CHAPTER 5

Addiction to Online Role-Playing Games

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MASSIVE MULTIPLAYER online role-playing games (MMORPGs) are one example of Internet applications that have become increasingly popular. These games are played in online worlds, where an individual acts through a created virtual personality, a so-called avatar. The popularity of these games can be seen from data on the most popular MMORPG, World of Warcraft, which has over 11.5 million official subscribers. Based on data from the Entertainment Software Association (2007), the number of online gamers doubled between 2006 and 2007. MMORPGs are a type of so-called massively multiplayer online (MMO) game; MMOs include, for example, the well-known game Second Life. MMOs are not always games in the strict sense of the word; for example, users of Second Life often claim that "Second Life is not a game but a second life." According to some statistics, MMO games were played by 48 million players in April 2008 (Voig, Inc., 2008).

The forerunners of MMORPG games were so-called multiuser dungeons (MUDs), which have inspired many books about virtual worlds as well as researchers (Kendall, 2002; Suler, 2008; Turkle, 1997, 2005). The main difference is that MUDs ran in text form while current MMORPG games are worlds running in high graphic resolution. It is not clear what the differences between text MUDs and the current graphic MMORPG games are concerning the impact on players, but what we know for sure is that MMORPGs are played by a much larger number of players today than MUDs ever were.

In this chapter we primarily deal with MMORPG games that have proven to be a very significant free-time activity of some of today's adolescents,

younger adults, and adults (e.g., Ng & Wiemer-Hastings, 2005; Smahel, Blinka, & Ledabyl, 2008). At the same time, MMORPGs are often presented as being potentially dangerous due to possible addiction (Rau, Peng, & Yang, 2006; Wan & Chiou, 2006a, 2006b), and as such they attract a lot of attention of the scientific community, the general public, and media.

In other parts of the chapter, we will also list examples from 16 interviews with MMORPG players that we carried out in May 2009. The semistructured interviews with 12 men (aged 15 to 28) and four women (aged 15 to 19) was carried out face-to-face in seven cases and online through Skype or ICQ in nine cases. The interviews were analyzed with use of grounded theory. Samples from these interviews have been included in the discussion to complement the obtained results.

In this chapter we first deal with a description of the virtual worlds in MMORPGs, so that the reader can get a better idea of what these worlds look like. We then follow with showing who the players of these games are and their motivations for playing. Afterward we present the concept of addiction in the context of MMORPGs and factors facilitating addiction both on the side of individual players and on the side of the game. We also present a short questionnaire that can be used for basic diagnostics of online games addiction symptoms and its following evaluation based on interviews with players. In the last section we discuss the phenomenon of self-perceived addiction (i.e., a MMORPG player's perception of potential addiction).

WHAT ARE MMORPGs?

MMORPGs are usually fantasy role-playing games played on the Internet, where several thousand various players from all around the world are present at the same time. A player controls his or her character, which can fulfill various tasks, advance its capabilities, and interact with other players' characters. A player can perform a wide range of activities, from building his or her avatar's character to interacting with other players in both positive ways (conversation) and negative ways (aggression). The motivation for playing MMORPGs also varies (as described further), as well as manners of playing these games (e.g., Yee 2006b). A player can explore a vast world, which is persistent in its character—it remains in existence even when the player logs off. This world is consistently in development, disregarding the presence of the player, which in a certain sense pressures the player to stay in touch with the virtual world. If players are absent for a longer period of time, they become out of touch with the virtual world and lose their influence and power to affect the world. The player also loses power compared to fellow players who are playing more often and advancing faster. In the words of an 18-year-old male player: *"The more I want to improve, the more time I should invest in the game. That's how the game works, unfortunately, and I always keep thinking that I could, that I should spend even more time online and do things now that I would otherwise*

do tomorrow." Success in the game is often closely tied with long-term and everyday presence in the game.

It is the unbounded scope of the world, the practical impossibility of finishing the game, and the emphasis on communication and cooperation with other players that make MMORPGs different from traditional computer games, and it is also the reason for considering it a whole new environment and subject. The biggest difference between MMORPGs and other computer games is notable in the intensity of play: MMORPGs are played 25 hours per week on average, whereas other computer games and video games are played over 20 hours per week by only 6% of players, and 84% of players spend less than six hours per week playing (Ng & Wiemer-Hastings, 2005). The high intensity of play is apparently the main factor for considering gaming problematic and potentially addictive. It remains an open question, however: What actually keeps players in the game for such long periods of time? Are they necessarily addicted due to their long stay in the game, or could there be some other explanation? Now we will have a closer look at who plays MMORPGs and how much time they spend in the virtual world.

