

Chapter 9

Digital Games, the Aftermath: Qualitative Insights into Postgame Experiences

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Abstract To date, most research on user experiences in digital games has focused on what happens during game play. In this chapter, we conceptualize the phenomenon of postgame experiences, that is, experiences gamers have once they stopped playing. We propose and tackle two types of postgame experiences: short-term postgame experiences that arise immediately after game play and long-term postgame experiences that occur after repeatedly and intensively playing a particular game or game genre. We present two focus group studies that offered qualitative insights into which postgame experiences are at play, to what extent, and under which conditions. The chapter concludes with a discussion and recommendations for future research.

9.1 Introduction

Everybody who has ever played a digital game or has watched other people play will undoubtedly agree that digital games have the potential to trigger a wide variety of experiences and emotions. Examples are the joy or pride when you beat your friend in a game of virtual tennis, the suspense you feel when fighting in a First Person Shooter Game, or the experience of being immersed in the story of a Role Playing Game. These *in-game experiences* are mostly the focus of studies on user experiences in games (Brown and Cairns 2004, Ermi and Mäyrä 2005, Jennet et al. 2008). However, it is reasonable to ask whether game-related player experiences do occur only while gaming and consequently stop when the player turns off the gaming device? Or whether they linger and even transfer into real life? And what kind of experiences occur once the player has stopped gaming? These are all important questions when conceptualizing and evaluating the full picture of user experience

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in games. This chapter provides qualitative insights into the concept of *postgame experiences* or experiences that relate to the game play but typically occur after play.

Academic research on postgame experiences is still very limited. Until now, studies that did investigate experiences or behavior after game play have mainly focused on the effect of playing games on other, mostly nongame-related behavior (Buckley and Anderson 2006). More specifically, some studies have focused on the positive effects of gaming such as heightened attention to visual cues (Green and Bavelier 2003) or bonding with friends (Selnow 1984, Colwell et al. 1995). In comparison, ample studies have investigated negative aftereffects of playing digital games. For example, the interplay between playing violent games and aggressive behavior (Carnagey and Anderson 2005) or desensitizing from real-life violence (Carnagey et al. 2007). These studies have largely neglected actual postgame experiences. Nevertheless, postgame experiences could potentially moderate after game effects. For example, intensive team play with online co-players could bring to bear a sense of affiliation with those people (i.e., a postgame experience), which could then stimulate real-life bonds with those online friends (i.e., a postgame effect). Postgame experiences could also moderate negative game effects. For example, leaving a game with a feeling of frustration could trigger aggressive thoughts or feelings of hostility, irrespective of violent game content.

Given the lack of academic research on postgame experiences, this chapter aims at setting a first step toward the conceptualization of what gamers experience after game play. In the next sections, we first identify potential postgame experiences, inspired by academic literature on players' motivations and in game experiences and also partly based on basic human perception theory. We propose and tackle two types of postgame experiences; those that immediately occur after one has stopped playing, these are *short-term postgame experiences*. The relief after passing through a difficult level, the warm feeling of having spent time with friends through online gaming, and guilty feelings after having gamed too long and as such neglected other people or responsibilities are examples of short-term postgame experiences. Besides these direct and short-lived experiential effects, repeatedly and intensively playing a particular game or game genre could also induce postgame experiences affecting gamers' perceptions, emotions, and cognitions on a longer term. We call these *long-term postgame experiences*. Examples could be the direct association of real-life objects with game elements, or the integration of typical game slang into everyday language.

We present two focus group studies that explored which specific postgame experiences are at play, to what extent, and under which conditions. The first focus group study, involving various types of gamers, aimed at getting firsthand verbalizations of how gamers feel immediately after they stopped gaming. As such, this first study primarily explored the existence and occurrence of short-term postgame experiences, directly related to a specific game session. The second focus group study then further probed on long-term postgame experiences that result from repeatedly playing a specific game or game genre for a substantial period of time. We conclude this chapter with a discussion and recommendations for future research.

9.2 The Conceptualization of Postgame Experiences

This conceptualization proposes a set of postgame experiences that emerge from specific in-game or game-related experiences. We suggest how potential postgame experiences can emerge.

9.2.1 *Postgame Experiences Related to Game Enjoyment*

Playing digital games is an increasingly popular form of media entertainment. One of the core elements of entertainment is enjoyment (Vorderer et al. 2004, Vorderer et al. 2006). In other words, people play games because it is fun (Colwell 2007, Poels et al. 2007). Consequently, we assume that after a game session people will be generally *satisfied* and *feel good* because they have enjoyed the activity they were engaging in.

