Virtual Playgrounds?
Assessing the Playfulness of Massively Multiplayer Online Role-Playing Games

•

Kerrie Lewis Graham

Millions of children and adults devote much of their leisure time to playing massively multiplayer online role-playing games (MMORPGs). Most observers commonly categorize computer games as a play activity, but this article asks whether MMORPGs contain activities that might not be play. The author examines the phenomenon of online gaming and compares it with several common characteristics and criteria of play behavior. This analysis suggests that while most participant involvement in MMORPGs seems to be play, in some cases, addiction may be an alternative explanation for some of the activities.

Play behavior is prominent in humans and animals, but scholars have long disagreed as to how best to define it (e.g. Fagen 1981). Many activities, such as sports, gambling, and other leisure pursuits, seem like play but often do not satisfy all the criteria that scholars typically look for when identifying an activity as play (Pellegrini 2009). Any time a leisure activity stays popular long enough, it acquires its own verb form (e.g. gambling, racing, knitting) that identifies the unique, sometimes playful, nature of the activity. But computer games are new enough that the term *gaming* has not yet gained universal usage as applied to playing computer games rather than to gambling. Instead, people speak generically about "playing" computer games such as the massively multiplayer online role-playing games (MMORPG). Millions of users participate in MMORPGs like *EverQuest, Guild Wars, Lineage,* and *World of Warcraft.* Worldwide revenue for MMORPGs is estimated at $9.8 billion and is on the increase (Chen et al. 2008). Interactive electronic games in general pervade our society: an estimated 68 percent of American households play computer and video games, and MMORPGs represent 18.6 percent of the best-selling computer games in the United States—a substantial part of the gaming market

(Entertainment Software Association [ESA] 2009). The average MMORPG gamer is twenty-six years old (but approximately 13 percent are middle-aged, female homemakers) and invests an average of twenty-two hours per week in MMORPGs. Yet many players devote far more time to it (Yee 2006a, 2006b). Given their game label, MMORPGs are widely considered playful, mindless, harmless, and fun. However, some see MMORPGs as a waste of time or even dangerously addictive (Griffiths 2002). Indeed, although the literature often refers to *playing* MMORPGs, it has yet to address whether all activities associated with these games are actually play. So let me ask the question: when people log onto MMORPGs, is what they are doing always play?

What Are MMORPGs?

MMORPGs are a specific form of computer game, and people who play them regularly are often called gamers. MMORPGs strive to create detailed virtual environments into which gamers immerse themselves. Usually these games feature three-dimensional graphics with rich and varied terrains, weather, flora, and fauna. Gamers purchase the software that—typically, in addition to a monthly subscription—provides access to the game via large computer servers. Gamers design and name their own characters, known as avatars; choose their race such as human, elf, or dwarf; and customize their appearance by selecting traits such as gender, hair color, build, and clothing. These characters then travel through the virtual environment, interact with one another, and complete quests or missions—such as defeating monsters—to increase their powers and abilities and to progress through the stages of the game, a process gamers call *leveling*.

MMORPG players rarely participate alone. Sometimes their interactions are competitive, as when characters fight. At other times, players exchange goods or information either through their characters via in-game speech or gestures (Ducheneaut and Moore 2004) or between the players themselves through on-screen text or voice chats (Griffiths et al. 2004; Williams et al. 2007). Most interestingly, players often ally with each other. Because many challenges are too difficult for solitary pursuits, 79 percent of gamers form groups, often known as *guilds*, to achieve these commonly beneficial goals (Yee 2006b). Gamers can engage in MMORPGs without directly interacting

with others, although it may be difficult to progress through the game without occasional assistance. Even if a gamer chooses never to interact directly with another player, his actions still affect the virtual world—and therefore other players. For example, recent MMORPGs include auction houses in which individuals sell to the highest bidder in-game items they no longer need. Thus, the auctions of one player affect the items available to another player.