WHO PLAYS AND HOW MUCH?

There exists a generally established image of a typical gamer as a young or adolescent man. Some findings (e.g., Griffiths, Davies, & Chappell, 2003; Smahel, Blinka & Ledabyl, 2008; Yee, 2006b), however, disprove this archetype: The average age of MMORPG players is generally around 25 years, and there are more adult than adolescent players. Most often the gamers are men—their representation exceeds 90%, especially for younger players. The representation of women increases with age, and it reaches approximately 20% among adult gamers (Griffiths, Davis, & Chappell, 2003). One notable fact is that the average age of female gamers (approximately 32 years) is significantly higher than the average age of male gamers. It seems that female players usually become involved in the game through their partners (Yee, 2006a). Female gamers of adolescent age are very rare. The increase in their numbers during emerging adulthood and young adulthood suggests that they were introduced to the game by their social surroundings (usually male partners).

At a first glance, the numbers on intensity of play are quite interesting. As has been noted, the average intensity of play per week is approximately 25 hours (Griffiths, Davies, & Chappell, 2004; Smahel, Blinka, & Ledabyl, 2008); 11% of players, however, spend over 40 hours per week in the game world, which corresponds to a full-time job or high school attendance (Ng & Wiemer-Hastings, 2005); 80% of gamers play over eight hours in one session at least from time to time (Ng & Wiemer-Hastings, 2005); and 60% play over 10 hours in one session (Yee, 2006a). One of the gamers in our interviews noted that he has played 30 hours in one session. It can thus be said that MMORPGs present, at least from a time perspective, a very significant part of the lives of their players—since the intensity of play limits available time for other

activities. Furthermore, this is apparently not just a short episode in the lives of the players. Griffiths, Davies, & Chappell (2004) found out that the average time of play is approximately two years for adolescent players (aged up to 20) and 27 months for older players. As for intensity of play, adolescents tend to play more than their adult counterparts (26 hours per week for those under 20 compared to 22 hours for those over 26). However, the group of players aged 20 to 22 spends the most time playing online games, with an average of almost 30 hours per week. Based on Cole & Griffiths (2007), women play significantly less, namely up to 10 hours per week less than men.

A very low representation of women among MMORPG players is unusual compared to other online games. Based on data from the Entertainment Software Association (2008), women form 44% of all online players (i.e., almost half). Women, however, prefer puzzle and card games online, which represent half of all online games. The data suggest that online role-playing games such as World of Warcraft are played by approximately 11% of online players. This group of players, however, plays very intensively, which is why this small group is so significant. Games with low intensity of play are usually considered only a type of relaxation, whereas MMORPGs generally have more complex motivations for play. Let's have a closer look at them now.

MOTIVATION FOR PLAYING MMORPGs

MMORPGs are relatively complex virtual worlds, which offer wide and varying possibilities for entertainment. Yee (2006b) summarized the significant components of play into three main categories: achievement, social, and immersion, with a range of possible dimensions. The first component, achievement, includes management of game mechanisms. MMORPGs are relatively complicated, and it usually takes a period of time for players to become familiar with the game mechanisms. Optimization of these game mechanisms is then often the topic of discussion forums on the Internet, where players also tend to spend a lot of time. Achievement includes the notion of advancement—the progression of a player's avatar, both in experience levels (leading to new abilities) and by obtaining better equipment. Overall this gives more power to the player and a higher status in the game world. The last part of the achievement component is competition—the process of competing with other players.

The second MMORPG component comprises the social dimension of virtual worlds. Online gaming is social in principle; solo play is allowed but not encouraged: *"MMORPGs are mainly about people—when I started playing, it was absolutely fantastic."* Players gather into larger groups, usually called "guilds," although the terminology is different in certain online games. Playing together with others then leads to a certain social commitment. Seay et al. (2003) showed that players in guilds play four hours per week more than unguilded players, on average. The game itself also serves as a chat; players communicate not only about the game but about all sorts of other

topics as well, via both text messages and voice chat. The Internet also supports self-disclosure of players. Yee (2006b) notes that 23% of male and 32% of female players at some time disclosed personal and intimate information in the game. This openness, however, varies with age. Whereas older individuals are mostly careful, over one-half of adolescents speak about their personal real-life experiences in the game. Meeting with a fellow player in real life is then more common for women (almost 16%) than for men (5%). A higher tendency to meet in real life is found in older players. Another thing to note is that, especially for adolescents, intensive playing can have a negative effect on offline social life—younger players have a higher tendency to immure themselves in the game.

