><li>- Class: Humans for higher identification</li><li>- Esthetics, should look nice (ready to pay some money for favorite avatars)</li><li>- One active avatar in GW, multiple avatars LoL</li></ul>				
I/Ideal/Avatar relations	<ul style="list-style-type: none"><li>- Role-playing: not so much, avatar a bit of an extension into VW</li><li>- If offered a choice, tendency to behave congruent with RL behavior</li><li>- Not aware of any influences, doesn't think about ideal while gaming</li></ul>				
IOS	Actual – Virtual		Actual – Ideal		Ideal – Virtual
					
Real life & well-being	<ul style="list-style-type: none"><li>- Social onset (friends) and interest</li><li>- Gaming = sociability, relaxation</li><li>- Learning English, about cultures because of online friends (England)</li><li>- Knowledge because of accurate VW, e.g: alloys (mixing copper and tin to make bronze), cooking (matching ingredients)</li><li>- Can affect mood: LoL= strategic game, frustrations when it doesn't work out (when he was younger even stronger influence)</li><li>- Would miss games only for social contact</li></ul>				
Flourishing Scale	48				

## Appendix B: Gamer categories and scales

Rank	Respondent	Gamer category
1	P1	Casual
2	P3	Casual
3	P6	Casual
4	P4	Casual
5	P2	Casual
6	P9	Casual
7	P8	Casual/Regular
8	P5	Casual/Regular
9	P7	Excessive, now casual

Flourishing Scale		
Rank	Respondent	Score
1	P3	53
2	P9	48
3	P6	48
4	P4	47
5	P2	46
6	P5	44
7	P1	42
8	P8	40
9	P7	39
$\bar{X}$ = 45 SD= 4,44		

Actual - Virtual		
Rank	Respondent	Score
1	P7	5
2	P5	4
3	P1	4
4	P2	4
5	P6	4
6	P9	3
7	P4	3
8	P3	2
9	P8	2
$\bar{X}$ = 3,44 SD= 1,03		

Actual - Ideal		
Rank	Respondent	Score
1	P3	6
2	P5	6
3	P8	5
4	P1	5
5	P6	5
6	P4	5
7	P2	5
8	P8	4
9	P7	2
$\bar{X}$ = 3,44 SD= 1,03		

Ideal - Virtual		
Rank	Respondent	Score
1	P6	6
2	P1	5
3	P7	5
4	P5	4
5	P8	3
6	P4	3
7	P3	2
8	P9	1
P2 excluded (no response)		
$\bar{X}$ = 3,63 SD= 1,69		