MMORPG gamers and researchers alike typically view the online world as a place for social interactions. Constance Steinkuehler and Dmitri Williams (2006) suggested that the online gaming environment might even represent a third place: the virtual equivalent of a bar or other venue outside the home and workplace where individuals converge for interaction, relaxation, and social support. Certainly, MMORPGs encourage verbal humor and frivolity and support social interactions and bonding through sharing social information (Steinkuehler and Williams 2006; Cole and Griffiths 2007; Coleman and Dyer-Witheford 2007). Most analyses assume that the context of MMORPGs is a playful one (Steinkuehler and Williams 2006). Yet is all participation in MMORPGs truly play? The question has not been adequately explored and, given the upsurge in participation in MMORPGs and the consequent upsurge in interest in them by academics, it is worth exploring.

What Is Play?

Play researchers lament that we easily recognize play, but we have trouble identifying specifically what makes play *playful* (Bekoff and Byers 1981; Burghardt 2005; Caillois 2001; Fagen 1981; Huizinga 1955; Power 2000; Sutton-Smith 1997). This ambiguity leads play workers who deal directly with children to avoid an attempt to define play (Wilson 2009). David Cohen (2006) asserts that the diversity of play's behavioral repertoire renders a perfect definition impossible. Pellegrini (2008, 2009) counters that given the variety of different disciplines in which play researchers work, it is important to agree on some broad consensus. Play researchers propose different characteristics of play (Bekoff and Byers 1981; Burghardt 2005; Caillois 2001; Cohen 2006; Fagen 1981; Fromberg and Bergen 2006; Huizinga 1955; Piaget 1962; Power 2000; Sutton-Smith 1997). For the purposes of analyzing the playfulness of MMORPGs, however, I propose that MMORPG participation is play if it:

- has implicit and sometimes explicit rules
- often contains elements of make-believe or fantasy
- differs from other more serious behavioral categories in form or timing
- is fun
- appears functionless
- is voluntary

Collectively, these characteristics provide criteria to define when participation in MMORPGs is probably play. Thus, the more these characteristics clearly define online gaming, the more MMORPGs can be confidently identified as a play activity.

Applying Criteria of Play to MMORPGs

When we play MMORPGs, are we really playing at all? To evaluate the playful nature of MMORPGs, let us review and compare them with relevant characteristics and criteria by which play is recognized. If MMORPG participation conforms to the following common play characteristics, then it is likely play. As we shall see, MMORPG participation almost always starts out as play and continues as play for the vast majority of participants, but it may cease to be play for certain individuals in certain settings. These individuals may participate because they hope to gain financially from doing so, or feel social pressure to take part. In some cases, addiction may be an alternative explanation for participants' motivation to engage in MMORPGs. So, in order to determine when MMORPG participation can be confidently identified as play, let us examine how MMORPG participation compares to common features of play.

Social play is governed by implicit and sometimes explicit rules

Informal and formal rules govern most types of social play. Playing with others involves making up rules of the game. Rules can be formally structured like those in soccer or informally structured like those in a game of tag where children agree on a set of parameters (Smith 2005). Often these rules are fluid and flexible, but players usually understand that breaking the rules leads to the dissolution of the game or play. In other words, rules provide stability to play and its participants.

In MMORPGs, the software companies set the rules of the game, including how fast characters can move through the virtual environment or what weapons their characters can use. These rules usually remain unchanged by the player (but see Ferretti 2008). The etiquette of everyday gaming is handled between players and between guilds. Groups of gamers may establish rules that differ markedly from other groups, and software companies impose global rules and invoke severe consequences for players who break them. For example, gamers assigning vulgar names to their avatars risk having their accounts banned. The negotiation of rules between the software company and the gamer is nonexistent, but players and guilds negotiate codes of in-game behavior in both fixed and flexible ways.