The third motivation component is immersion. A shared element of all MMORPGs is a complex and vast world; a wide range of players thus focuses on exploring this world (mostly based on the fantasy genre). Immersion also occurs when identifying with one's avatar—adjusting his or her appearance, expanding his or her equipment, role-playing, and so on.

All of these components are in some way present in every MMORPG, and various players prefer each component in varying degrees. Griffiths et al. (2004), for example, claimed that violence in games is preferred by adolescent players. The preference of violence, aggression, and competition in games decreases with age, and women also have a lower preference for these notions. The social component of the game is preferred more by adult players. Some players with a high potential for addictive behavior can then consider the game their "second life," citing an 18-year-old player who spends 70 hours per week in the game: *"The game in itself comprises all sorts of interests, as if it almost was a second life. You can do anything you could imagine there, perhaps everything except for sex. I can even fish there."* For these types of players, all the aforementioned motivations combine together. A less frequent but perhaps even more interesting motivation is the targeted damaging of other players' avatars, as described by a 19-year-old man playing 65 hours per week: *"I usually play to cause harm = I like to murder, steal, and do anything immoral in the game (it helps me relax at the end of the day)."* This player does not communicate with others, but the game rather functions as a manner of relaxation for him, and as he himself states: *"I can't imagine being mean in real life. I'd say that in this respect, the game allows me to try unexplored possibilities."* In this context we can then consider internal psychological motivations for playing MMORPGs, including psychological identification with one's avatar and the virtual representation of a player. The deep psychological motivations for a player who uses MMORPGs for stress relief are more likely a question for clinical interviews.

The avatar itself is an important game element; players, however, have various approaches to their avatars. Adolescents have the Largent tendency not to distinguish between themselves and their avatars (Blinka, 2008). Thus they pay less attention to differences between themselves and their game avatars, and consider success in the game (e.g., in confrontation with other avatars) their personal success. This apparently could be related to the origination

of self-efficacy and self-esteem, both of which are most significant during adolescence. The compensative function of avatars is also most prominent in the lower age category—meaning that players consider their avatars as an idealized, superior form of themselves, according to Blinka. This is influenced by the fact that individuals with lower self-esteem find MMORPGs very attractive—they provide a quick form of relief from the uncomfortable feelings of low self-esteem. Various studies have already confirmed that a connection exists between potential addiction and the identification of a player with his or her avatar (Smahel et al., 2008), and there are also connections among low self-esteem, self-efficacy, and extensive play (Bessière, Seay, & Kiesler, 2007; Wan & Chiou, 2006b).

ADDICTION TO THE INTERNET AND MMORPGs

Due to the length and intensity of MMORPG play, it might be very tempting to consider these players addicted. There are factors that facilitate the creation of addiction. Ko, Yen, Yen, Lin, & Yang (2007) identified the factors that increase the risks of creation of a potential addiction to the Internet: dysfunctional families, low self-esteem, spending over 20 hours per week online, and playing online games. Those authors thus claim that MMORPGs facilitate the creation of addiction and overuse (the authors have considered a limit of 20 hours per week), and if a player is also affected by the other risk factors (i.e., being in a dysfunctional family or having low self-esteem), the creation of an addiction is significantly more probable. Based on Mitchell, Becker-Blease, and Finkelhor (2005), out of all the people seeking specialized psychological help due to compulsive use of the Internet, about one-fifth (21%, to be precise) are online gamers. Problems related to online play then form approximately 15% of all cases of specialized psychological help due to problems related to the Internet (other problems include, e.g., Internet overuse, use of pornography, and virtual infidelity). Adolescents (55%) are slightly prevalent over adults, and men (74%) are more common than women.