Given the fact that most people repeatedly engage in playing digital games, we might expect that they do not anticipate negative postgame experiences. Nevertheless, if playing games is comparable to watching television, it might be reasonable to assume that excessive game play has negative aftereffects. Kubey and Csikszentmihalyi (2002) have argued that excessively watching television offers short-term pleasure and satisfaction (i.e., a positive orienting response) but induces negative aftereffects such as loss of concentration, bad moods, and dizziness. People with low self-control or people who are depleted, in particular, tend to prefer temptations that induce short-term pleasure in favor of long-term self-interest. As such, ironically, people start watching television and keep on watching for a long period because they know they will feel bad after viewing. They ultimately end up feeling really bad after they eventually stop and do not only feel uncomfortable about the amount of time spent, but also suffer from mental and physical consequences of excessive TV viewing. If this reasoning applies to gaming, playing digital games could be satisfying in the short run, but heavy players might end up feeling *tired*, *depleted*, or *dizzy* after long sessions of game play. Given the tempting allure of short-term enjoyment, this uncomfortable postgame experience will, however, not prevent them from not playing the next day.

9.2.2 *Postgame Experiences Related to Game Immersion*

Besides enjoyment, another important motivation to start playing digital games is to vent daily stress and to withdraw from daily worries. This is often referred to as the escape motivation (Colwell 2007, Yee 2006). If this motivation is fulfilled successfully, a play session should induce *stress relief* and *relaxation*, especially after the actual game play has ended. Along with the escape motivation comes the motivation to immerse in a fantasy world (Brown and Cairns 2004, Yee 2006). We assume that when people get extremely immersed in a fantasy world, or fully identify with

their game character, they experience the game environment with all their senses, creating a game-specific mind-set. Consequently, players might experience *difficulties to return to the real world* once they stopped gaming. These difficulties can be short lived and directly related to a particular play session. For example, *feeling confused, or introvert* after a game session, or having difficulties with sleeping or switching the mind-set. This experience could presumably also occur on the long term, particularly for habitual players who repeatedly experience difficulties related to switching between the game world and their real life. In extreme cases, this could lead to serious *withdrawal symptoms* (Griffiths and Davies 2005).

9.2.3 Postgame Experiences Related to Game Flow

The experience of flow is often discussed within a gaming context (Sherry 2004, Sweetser and Wyeth 2005). A state of flow typically involves high levels of cognitive absorption or deep concentration. One of the characteristics of cognitive absorption is that it makes people lose track of time (Csikszentmihalyi 1990). As such, *time goes by faster than expected* (Agarwal and Karahanna 2000). Since playing games has the potential to get people fully drawn into a fantasy world, or to really soak them into challenging tasks and activities, people lose track of time and, inevitably, end up spending more time than they actually planned at playing games. However, for most people, time is a scarce good. By consequence, they are forced to divide their precious time between work, family, and leisure. If playing digital games, as a leisure activity, absorbs a substantial amount of time, more than intended, it can cause people to forego other activities that involve expectations or responsibilities, like spending time with their family, studying, or carrying out household activities. We assume that people will often only realize this after they stopped gaming, causing negative postgame experiences such as *shame, regret, guilt*, or a general *bad mood*. In extreme circumstances, spending nightly hours at playing digital games might lead to *sleep deprivation* which is known to affect mood as well as cognitive and motor performance (Pilcher and Huffcutt 1996).

9.2.4 Postgame Experiences Related to Social Gaming

A motivation that is often neglected is the social motivation to play digital games. Nevertheless, an increasing number of digital games include possibilities for social interactions both within the game world and in the real and tangible world of the gamer. As such, playing digital games is often as much about the social interaction per se as it is about the interaction with the game content (de Kort et al. 2007). The social nature of gaming and the social experiences during game play can presumably lead to a set of social experiences after gaming, both positive and negative in valence. As already stated, playing games with friends can increase *bonding* and enrich friendships (Selnow 1984, Colwell et al. 1995). This game effect could

probably stem from the experience of warmth or connectedness both during and after game play. Further, cooperation in an online world (e.g., being a member of a World of Warcraft guild) can bring about *a sense of affiliation or belonging*. Moreover, being affiliated to an online guild or clan comes with certain responsibilities and engagement toward the clan. Possibly, in the long run, this could put the gamer under *pressure*, leading to negative experiences such as *stress*, *guilt*, and *frustration*. This could, for example, occur if a person repeatedly experiences that he or she has not the time to invest as much as he or she likes in the clan. Or, seen from the other side, players can experience deep *disappointment* when an affiliated member does not fulfill his/her commitment toward the group.