Rules, of course, are not unique to play. Rules smooth the interaction between people, and society functions on explicit or formal rules (e.g. laws) and implicit or informal codes of conduct (e.g. customs and etiquette). In-game behavior may vary markedly between groups but usually conforms to social rules, as in real-life situations, such as saying "please" or "thank you" or apologizing for mistakes or bad behavior. Yet the absence of politeness from social play is usually a sign that the social contract of play has broken down. When people no longer voluntarily abide by the rules of the game, they have usually stopped playing. If MMORPG participants follow the explicit rules set by the software company and the implicit rules of in-game social etiquette, they are probably still engaged in play.

Play often contains elements of make-believe or fantasy

Make-believe (also called pretense or fantasy play) is an important part of most children's play and often involves pretending to be a character, like a superhero, or giving an object properties not usually associated with it, such as pretending a banana is a telephone (Pellegrini 1988). Roger Caillois (2001) argued that play has rules, *or* it is make-believe, although for Jean Piaget (1962), the mutual exclusion was unnecessary. MMORPGs are rule based, yet they encourage make-believe. Descended from pen-and-paper role-playing games like Dungeons and Dragons, MMORPGs, and their mix of rule-based and fantasy play, appeal to the adults who make up a majority of the participants (Donchi and Moore 2004; Griffiths et al. 2004).

MMORPGs may offer an alternate socially acceptable way for adults to express their playfulness through pretending while simultaneously capturing the imagination of children and adolescents too. Players customize their ava-

tars in a number of ways to immerse themselves in the fantasy world. Indeed, many of the most popular MMORPGs (e.g. *World of Warcraft*, *Lord of the Rings Online*) are based on fantasy literature or mythic legends with Tolkienesque imagery (Steinkuehler and Williams 2006). Players can choose to play the roles of heroes or villains, they wield weapons, and they slay dragons, harpies, and griffins. The literary imagery reflects Johan Huizinga's (1955) view that poetry and play link modern civilization to our primitive past. Similarly, as Brian Sutton-Smith (1997) asserts, the fantasy imagery from children's literature of, for example, Lewis Carroll or C. S. Lewis, speaks to a deeply imaginative and playful side of human nature. In many ways, MMORPGs reflect the ancient art of storytelling through immersive and playful modern media.

When children play dress up, most do not question their motivation—they are simply playing. Huizinga (1955) suggests that play behavior is distinct from everyday life, occupying its own space with its own identity. There is an ownership of play, which may involve an amount of secrecy, such as in a masquerade ball. MMORPGs in many ways are a digitized, virtual version of a costume party: gamers customize their avatars, sometimes making the avatar's gender or age different from their own. The players understand that their guild mates are not really elves fighting dragons with fireballs but enjoy playing along as if they were. In fact, MMORPGs in their simplest form are pure fantasy. In this way, most MMORPG activity clearly meets the association of play with make-believe.

Nongamers often deride online games and those who play them. Regardless of whether or not such scorn is fair, many gamers keep their gaming activities secret, or at least separate, from their nongaming peers and relatives. At the same time, they may discuss them openly (and excitedly) with other gamers. In MMORPGs, gamers disguise themselves, wear virtual vestments, and assume heroic or nefarious roles such as knights, bounty hunters, and sorcerers. No one can know the gamer's true name, and thus their secrecy and anonymity are complete. In this way, MMORPGs are a perfect fit for play as contemplated by Huizinga (1955). Perhaps the secrecy and mystery of the make-believe are vital and crucial elements of the playfulness of MMORPGs.

Play differs from serious behaviors in form or timing

One key characteristic of play is that it resembles serious behaviors like sex or aggression. Indeed, that play borrows behavioral elements from serious behaviors has been used to argue that play, sex, and aggression form a behavioral