We now present the components of Internet addiction created by Mark Griffiths based on the general addiction *DSM IV* criteria (Griffiths, 2000a, 2000c; Widyanto & Griffiths, 2007). Internet users can be considered addicted if they fulfill or score high in all the following criteria/dimensions. These dimensions are often used generally for the development of questionnaires for identifying Internet addiction, but are at the same time fully valid for the case of addiction to MMORPGs (e.g., Smahel et al., 2008). The listed dimensions are at the same time symptoms of online addiction and they can be used to conclude concrete effects on MMORPG players.

The following is a list of components of addiction to a game or the Internet:

- *Salience*—when the activity becomes the most important thing in an individual's life. It can be divided into cognitive (when an individual often thinks about the activity) and behavioral (e.g., when an individual

neglects basic necessities such as sleep, food, or hygiene to perform the activity).
- *Mood change*—subjective experiences affected by the carried-out activity.
- *Tolerance*—the process of requiring continuously higher doses of activity to achieve the original sensations. The player thus needs to play more and more.
- *Withdrawal symptoms*—negative feelings and sensations accompanying termination of the activity or impossibility of performing the required activity.
- *Conflict*—interpersonal (usually with one's closest social surroundings, family, partner) or intrapersonal conflict caused by the carried-out activity. It is often accompanied by a deterioration of school or work results, abandoning previous hobbies, and so on.
- *Relapse and reinstatement*—the tendency to return to addictive behavior even after periods of relative control.

Although there is agreement on the use of these indications, it is not yet clear how many of them (whether all or only some of them and in what ratios) should be enough for identifying an individual as addicted. For example, Grüsser, Thalemann, and Griffiths (2007) noted a 12% addiction rate of MMORPG players when demonstrating three and more signs of addiction. Charlton and Danforth (2004, 2007) discovered two factors in these components via factor analysis. The first is actual addiction (or the main factors of addiction); this factor included especially the recurring nature of play, withdrawal symptoms, conflict with one's surroundings, and behavioral salience. The second factor, which could perhaps be called "excessive captivation by the game" (or peripheral factors of addiction) is not related to pathological play. It is connected with the components of tolerance, mood change, and cognitive salience. Addiction is mainly understood as a compulsion in the area of reduced mental tension, whereas "excessive captivation by the game" represents entertainment. The key component seems to be conflict; for example, Beard and Wolf (2001) defined Internet addiction as "uncontrollable, damaging use of this technology," and they consider conflict to be the basic and required dimension for identifying a player as addicted. In the case of adolescents, however, this could be tricky. Several studies (e.g., Mesch, 2006a, 2006b) have shown that the presence of a computer and Internet access leads to intergenerational tension in families. Parents lose part of their control over their children, who often have better understanding of new technologies. At the same time parents are worried about the fact that their children spend their time on the Internet doing other things than what the parents had hoped or expected. This often leads to conflicts, which are to a certain extent caused by the parents and not actual overuse of the Internet by the adolescent. Deciding when conflict indicates problematic or compulsive play thus becomes crucial. For adolescents, this type of conflict needs to be distinguished from common intergenerational conflicts.

FACTORS OF ADDICTION IN THE GAME

It remains an open question whether any Internet application can be considered a source of problematic behavior, in this case addiction to the Internet. Nevertheless, the number of players and the intensity of play of MMORPGs do invite such suspicions. Several studies have pinpointed the main factor of this as the *flow phenomenon*, which explains the intensity of play and following addiction (Chou & Ting, 2003; Rau, Peng, & Yang, 2006; Wan & Chiou, 2006a). Flow is usually described as a difficult activity requiring a certain level of skill and effort, usually related to some form of competition with others. Although it is a subjective phenomenon, its creation is related to characteristic traits of MMORPGs—online social communication and a permanent system of tasks, rewards, and feedback (the role-playing factor). The carried-out activity also blends with one's consciousness—the player fully focuses only on the game and does not pay attention to anything else, and the game then feels "smooth." During flow, other sensations are usually suppressed or completely ignored; these include pain, tiredness, hunger, thirst, and excretion (players often play over eight hours continuously). A typical indicator is an altered perception of time; the activity feels like a several-minutes-long episode, whereas in reality it could have been several hours long. Interruption while playing in such a state is considered very unfavorable and often is the source of conflicts between players and their social surroundings. Concentration on playing the game, together with the altered perception of time and curiosity, leads to excessive play (Chou & Ting, 2003). Time is not one of the factors of addiction; however, there exists a moderate association between time spent in the game and addictive behavior (Smahel et al., 2008). The amount of time spent in the game is thus related to potential addiction; excessive time spent playing, however, does not mean that a player is addicted.