9.2.5 Postgame Experiences Related to Embodied Gaming

Recently, embodied gaming (e.g., Nintendo Wii, Playstation Eye Toy) has become very popular. This type of game play distinguishes itself from traditional digital games in the sense that people's actual body movements are a part of the game play. Similar to other physical activities like playing sports, these bodily efforts during play have the potential to induce a set of experiences after the game session has ended, for example, *release of tension*, *relaxation*, and *satisfaction*, but on the backside also *exhaustion*, *tiredness*, and *sore muscles*.

9.2.6 Postgame Experiences After Repeated Exposure to a Game Environment

Most above-mentioned postgame experiences occur directly after a gamer has stopped playing and can thus be considered as short-term postgame experiences. Additionally, we envisage experiences that occur after repeated exposure to a game environment. These long-term postgame experiences presumably originate from the way people perceive and process their environment. To explain this, we rely on basic human perception theory (Boring 1930, Rock 1983). When processing their environment, people use prior knowledge to recognize objects, words, or sounds (i.e., top-down processing). The prior knowledge that is used as a reference point can be shaped by any perceptual stimulation that is repeated frequently and over long periods of time. Consequently, this prior knowledge biases our perception by creating a perceptual set, or a mental predisposition to perceive a stimulus in a certain way (Boring 1930, Bruner and Potter 1964). Perceptual sets make people perceive and interpret stimuli in a way that is relevant for themselves. For example, a model hunter will perceive tall, slim girls on the street as potential top models, whereas a dietician might perceive those girls as suffering from an eating disorder. Both perceptions and interpretations stem from their prior knowledge and subsequent perceptual sets.

If we apply this reasoning to digital gaming as one particular kind of perceptual stimulation, we could assume that for habitual players of digital games, real-world perceptions, cognitions, and actions will be partly structured by their repeated exposure to the game environment. This means, habitual players use their knowledge from the game environment when perceiving and interpreting real-life environmental stimuli. We expect that long-term postgame experiences can be established through this process. These postgame experiences can relate to all kinds of environmental stimuli, such as objects, situations, sounds, and words. Moreover, their impact can presumably affect various affective, cognitive, and behavioral processes. Examples could be seen in the context of objects in the real world that are associated with objects from the game world, sounds or songs heard in real life that trigger lively memories of a game world, and language and expressions used in the game world that show up in everyday vocabulary. We expect the concrete manifestation of these long-term postgame experiences to depend on the type of game or game genre one is repeatedly engaging in. This means, frequent players of First Person Shooter games will probably experience different things, make other associations, and use other game-related slang, compared to habitual players of Massively Multiplayer Online Role Playing Games (MMORPGs). To the best of our knowledge, there has not yet any research been carried out to investigate the existence and conditions of these specific kinds of postgame experiences. In this chapter, we present a focus group study that was specifically designed to explore concrete manifestations of long-term postgame experiences.

9.3 Focus Group Explorations

The focus group method is a qualitative research tool that is frequently used in social sciences to explore people's meanings, ways of understanding, and experiences of a complex phenomenon (Lunt and Livingstone 1996). Since there is not yet much documented about postgame experiences, the current focus group studies aimed at exploring the nature, the diversity, and the occurrence of particular postgame experiences. Given various individual differences with respect to play styles or motivations to play games (Yee 2006, Bartle 1996), we further wanted to provide in-depth, contextual, and motivational insights into the specific experiences of different types of gamers. We present two focus group studies: one directed at short-term experiences and the other probing long-term postgame experiences.

9.3.1 Exploring Short-Term Postgame Experiences

We defined short-term postgame experiences as experiences that occur immediately and directly related to a specific game session. The main objective of this study was to explore firsthand verbalizations of how gamers feel or what they experience directly after they stopped gaming.