continuum (Collaer and Hines 1995; Lewis and Barton 2006). The difference, however, is the context. Play changes the context of behavioral elements from serious to playful (Burghardt 2005). For example, play fighting resembles real fighting, but players pull their punches, they exaggerate their moves, and they intend no harm. Thus, although the movements of play fighting and real fighting superficially resemble each other, the context completely alters the meaning of the behavior. Gaming violence in MMORPGs exemplifies this. MMORPGs almost universally involve an element of death and destruction: avatars must combat and defeat opponents within the virtual domain with weapons that resemble real-world guns, swords, and crossbows, or with magical attacks, such as spells and fireballs. There is a clear difference, however, in both action and motivation, between killing a real person and killing an avatar. In MMORPGs, the violence is cartoonish, players are quickly resurrected, and the games depict few emotional consequences when a character dies. Similarly, characters in MMORPGs will sometimes fall in love and even marry; a virtual marriage differs obviously from a real-life marriage, although a participant's real-life spouse might not care about the distinction. Accordingly, MMORPGs fit this criterion of play because players' online actions differ in both form and timing from their more serious real-life equivalents.

Play is fun or pleasurable

Most people are comfortable describing play as fun even if scientists are wary of using the term. Indeed, parents report that the primary reason they play video games with their children is because it is fun (ESA 2009). Experiencing a pleasurable reward may be a proximate reason play occurs (Burghardt 2005; Lewis and Barton 2006). That is, because playing is fun, it motivates the player to repeat the behavior. MMORPGs provide various in-game rewards such as money, items of armor, equipment, or other "loot," which the gamer may find pleasurable and motivational. Furthermore, challenge and competition in MMORPGs are a strong source of reward. Moreover, some MMORPGs display the player's in-game experience and the achievements he or she attains in the game which, as a badge of honor, provides additional motivation. MMORPGs must be pleasurable in varying degrees because so many people play them. Belonging to a guild or engaging in quests with other like-minded gamers can be pleasurable and rewarding, both socially and in terms of in-game loot. Indeed, regardless of which aspect of MMORPGs gamers find most

pleasurable or rewarding, most gamers probably describe their participation in MMORPGs as fun.

Many gamers embrace MMORPGs as a means of relieving everyday stress. Play scholars note that play only occurs when there are no threats to an animal's basic survival, but for humans, play can be a means of relieving ordinary stresses such as a long day at work, a traffic jam, or even a bad haircut. Adults often use play, not in the absence of everyday stress, but specifically to overcome it (Cohen 2006). For many players, MMORPGs offer a welcomed distraction from everyday life. Gamers focus on nonserious goals, complete quests with friends, and gain reassurance through social contact with other gamers in the online environment (Hussain and Griffiths 2008). Grüsser and colleagues (2007) even refer to "playing the hurt away."

There are cases however, when the fun of gaming is uncertain. Mark Griffiths (2000) speculated that some structural elements of gaming software may promote addictive tendencies. For example, the multiple rewards in MMORPGs provide motivation to increase playing time. As a result, some gamers find MMORPGs addictive, thus transforming a fun pastime into stereotypically abnormal behavior (Ryan et al. 2006; Gentile 2009). In other cases, gamers report feeling obligated to spend time playing the game for various reasons, such as the social pressure of "raiding" (e.g. cooperative defeat of monsters) with their guild mates (Yee 2006a). This sense of being compelled to play can create stress for some gamers and perhaps for their families. However, even when social obligations to participate in the MMORPG become bothersome, gamers probably still find the actual game fun. Furthermore, the obligation to participate regularly in the game, to demonstrate guild loyalty and commitment, may actually render the social relationships within MMORPGs more pleasurable and rewarding (Williams et al. 2007). Thus, while some may feel that MMORPGs have become burdensome, most consider them fun and pleasurable for the very same reasons.

Play appears functionless

Critics have often dismissed play because, on the surface, it appears to have little usefulness. Terms such as unproductive, nonfunctional, or functionless are often used to describe play, but it may be more appropriate to say that play is incompletely functional or not fully functional in the form in which it is expressed (Burghardt 2005). Play, in other words, contains behavioral elements

that do not contribute toward the player's real-world survival (Burghardt 2005). In contrast for example, a juvenile horse may run as fast as it can, but it is not to escape from predators or to chase off rivals; the gamboling colt may gain long-term benefits from the exercise, but he runs for the fun of it, not the function it serves in his physical development.