Rau, Peng, and Yang (2006), for example, claim that experienced as well as inexperienced players have difficulties leaving the game due to the flow effect and the related alteration of time perception—they are not aware of the length of their play, because they are consumed by the game. The results also indicate that inexperienced players can enter flow faster (already in the first hour of play), whereas more experienced players need more time. A similarity arises with one of the factors of addiction—increasing tolerance, meaning the player needs an ever increasing amount of time in the game to achieve the sought sensations. As noted by Wan and Chiou (2006a), the relationship of the flow phenomenon to addiction to online games might not be direct and definite. It even seems that sometimes it could be reversed: The authors state that the players with symptoms of addiction experience flow less often. The flow state is strongest and most frequent when a player begins playing. The more intensively and longer one plays, the lower is the frequency of flow. It can even be assumed that truly addicted players sometimes do not have positive sensations from the game, as stated by a 25-year-old man in our research: *"You're so bored that you're not interested in doing anything, but you still*

keep playing. When you play World of Warcraft a lot, it becomes your second life. So whether you decide to be bored outside or in WoW, it basically changes nothing." In this sense, the game is the place where a player may be, after all, less bored than in real life. The game is empty, but real life is even emptier. We can conjecture that these sensations could be related to depressions. Flow is probably a significant factor for the initial engagement of players rather than for addiction. The development of pathological play requires suitable conditions on the player's side.

It can also be said that the extent of MMORPG play is partially caused by the social dimension of these games, which break the stereotype of an addicted player as a lonely, unsociable individual or a nerd (e.g., Kendall, 2002). On the contrary, studies have shown that potential addiction positively correlates with the social aspect of online games. Based on Cole and Griffiths (2007), approximately 80% of players play with their real-life friends. About 75% have found good friends in the online game, and 43% have met them face-to-face. As confirmed by an 18-year-old male player: *The community of players is important; it allows us to create our reputations as players over time and reminds us what we have achieved over the past years."*

We have demonstrated a moderate correlation ($r = 0.44$) in our research between addiction and the preference of the MMORPG social group—the more players claimed they felt "more important and more respected in the virtual group," the more factors of addiction they displayed (Smahel, 2008). In total, 31% of all players agree that they feel more important in the MMORPG social group than in real-life social groups. This number is higher for adolescents aged 12 to 19, where a whole 50% agree compared to 35% of young adults (aged 20 to 26) and 16% of adults (above 27). Adolescents thus have a higher tendency to prefer the virtual group, which is also related to their higher tendency for addictive behavior.

MMORPGs seem to be a considerably social activity. On one hand it is positive that the game does not lead players into social isolation (it does the opposite, actually), but on the other hand the social network keeps players playing for a much longer time. A certain role is also played by the dissociation of social ties (Smahel et al., 2008)—the tendency toward addiction grows with the tendency of dividing friendships originating in the virtual world from those originating in real life. It can be said that the more players divide their virtual life from their real one, the greater is their tendency toward addiction. The most endangered group is the age group of adolescents, which also displays the greatest tendency toward dividing real life from the virtual world. It remains an open question whether we are not witnessing various approaches to reality for which we now have only a pathological interpretation. Is it correct to consider someone's preference for a virtual life pathological if the person at the same time lives a normally functioning life in the real world? That is, unless these two facts are mutually exclusive.

A certain role is also played by the infinity of MMORPG games—it is basically impossible to finish these games, since they are continuously under

development. Since the game incorporates players' characters so strongly into its mechanics, it keeps changing and developing constantly. An example is the virtual free-market economics in the game worlds—the prices of various items and services follow complex rules and are affected by many real-life factors (whether it is a holiday, time of the day, etc.), as well as game factors. The software company developing the game also continuously performs various upgrades, usually new features, items, locations, challenges, and so on. The player is thus de facto forced to keep gathering new items (which are better than the old ones) and search new locations to keep his or her social standing in the game. This causes the equipment of players to gradually become obsolete unless an upgrade is found; for example, year-old equipment is almost useless due to the ease of obtaining better items in new locations. This endless and continuing development forces players in the game to continuously remain active; they usually have invested large amounts of time and energy (and sometimes money), and to stop playing would mean throwing all that away, including social contacts (other players are often at least virtually the best friends of addicted players), prestige, and status, which players often lack in the real world. In the words of one player who spends 80 hours weekly playing: *"My classmates and peers actually run into pubs and I run into that game instead, and there I can do as I please—it could be the same kind of thing."*

FACTORS OF ADDICTION ON THE PLAYER'S SIDE

Another direction in studying MMORPG addiction is an emphasis not on the properties of games and virtual reality itself, but rather on players. Studies point mainly to two psychological factors—lower self-esteem and self-efficacy. At the same time we can say that obtaining positive self-esteem and self-efficacy is one of the developmental goals of adolescence, which is probably related to the fact that young players consider the game community more important than older ones do (Smahel, 2008).