9.3.1.1 Participants and Procedure

We organized six focus groups with gamers. The composition of the focus groups differed according to several variables such as game frequency, age, and occupational status. Two focus groups (FG1 and FG2) included infrequent gamers (i.e., people who game at least once a month), two focus groups (FG3 and FG4) consisted of frequent gamers (i.e., people who game at least once a week), and two focus groups (FG5 and FG6) were a mix of frequent and infrequent gamers. Participants' ages ranged from 19 to 37 years. In FG1, participants were five undergraduate students of which two were female. FG2 consisted of three male participants, also undergraduates. FG3 had four male participants and was a mix of undergraduate and graduate students. FG4 had four participants; these were people over 30 years of age, all with a full-time job. Participants from FG5 were four working people in their late twenties/early thirties, two of them were female. All three participants from FG6 were female undergraduate students. The focus groups were led by a moderator and an assistant moderator.

Each focus group began with an introductory round in which the moderator and the assistant moderator presented themselves and gave a brief description of the main goal of the focus group. More concretely, they explained that the focus group was about digital games and player experience. Participants were further told that they could freely talk about how they experience digital gaming. Then, participants presented themselves, giving their name, game frequency, and the type of games they usually played. The actual focus group discussion was clustered around three core questions by means of a semi-structured questionnaire. The three core questions were fixed but additional questions could be posed, probing for clarification or more in-depth insights. The three core questions were (1) On what occasions do you typically start gaming? (probing both motivations and opportunities for game play), (2) what do you experience or feel *while* gaming? (i.e., in-game experiences), and (3) what do you experience or how do you feel *after* gaming? (i.e., postgame experiences). In this chapter, we only discuss the third question about postgame experiences. For a detailed description of the remainder of this focus group study, we refer to Poels et al. (2007).

Each focus group took about 90 min in total and approximately one-third of the discussion time was devoted to the question concerning postgame experiences. Participants were rewarded 10 € for their participation. All focus group interviews were recorded and transcribed. Citations we report in the results section are all translated from Dutch.

9.3.1.2 Results

Given the exploratory nature of this focus group study and the newness of the topic, we did not employ a formal coding scheme to analyze our results. This result section is structured according to the different experiences that we proposed in the theoretical part of this chapter.

Participants generally reported *positive feelings* after game play.

I always feel better after a session of game play. I have had some fun, so that's nice. (Female participant, 23 years)

They frequently mentioned feelings like satisfaction, release of stress, relief, and getting into a good mood.

If, after an intensive game session, I have completed a level or an important goal in the game, I feel really relieved and satisfied. (Male participant, 31 years)

If my boyfriend and me have been very busy with work or household activities, we often take a 15 minutes break and play with the Wii for a while. We do a round of boxing for example. That really gives you relief, you can vent all your "aggression". (Female participant, 29 years)

However, most participants admitted that *time goes by faster than expected*.

I often start gaming on Saturday, right after I wake up, around 10 in the morning. It often happens that my wife gets back from work at six in the evening and that I am still there in my boxer shorts, without having eaten anything during that day. For me, it feels like only half an hour has passed. (Male participant, FG4, 34 years)

When I was a kid my parents determined how long I could play by placing an alarm clock next to my console. I always thought that they sabotaged that alarm clock, that it went much faster than the "real time". I never believed that an hour had already passed. (Female participant, 23 years)

When probing whether spending a lot of time, often more than intended, to playing digital games led to feelings of *regret* or *satisfaction*, the answers varied according to personal and situational factors. The more frequent gamers were quite unanimous; they generally did not see gaming as a waste of time and often reported the feeling of having done something really useful.

Watching TV is much more of a waste of time, because it is a passive activity. Playing games is an active activity. Compare it to playing sports: you don't regret playing sports either. Similar to that, I never regret playing games. (Male participant, 28 years)

The postgame experiences of *guilt* and *regret* clearly depended on the situation in which people played the game. More concretely, guilt, regret, or a general *bad mood* were greater if the game play had restrained them from doing more urgent or more useful activities. This typically has to do with dividing scarce time between work, family, and leisure.

Regret depends on the things you had to neglect while playing. If it was another leisure activity like going out for a drink, then I don't mind. If you had to neglect things like mowing the lawn, or spending time with my wife and kids, then I do regret having played that long. (Male participant, 34 years)

... Only if you have been gaming for quite a long time and you did not achieve anything, I often regret having spent so much time on it. Especially when I have more urgent things to do. (Male participant, FG3, 29 years)

I often feel bad if I wasted my time playing a game. However, if it is a lazy Saturday afternoon and you have nothing better to do it doesn't matter. Then I even find it useful to play a game. (Female participant, FG1, 21 years)

Interestingly, some participants reported that they often *anticipated* these negative experiences. For example, one participant explicitly stated that he only quits gaming when he is in a favorable position. This way, he reported, he always has a good feeling after gaming. Another participant said he would not start gaming when he had more urgent things to do. Yet another mentioned only playing short games in order to prevent that he would spend his whole evening playing games, and feel guilty afterward.