MMORPGs are playful and fanciful and generally without consequence. Gamers find this nonfunctionality itself playful. Gamers trade virtual weapons, armor, food, and other materials for the currencies that circulate in the in-game economy, mimicking economic activity (Yee 2006a); but like Monopoly players who buy and sell properties, gamers will not see their real-world wallets fatten. To the extent that games replicate real-life actions, they may sometimes entail real-life consequences, but usually only inadvertently. For example, a gamer who becomes too engaged in developing the cooking skills of his avatar may forget to eat (Griffiths et al. 2004). Such a gamer supports Huizinga's observation that play "interrupts the appetitive process" (1955, 9). On the positive side, gamers who do not purposely set out to enlarge their real-life social networks, enhance team-building talents, develop spatial and perceptual abilities, or augment logic-based skills (Kearney 2007) will nonetheless reap these benefits. Here again, these dividends accrue only incidentally and along the way as gamers play. Thus play has often been described as a superfluous but time-consuming activity without obligation or remuneration (Caillois 2001; Huizinga 1955). In line with this observation, during gaming, gamers are not performing essential activities that contribute to their current survival.

Purposeful work, by contrast, has often been depicted as the opposite of play (Bateson 2005; Huizinga 1955). The world of MMORPGs, however, presents challenges for this plain distinction between work and play because gamers' actions can sometimes look a lot like work. For example, online gamers may invest large amounts of time developing their avatars' professional skills such as tailoring, weapon crafting, fishing, or even hairdressing. The avatars are often rewarded when they practice their skills. To confuse this fantasy, however, with purposeful work is to miss the essential ludic feature of MMORPGs: in the rule-driven, make-believe fun of MMORPGs, the gamer plays and the avatar works.

Are there instances, on the other hand, when elements of MMORPGs can genuinely become like work or occasions when MMORPG activity may not be play? For a few gamers, differences between real-world and in-game economics become blurred as these players incur obligation and expect remuneration. For

example, some gamers sell their accounts or in-game items in the real world for real money. This turns MMORPGs into a serious economic enterprise. Private companies, too, sometimes provide in-game services for real-world money. In fact, many gamers buy in-game currency from real-world companies with real-world money. Some players also pay real-world money to third-party companies to raise the levels of their characters and increase their powers. Software companies that monitor the game prohibit actions that subvert the rules and blur the game's boundaries. Perpetrators risk being blacklisted, not least because they have turned MMORPGs into work.

If play is unlike work in that it is nonfunctional, then the question of whether or not MMORPGs are play depends on players' motivations. It is likely that MMORPGs are a pleasurable, nonwork pastime for most players and most of the time the activity stays playful and generally without consequence. However, for others, participation in the game and its economy in particular may render the actions less playlike and more worklike.

Play is voluntary

Playful activities are often identifiable because they derive from their own motivation and are thus voluntary behaviors (Burghardt 2001). In other words, you cannot force a person (or animal) to play. On the surface, the myriad of actions gamers take to participate in MMOPRGs implies their decisions are wholly voluntary.

First, many gamers choose to spend considerable time, effort, and money just to set up their computers to run MMORPG programs. At a minimum, gamers must purchase the software and create online accounts to access the games. There are some free MMORPGs, but most of them are not nearly as popular as those that require paid online accounts. If gamers' computer hardware is not sufficiently advanced, they must purchase computer upgrades (e.g. RAM, video card, CPU) to play without frequent pauses in the game. These upgrades can cost hundreds, if not thousands, of dollars, and such financial investments indicate that gamers are motivated to play the MMORPG. After the initial expenses, every time the gamers play, they must choose to run the application and log on to the game site. During peak periods, the gamers might even have to endure long waits to enter the virtual world. It is unlikely that anyone enjoys waiting in a queue, and tolerating such inconveniences indicates the gamers are strongly motivated to play the MMORPG. Finally, once logged in, gamers must set aside time for play. With so many tiresome prerequisites,

the players' efforts to join an MMORPG indicate that it is a voluntary choice and therefore playful.