The factor of lower self-esteem seems to be crucial in the creation of addiction; this has been shown in many studies, however mostly indirectly. For example, Bessière, Seay, and Kiesler (2007) compared differences in players' perceptions of their current self, ideal self, and game character. The results have then shown that their current self was perceived worse than the game character, and the game character was perceived worse than their ideal self. The differences increased based on the level of depressiveness and the level of self-esteem in particular. Respondents with high self-esteem had notably lower discrepancies between their views of themselves and their game characters, while there were higher discrepancies for respondents with lower self-esteem. The ideal self then was about the same distance away for both groups. This could mean that more depressive players and players with lower self-esteem idealize their game characters and perhaps have a tendency to solve their own perceived weaknesses through the game and thus a tendency to

become stuck in the game. Wan and Chiou (2006b) also consider self-efficacy a very significant factor, especially for adolescent players.

The virtual environment of online games allows a lower emphasis on self-control, permitting the subconsciousness of players to express itself more—supported not only by the anonymity but also by the aforementioned flow states. Players of role-playing games often daydream about the game, their characters, and various situations. These fantasies are then considered by players to be one of the most beneficial and strongest moments the game has brought them and the reason they look forward to playing. Players themselves claim they are motivated by fun, experimenting, and so on, but as for subconscious motivations, players with addictive symptoms are motivated by self-expression of a full and efficient self, something they lack in real life (Wan & Chiou, 2006b). These authors explain addiction in the game via a mechanism that is principally close to the feeling of bliss obtained through psychoanalysis. A similar mechanism is described by Allison et al. (2006), where in the case of an 18-year-old hospitalized player the researchers show that his excessive play sessions lasting up to 18 hours per day were mostly a solution to his problems with self-esteem and social drawbacks. His character, a "shaman capable of reviving the dead and calling lightning," then represented a compensation for his deficits, allowing the player to create a full-fledged self in the game. Although he had social phobias, he successfully socialized in the game. Unfortunately, this player was not able to transfer such a full self and the obtained self-efficacy into real life.

The authors, in accordance with Sherry Turkle (1997), thus liken the relationship of the player to his character to a *transfer* as defined by deep psychology. A transfer is a sort of space between an individual (his inner world) and the outer reality, meaning the transfer does not fully belong to either of these places. The game character is on one hand controlled by the player, but on the other hand it is not part of the player, and this could explain why some players are not capable of fully controlling their play. The relationships between players and their game characters can, however, have various forms, and the developmental aspect also plays a certain role here (Blinka, 2008). Especially younger players use their game characters as tools for gaining prestige in the game world and are thus more susceptible to becoming stuck in the game. The relationships between players and their characters can even have therapeutic potential from a certain point of view. Players in the game unknowingly compensate for certain aspects that they lack in themselves; if therapy could identify these aspects, reflect them, and then transfer them into real life, the game could be used to treat their problems, which could paradoxically lead to less time spent in the game. Turkle showed a similar use of the therapeutic potential of games on MUDs, the aforementioned predecessors of MMORPGs (Turkle, 1997).

Wolvendale (2006) spoke directly of the attachment of players to their game characters. This is a very similar relationship to the one we have to absent individuals—they are not in reality present, but by keeping them in our minds, they are real in consequences. The game character is similarly absent or

perhaps unreal, but the feelings one keeps toward it are real. The character might be a self-created object and as such it can be considered unreal; however, MMORPGs are based on the interactions of game characters representing the players' identities. Their graphical representation also creates a stronger feeling of their actual existence; for example, players tend to maintain personal space between avatars even if there is no actual benefit to such behavior in the game.