Playing digital games is often very engaging and cognitively demanding. You need to focus on the game play, get acquainted with specific game rules, and also think strategically. Some participants did recognize that they get completely soaked in the game and that makes them *feel a bit weird* afterward. It usually takes them some time to adapt to the real world.

I game to chill. However, afterwards I always need some time to recover, I cannot directly fall asleep for example. (Male participant, FG5, 30 years)

Further, games that make use of an embodied controller can induce postgame experiences of a physical nature. Several participants, who regularly play embodied games, mentioned becoming *physically exhausted* or *having sore muscles*.

I often try to get rid of my aggression by playing a couple of Wii games. I often really feel exhausted afterwards, and the next day, I have sore muscles. (Female participant, 23 years)

Some participants mentioned that a lot of postgame experiences we were probing at were not really unique to playing digital games, but rather an effect of entertainment or leisure activities in general. For example, after playing sports, experiences such as satisfaction, feeling energized, or physical tiredness do also occur. Along the same line, reading a book or watching a movie can really soak people into a fantasy world and leave them disoriented or making them feel like they have returned from a *journey* as well.

I can become energized after intensively running as well. However, sometimes gaming is easier, because you don't need to leave the house. (Female participant, 29 years)

Books can also completely soak me into a story. After reading, this does not directly go out of my mind. It's quite similar to what some games do to me. (Male participant, 32 years)

To summarize, gamers did generally report positive postgame experiences. After probing, negative experience also came to surface. The postgame experiences surfaced through this focus group study are largely in line with the conceptualizations we made earlier this chapter. However, the short-term satisfaction followed by long-term depletion, we described for a TV context [14], did not surface through our focus groups. Gamers did, however, report that they were aware of the potential negative after feelings and they frequently mentioned to anticipate these experiences. Further, some postgame experiences are experiences that typically come with engaging (entertainment) activities in general and, consequently, are not unique to playing games.

9.3.2 Exploring Long-Term Postgame Experiences

We defined long-term postgame experiences as experiences that originate from repeated exposure to a game environment. The aim of the second focus group study was to explore the existence and concrete manifestation of these postgame experiences and to get insights into the extent to which habitual players experience the real world based on inferences that stem from the game world. Further, we wanted to learn more about how these long-term postgame experiences relate to game frequency and game style.

9.3.2.1 Participants and Procedure

The second focus group study included two group discussions with habitual players of MMORPGs. We define habitual gamers as gamers who – on average – play digital games for more than 3 h a day. We specifically targeted this group of gamers, since this study aimed at probing long-term postgame experiences, induced by repeated immersion into a particular game or game genre. The first focus group consisted of three male participants, all students, aged between 18 and 23. They all played MMORPGs (e.g., Lord of The Rings Online, EVE online, World of Warcraft) on a daily basis (3–8 h a day). Participants of the second focus group were four male players, two students (age 22 and 23), one job seeker (age 31), and one full-time employed (age 45). All four were habitual players of digital games (3–7 h a day). One of them solely played World of Warcraft, the other two played MMORPGs, but played other game genres as well.

Each focus group began with an introductory round in which the moderator presented himself, followed by a brief description of the main goal of the focus groups. Next, participants presented themselves, giving their name, game frequency, and the type of games they usually played. The actual focus group discussion was clustered around four potential long-term experiences, we expected for habitual players of MMORPGs. These experiences formed the core topics, and thus the basis for the discussion. Concretely, the four core topics were (1) association of game elements with environmental stimuli in the real world; (2) sounds and music that trigger lively memories about games or game elements; (3) elements of the game showing up in daydreams, fantasy, and dreams; and (4) the use of words and expressions from the game into real-life conversations. Moreover, participants were encouraged to come up with other experiences when these came to mind. Special attention was given to probing whether these experiences are intensified, and are thus more salient, after each game session.

All participants took part on a voluntary basis and were not paid for their participation. Each focus group took about 90 min. All focus group interviews were recorded and transcribed. Citations we report in the results section are all translated from Dutch.

9.3.2.2 Results

For reasons similar to the first focus group study, we opted for a nonformal, explorative analysis of the results. We were mainly interested in the nature and the concrete manifestation of different long-term postgame experiences. This result section is structured according to the four core topics that were probed during the focus group discussion.