Yet people often volunteer to participate in various behaviors they would rather not because they feel duty bound or obligated to do so, and gamers are no exception. A gamer may feel compelled to participate—for example if the other members of his guild have scheduled a raid at a certain time and "need" him to participate. Many female gamers in particular cite that they began gaming because they were enticed or cajoled to play MMORPGs by their romantic partners (Yee 2006b, 2007). Other gamers may feel pressure to fulfill guild goals. So, indeed, some participants feel obligated to participate. In these cases, participants may not be playing, at least initially, though, once they are in the game, they may ultimately become fully-engaged players rather than mere participants.

Perhaps the most problematic participants in MMORPGs are those who take part because they are addicted to the activity. In these cases, although they technically choose to log on to the virtual world, the resulting behavior is no longer bound by play but by pathology. Overuse of MMORPGs and other computer and video games has become a source of much concern in recent years, and the behavior of some gamers gives rise to the real possibility of gaming addiction (e.g. Gentile 2009; Hsu et al. 2009; Tejeiro and Bersabé 2002).

Addiction as an Explanation for Some MMORPG Participation

Experts classify addiction as sustained and compulsive participation in an activity, in spite of continued negative consequences in school, work, home, health, and other areas (Goodman 1990; Gentile 2009). Although medical and psychiatric authorities have declined to list excessive devotion to video gaming alongside serious mental disorders such as addictions to alcohol and drugs, conversational use of the term *addiction* captures the occasionally compulsive nature of the pastime. In fact, the informal use of addiction helps underline the consequences for this kind of zealous play. The consequences of compulsive online gaming can be severe if increased social isolation, relationship problems, sleep deprivation, negative impact on career, and reduced academic performance become commonplace for those gamers who overuse MMORPGs (Cole and Griffiths 2007). There are health considerations too: repetitive keyboard and mouse movements and long periods seated at a

computer desk can result in physical discomfort such as tension headaches and muscular aches in the neck and shoulders. In extreme cases, epileptic seizures, auditory hallucinations, tenosynovitis (joint and tendon inflammation), and enuresis and encopresis (bed-wetting and soiling) even occur (Graf et al. 1994; Griffiths 2002). There are even media reports of gamers dying, in extremely rare cases, following prolonged bouts of online gaming, perhaps due to exhaustion, stress, or other complications. For most people, experience with one of these negative consequences would be sufficient cause to cease or curtail gaming activities (Graf et al. 1994; Griffiths 2002). Yet other gamers continue with online gaming regardless of the social, financial, and physical costs. For them, gaming is pathological.

The comparison of play and addiction is interesting because activities that provide pleasure or reward are also those that are likely to spark compulsion or addiction for some users (e.g. Pellis and Pellis 2009). Addictions to activities such as drinking alcohol, gambling, shopping, and sex typically begin as fun or pleasurable activities, and most people participate without detriment. For some people, however, the activity becomes all-consuming and develops into pathological behavior (e.g. Goodman 1990). Clearly, there are important distinctions between engaging in the activity and developing an addiction to it (Charlton 2002). R. I. F. Brown's core facets of addiction (1991) help distinguish it from enthusiastic participation, and they have been widely cited in the gaming literature (Brown 1991; Griffiths 2000, 2002; Gentile 2009). Briefly, these include *salience* (the activity dominates a person's life), *euphoria or relief* (the activity provides a high or it reduces anxiety), *tolerance* (over time, the person needs more of the activity to achieve the same high), *withdrawal symptoms* (ceasing the activity results in negative physical or emotional side effects), *conflict* (participation in the activity creates discord with other people or with obligations), and *relapse and reinstatement* (despite attempts to cease participation, the person continues with the activity regardless). Brown's core facets may explain MMORPG behavior for some gamers, especially those who have a tendency towards overuse.