QUESTIONNAIRE OF ADDICTION ON ONLINE GAMING

For a simple discernment of the level of addiction of a player, we have made the following questionnaire based on the aforementioned components of addiction by *DSM-IV* (Griffiths, 2000a, 2000b) and experience from our studies (Smahel, 2008; Smahel, Blinka, & Ledabyl, 2008; Smahel, Sevcikova, Blinka, & Vesela, 2009). All of the six criteria are included, with two small changes: withdrawal symptom is a part of mood modifications (third question) and relapse is a part of time restrictions (ninth question). We verified sufficient reliability of the used items (alpha > 0.90) (Smahel et al., 2009). Table 5.1 shows 10 questions covering five dimensions of addiction to online gaming. Possible answers are (1) never, (2) rarely, (3) often, and (4) very often. The dimension is present if the player answers at least one question of the

Table 5.1
Questionnaire of Gaming Addictive Behavior

Factors	Questions
Salience	Do you ever neglect your needs (like eating or sleeping) because of online gaming?
	Do you ever imagine you are in the game when you are not?
Mood modification	Do you feel unsettled or irritated when you cannot be in the game?
	Do you feel happier and more cheerful when you finally get to the game?
Tolerance	Do you feel like you are spending ever more time in the online game?
	Do you ever catch yourself playing the game without being really interested?
Conflicts	Do you ever argue with your close ones (family, friends, partners) because of the time you spent in the game?
	Do your family, friends, job, and/or hobbies suffer because of the time you spend in online gaming?
Time restrictions	Have you ever been unsuccessful in trying to limit time spent in the game?
	Does it happen to you that you stay in the game for a longer time than originally planned?

dimension "often" or "very often." The player is considered as having all symptoms of addictive behavior if all five dimensions are present. The player is considered "endangered by addictive behavior" if three dimensions plus conflict are present. This questionnaire can be easily used as a simple test for symptoms of addictive behavior in online gaming but it can never replace clinical interview. There are also players who score low in the questionnaire because they unconsciously (and sometimes also consciously because of social pressure) underestimate their results.

SELF-PERCEPTION OF ADDICTION

Addiction to MMORPGs is not just a theoretical, abstract notion. The notion of addiction in relation to MMORPGs has entered general awareness. For example, Google found 4.5 million results when searching for "addiction WoW" at the end of May 2009. There are hundreds of videos on YouTube about this phrase. Yee (2006b) has stated that approximately half of players consider themselves addicted. The older gamers had a lower tendency for doing so: 67% of adolescent girl gamers, 47% of adolescent boy gamers, and 40% of adult gamers have labeled themselves addicted to the game. From qualitative interviews with excessive players (Blinka, 2007), the tendency to do so also seemed apparent; however, this has not yet been quantitatively confirmed. Basically, younger players more often label themselves addicted, but they do not consider this significant and reject possible negative impacts of such addiction. Older players are more often aware of possible negative aspects of addiction, but more often deny being actually addicted to the game. The term *addiction* usually comprises three factors for players: The first is excessive play compared to the referential group of players, which is tricky due to the fact that the referential group of players can sometimes play more than 10 hours a day. As stated by one of the players in our interviews: *"I went to bed at night and the other players went to bed the other day in the morning."* Another factor constitutes conflicts with one's surroundings, and the third is cognitive salience, meaning that a player constantly thinks, dreams, or daydreams about the game. In the words of one of the players, *"When I was addicted, I didn't think about anything else and I played whenever I could."*

One can also ask to what extent somebody labeling himself or herself addicted could actually be related to addictive behavior. In our quantitative study (Smahel, Blinka, & Ledabyl, 2007), we found agreement between self-definition as an addicted individual and addictive behavior in about 21% of players; such is thus the ratio of players who both have symptoms of addiction and consider themselves addicted. Almost a quarter of players then claim to be addicted but do not show symptoms of addiction—probably due to the popular overuse of the word *addiction*. Many players base their judgment of whether they are addicted solely on the amount of time spent playing. From a therapeutic standpoint, 6% of players do not consider themselves addicted

but display symptoms of addiction. This group does not acknowledge their addictive behavior, and that fact should be elaborated on therapeutically. The remaining 49% of players do not consider themselves addicted and do not display symptoms of addiction. A total of 27% of MMORPG players in our study indicated all five factors of addiction—a relatively high share considering the fact that, for example, World of Warcraft is played by over 11 million players.

CONCLUSION: WHAT CAN THERAPISTS DO?