With respect to *associations of game elements with “real-life” stimuli*, participants reported several examples of how objects, people, and situations in real life bring about associations with game objects.

Sometimes, I see something in real life and relate it back to the game. For instance, signposts I noticed on the university campus. Those reminded me of World of Warcraft, where you have similar signposts, for example, Stormwind that way and Ironforge that way. (Male participant, 22 years)

I used to play Halo2 in which you have a wall where someone screams “Boggers, heading over the rooftop”. Always when I see a wall, within two big building, this sentence comes to my mind. (Male participant, 21 years)

A while ago, I was going out with a group of friends with whom I play WoW. We were at a concert and there were children playing with a toy bow and arrow. We immediately said to each other: “Hey, there are the hunters!”. (Male participant, 31 years)

One night, while going out, me and my friend wanted to grab some food. Though, most food tents were already closed. We were going from the one closed tent to the other and joking to each other what an irritating *fetch quest* this was. (Male participant, 22 years)

Participants also mentioned experiences stemming from hearing particular *music*, both directly and indirectly related to the game, transforming to and creating experiences in real life. For example, when they hear music of a game they enjoyed playing, this immediately triggers lively memories of that game and even makes them want to start playing the game. Or songs they used to listen to while they were playing a particular game instantly remind them of that game.

When I hear songs that I often play in the background while I am playing WoW, then I immediately start thinking about the game and how fun it is to play WoW. (Male participant, 21 years)

I have certain music I can no longer listen to, because it reminds me of a game I used to play a lot (i.e., Diablo II). When I hear those songs, I just have to play Diablo II again. And then I’m busy for another year, haha. (Male participants, 23 years)

When I was playing Castlevania, I downloaded the game music for my MP3 player. It then sometimes happened that I listened to that music while walking through the streets, fantasizing that skeletons and other creatures from Castlevania would appear in the streets. (Male participant, 21 years)

This last quotation also relates to the next topic, which is *daydreaming and fantasizing* about the game world. Most participants admitted that they often daydream about what tactics to use in their upcoming game sessions. Interestingly, some participants reported that they often fantasize what would happen if specific game elements would also exist in real life.

I often daydream about my gear, what I can still improve about my character’s equipment. (Male participant, 22 years)

If our train is delayed, I often think: I wish I had a Hearthstone; a WoW object that transports you to a specific location in no time. (Male participant, 23 years)

Most participants also recognized *game elements showing up in dreams*. The specific content of game-related dreams differed from one participant to the other. Some reported dreaming about the social aspects of the game, or dreaming about people from the game in the form of their game characters. Others described dreaming about specific quests or actions that happened in the game.

I don't dream about raids in the game, but I do dream about social aspects from the game. I sometimes see people from the game pop up in my dreams in the form of their game characters. (Male participant, 31 years)

Sometimes, in my dreams, I see my game character killing certain monsters in a certain area, trying to get certain items. Or, when I lost in a player vs. player battle, I dream of winning by doing things differently. (Male participant, 21 years)

Language and expressions used in the game did also seem to show up in the everyday vocabulary and thinking processes of our participants.

I sometimes use WoW words when talking to my kids. For example, if they ask: "dad, can I get some money", I say: "Gold? Eh, money". Or, if someone does something really stupid, I use the word "noob", a word that is often used in MMORPGs to refer to someone who does not know the rules. (Male participant, 45 years)

For many small things you think in the terminology of the game. For example, someone accidentally drops something, you think aloud "WTF!" (= what the f*ck!). Such things happen to me quite often, but I try to only use them when talking to people from whom I know they are gamers as well. (Male participant, 31 years)

Most participants agreed that the above-mentioned experiences seemed to happen more often immediately after game play, or in periods in which they game very intensively (e.g., during holidays). In some circumstances, this led to *difficulties in stepping back to the real world*.

If I have gamed very intensively, I notice that I start using game related words and expression more often. (Male participant, 23 years)

During holidays I play a lot more than during school periods. If I then return to school, it takes me a while to adapt to daily routine, to directly interact with people again. (Male participant, 23 years)

Also, these long-term experiences seem to build up gradually and become more activated when playing a particular game for a long period of time. Some participants even reported that they completely internalize the game world as a part of "their life." It became a part of their identity.

Playing games has had an influence on my personality, my vocabulary, and on the way I perceive the world. This is not a short term process, it is a process of years and it will probably still last for years. (Male participant, 22 years)

Interestingly, some participants mentioned that they started interpreting particular real-world situations, influenced by how these situations do occur in games. As such, what happens in the game world cultivates expectancies of what might happen in similar situations in real life.

If I see a dark alley, I –unconsciously– try to avoid that. Or dark and dirty bathrooms, I don't like those. (Male participant, 21 years)

To conclude, postgame experiences surfaced through this focus group study provided clear examples of how, for habitual players of MMORPGs, the game world influences real-world perceptions, emotions, cognitions, and behavior. This supports our conceptualization of long-term postgame experiences, we made earlier in this chapter.

9.4 Discussion and Conclusion

This chapter introduced and conceptualized the concept of postgame experiences and explored firsthand descriptions of postgame experiences surfaced through focus groups. Results from these focus groups show that a large variety of postgame experiences exist, both on the short and long term, both positive and negative ones. Moreover, experiences that participants from our focus groups described largely followed our initial conceptualization, which was based on academic literature on players' motivation and in-game experiences and on theories from other fields of research such as perception theory and media psychology. To the best of our knowledge, this is the first chapter that highlights postgame experiences. We took the first step in approaching the concept of postgame experiences in an exploratory way by using a qualitative research method. The current study – inevitably – holds some limitations that need to be addressed in future research. We outline some suggestions below.

The current study did only include focus groups as one single method to study potential postgame experiences. Although this is an appropriate method for first explorations in this area, future studies should include other measures and methods. We are planning to design and conduct a large-scale survey aimed at consolidating the different types of postgame experiences and determining the potential impact of a number of play style factors, such as play frequency and duration. Also, future studies should investigate the occurrence of postgame experiences in a more continuous and long-term manner, for example by using the diary method.

Our second focus group showed that long-term postgame experiences are at play for habitual players. The main limitation of this study was that it only included habitual players of MMORPGs as one specific game genre. As such, the experiences described by our participants can be specific for this type of games. Future studies are needed to explore long-term postgame experiences induced by other popular game genres such as First Person Shooters, Race games, Simulation games, etc. Additionally, it would be interesting to see how the nature and the occurrence of long-term postgame experiences differ between casual and habitual gamers.

Besides future research suggestions that arise from the limitation of our own study, results from the current study also give rise to some new research questions. More specifically, the current studies showed that several postgame experiences are probably not really unique to gaming. Our focus groups already revealed that some experiences, like relief and relaxation, do also apply to other leisure activities. It

would be interesting to investigate which general motivational factors cause such experiences and which postgame experiences are uniquely related to gaming and which are not. As such, it should be considered in what respect playing games is similar to other leisure activities and what characteristics uniquely apply to digital games.

Another interesting point came out of the second study. Participants in our second study did mention interpretations of real-world situations (e.g., a dark alley) being influenced by what typically happens in such situations inside a game environment (i.e., avoid the alley, because there will be danger). This might suggest that cultivation effects can be induced by playing digital games. The central premise of cultivation studies is that heavy users of a particular medium (e.g., television, movies) are more likely to perceive the real world in ways that reflect the world represented in that medium (Van Mierlo and Van den Bulck 2004). Studies on cultivation effects within games are still limited (Van Mierlo and Van den Bulck 2004, Williams 2006). We think, however, that this area deserves further explorations, especially given the increase in realism and elaborate narratives embedded in current games.

As stated in the introduction, most research on user experience in games has focused on in-game experiences. This chapter showed that user experiences do not stop after the game session has ended. Futures studies should investigate how in-game experiences and postgame experiences correlate and depend on background variables such as gender, play style, type of game played, and general personality traits. Clarification of these relationships can make important contributions to the interplay of gaming motivations, game experiences, and other game-related factors (e.g., game content, game design, and commercial game success) and nongame-related behavior (e.g., [anti]social behavior, personality development, and coordination skills).

To summarize, postgame experiences do occur when engaging in playing digital games. We proposed a diverse set of postgame experiences and explored firsthand experiences through focus groups with different types of gamers. We hope our study can inspire researchers within the domain of user experience in digital games. We call for research that further addresses how postgame experiences relate to other aspects associated with digital game play.

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References

- Agarwal R, Karahanna E (2000) Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly* 24(4): 665–694.
- Bartle R (1996) Hearts, clubs, diamonds, spades: Players who suit MUDs. *The Journal of Virtual Environments* 1(1). www.brandeis.edu/pubs/jove/HTML/v1/bartle.html. Accessed 7 November 2008.
- Boring EG (1930) A new ambiguous figure. *American Journal of Psychology* 42: 444.