In this chapter we have dealt with playing MMORPGs in the context of addiction to the game. Now let's look at possible implications for therapists as well as clinical or social workers who could come into contact with excessive players of MMORPGs. Empirical data on therapeutic work with MMORPG players is still rare, so we will now draw mostly from our experience with and knowledge of MMORPGs and their context.

We have shown that MMORPGs are played primarily by men in young adulthood and that time spent in the game often reaches 30 and more hours per week. Motivations for playing MMORPGs are various, ranging from competition in the context of creation of powerful characters and exploring the online world to recognition in the virtual social group of players, often within so-called guilds. The player's virtual character, or avatar, becomes a part of the player and the player communicates in the game through it. The virtual character in a sense incorporates into the real personality of the player, based on the current state of the player's development and identity. Players then feel a wide range of emotions toward their avatars. Since players spend a lot of time in the game, they often label themselves addicted. About half of players think that they are addicted to the game (Yee, 2006a). Usually this is only a trendy and excessive use of the word *addiction*, since a large share of these players do not display symptoms of addiction to the game. Symptoms of addiction to the game are, however, displayed by approximately a quarter of MMORPG players (Smahel, 2008; Smahel et al., 2008).

We have also presented a simple questionnaire for determining these symptoms, which can be used for basic orientation. However, for determining whether someone is truly suffering from addiction, the best option is to participate in a clinical interview. Many players undervalue or overvalue answers in questionnaires, and playing in the context of the whole of the player's life must be taken into account. Therapists should ask questions regarding the function of playing in the player's life and the hidden motives for playing. It seems that for many players with developed addictions to MMORPGs that this addiction only hides other problems of the player in real life. This hypothesis has, however, not yet been empirically verified, although it does come from informative interviews with therapists. One of the therapists, for example, stated that he had an adult client asking about his depressions. Only after half a year of treatment did it become apparent that this client played

MMORPGs every day, morning to evening. He was at the same time very ashamed of this and did not want to talk about it. Playing MMORPGs could be not only the client's main problem, but also a symptom hidden behind another problem (e.g., depressions, anxiety). Playing online games is actually a relatively safe symptom, since although physical needs sometimes do get neglected to a certain degree, no physical harm is caused directly—as is the case in overuse of drugs or alcohol.

Therapists also have a new option of working with the player's relationship to the avatar and also the context of social links in the game. Understanding the function of the virtual social space of the player is apparently crucial: Is it a compensation for relationships in the real world? Or is it a way of supporting the player's self-esteem and self-efficacy? The therapists should ask themselves what the online world brings the player and how can the player use this in real life. Potential addiction usually has a certain function for players, in some manner that fits in their real lives—similarly to other addictions or psychological problems. Addiction to MMORPGs is specific due to the virtual presence of the player in a community and also due to the relationship to the online character, but apparently is not special as far as therapeutic principles and procedures are concerned. Our recommendation to therapists of potential MMORPG addicts thus leads to using their proven procedures for other types of addictions or problems and possibly combining them with the options provided by the virtual world. Meeting the client in the virtual world could lead to a better understanding of the player's problems and have certain therapeutic potential, as shown by Turkle in the example of text online worlds (Turkle, 1997).

The future remains a big question as far as the development of addiction to online games goes. If we look back, 10 years ago MMORPGs were practically nonexistent and playing within complex online worlds was relatively rare, mostly in the context of the aforementioned MUDs. We can thus ask: What will happen in the next 5 to 20 or more years? The development of technologies and online worlds is so fast that it is hard to guess what the future may bring. It is practically certain, though, that online addiction has been on the rise in recent years. We expect that the virtual reality as a form of escape from the real world will become more and more common, and MMORPGs will be no exception. If the borders between reality and virtual reality keep blurring, be it by improving the graphics of games or quality of monitors or by the development of new technological tools altogether such as monitors in glasses, sensor gloves, or other examples, we can expect further significant development and deepening of these phenomena. Players will find it even more difficult to distinguish between the real world and the virtual one, and their immersion in the game will be even greater. The importance of exploring MMORPGs in the context of addiction will thus rise greatly. This chapter can thus be seen as a prompt to people who come into contact with the phenomenon of MMORPGs, whether in clinical practice or in their research, not to underestimate virtual worlds and not to demonize them. Virtual worlds

are, first and foremost, simply another place for people to find fulfillment, be it for better or worse.

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