- Brown E, Cairns P (2004) A grounded investigation of game immersion. *ACM CHI 2004*, pp. 1297–1300.
- Bruner J, Potter M (1964) Interference in visual recognition. *Science* 144(3617): 424–425.
- Buckley KE, Anderson CA (2006) A theoretical model of the effects and consequences of playing videogames. In: Vorderer P, Bryant J (eds) *Playing Video Games: Motives, Responses, and Consequences*. Lawrence Erlbaum Associates, Mahwah, NJ.
- Carnagey NL, Anderson CA (2005) The effects of reward and punishment in violent video games on aggressive affect, cognition, and behavior. *Psychological Science* 16: 882–889.
- Carnagey NL, Anderson CA, Bushman BJ (2007) The effect of video game violence on desensitization to real-life violence. *Journal of Experimental Social Psychology* 43: 489–496.
- Colwell J (2007) Needs met through computer game play among adolescents. *Personality and Individual Differences* 43: 2072–2082.
- Colwell J, Grady C, Rhaiti S (1995) Computer games, self-esteem, and gratification of needs in adolescents. *Journal of Community & Applied Social Psychology* 5: 195–206.
- Csikszentmihalyi M (1990) *Flow. The Psychology of Optimal Experience*. Harper & Row, New York.
- de Kort YAW, IJsselstein WA, Poels K (2007) Digital games as social presence technology: Development of the social presence in gaming questionnaire (SPGQ). In: *Proceedings of 10th Annual International Workshop Presence*, Barcelona, Spain, pp. 195–203.
- Ermi L, Mäyrä F (2005) Fundamental components of the gameplay experience: Analysing immersion. de Castell S, Jenson J (eds) *Changing Views: Worlds in Play*. In *Selected Papers of the 2005 Digital Games Research Association's Second International Conference*.
- Green CS, Bavelier D (2003) Action video games modifies visual selective attention. *Nature* 423: 534–537.
- Griffiths M, Davies M (2005) Does video game addiction exist? In: Raessens J, Goldstein J (eds) *Handbook of Computer Game Studies*. MIT Press, Cambridge, MA.
- Jennet C, Cox AL, Cairns P et al. (2008) Measuring and defining the experience of immersion in games. *International Journal of Human-Computer Studies* 66(9): 641–661.
- Kubey R, Csikszentmihalyi M (2002) Television addiction is not a mere metaphor. *Scientific American* 286(2): 62–68.
- Lunt P, Livingstone S (1996) Rethinking the focus group in media and communications research. *Journal of Communication* 46(2): 79–98.
- Pilcher J, Huffcutt A (1996) Effects of sleep deprivation on performance: A meta-analysis. *Sleep* 19(4): 318–326.
- Poels K, de Kort YAW, IJsselstein WA (2007) “It is always a lot of fun!” Exploring dimensions of digital game experience using focus group methodology. In: *Proceedings of Annual FuturePlay Conference*, Toronto, Canada, pp. 83–89.
- Rock I (1983) *The Logic of Perception*. MIT press, Cambridge, MA.
- Selnow GW (1984) Playing video games: The electronic friend. *Journal of Communication* 34: 148–156.
- Sherry J (2004) Flow and media enjoyment. *Communication Theory* 4: 328–347.
- Sweetser P, Wyeth P (2005) GameFlow: A model for evaluating player enjoyment in games. *ACM Computers in Entertainment* 3(3): 1–24.
- Van Mierlo J, Van den Bulck J (2004) Benchmarking the cultivation approach to video game effects: A comparison of the correlates of TV viewing and game play. *Journal of Adolescence* 27: 97–111.
- Vorderer P, Bryant J, Pieper K, Weber R (2006) Playing video games as entertainment. In: Vorderer P, Bryant J (eds) *Playing Video Games: Motives, Responses, and Consequences*. Lawrence Erlbaum Associates, Mahwah, NJ.
- Vorderer P, Klimmt C, Ritterfeld U (2004) Enjoyment: At the heart of entertainment. *Communication Theory* 14(4): 388–408.
- Williams D (2006) Virtual cultivation: Online worlds, offline perceptions. *Journal of Communication* 56: 69–87.
- Yee N (2006) Motivations for play in online games. *CyberPsychology & Behavior* 9(6): 772–775.