Applying Brown's Core Facets of Addiction to MMORPGs

Salience

MMORPGs are, by nature, captivating and time-consuming, and many gamers invest large portions of their lives in the games (Yee 2006a; Hsu et al. 2009).

Some gamers are excited to start a new MMORPG and spend time leveling new characters and exploring the virtual environment. Many gamers enjoy achieving increased skills and reputation within an existing MMORPG. For others, finding new or developing existing friendships in the game becomes the biggest motivation (Yee 2007). In all such cases (and many more), the gamers are motivated to spend time gaming, but this alone does not necessarily indicate addiction, merely that they are having fun playing. However, when work or academic performance deteriorates as a direct result of time spent gaming, the overuse of MMORPGs certainly meets the facet of salience because it has become a dominant factor in the gamers' lives.

Euphoria or relief

Gamers probably would not describe their own enjoyment of MMORPGs as euphoric, but many report a buzz from gaming. Such a high may be based on the various achievements and rewards in the game, its social connections, the exploration of virtual worlds, or simply, say, the vanquishing of monsters (Yee 2007). For gamers, the highs may fuel increased time or financial investment. At the extreme, they become pathological, especially if the individuals experience joy only from gaming. Other gamers play MMORPGs as an escape from everyday stresses, and they report that online gaming relieves anxiety. For gaming addicts, the compulsive element almost certainly creates more stress than it relieves. It is likely that most gamers, compulsive or otherwise, engage in MMORPGs to relieve everyday stress, and it is also likely that they experience some sort of excitement or satisfaction that motivates their play. Here, MMORPGs probably meet the facet of euphoria or relief for most gamers. It is clear, however, that the facet of euphoria or relief overlaps with a common feature of play, that it alleviates everyday stress. This facet may therefore represent a gateway criterion. That is, all gamers probably desire some excitement or stress relief from MMORPGs, which is what makes it fun. For the vast majority, the satisfaction probably remains at a low level, and thus the behavior is more playful than pathological. However, as these feelings become elevated, they may signal addiction (Brown 1991; Gentile 2009). This renders euphoria or relief an especially notable category because it combines behaviors that are necessarily playful but that are also indicators of addiction. Arguably, this facet characterizes many or most online gamers. Therefore, it is likely that whether MMORPGs are playful or addictive is a matter of gradation and highly dependent on the individual gamer.

Tolerance

Given the facet of euphoria or relief, gamers seeking a high or escape from stress feel the need to increase their screen time to achieve the same sensation, the facet of tolerance comes into play. It can certainly be risky to continue gaming for extended periods without rest, as the various physical side effects associated with long bouts of gaming reveal (Graf et al. 1994; Griffiths 2002). Yet it may be difficult to distinguish the facet of tolerance from the culture of online gaming because of the investment of time typically involved. More than 50 percent of MMORPG gamers spend, on occasion, more than ten continuous hours playing MMORPGs (Hsu et al. 2009). Although many games come with warnings to take a fifteen-minute break for every hour of game time, the vast majority of gamers probably do not follow these suggestions. Thus identifying normal use and overuse of MMORPGs may be a challenge. However, if the compulsion to achieve an increased high from gaming is pursued to the detriment of other everyday or necessary tasks (Brown 1991), gamers may recognize these as early symptoms of overuse or addiction. At length, these players should either resume gaming at a more playful level or stop playing MMORPGs completely.

Withdrawal symptoms

When gamers who meet the criteria for tolerance attempt to reduce their MMORPG screen time and find that either they cannot or that they experience negative side effects (e.g. shakiness or increased anxiety), they have met the threshold of another facet of addition—withdrawal. Physical and emotional effects are clear manifestations of dependency, and continuing with the activity in spite of these effects is a clear indication of addiction (Goodman 1990). A gamer experiencing such a marked reaction to MMORPGs is probably not playing anymore.

Conflict

For gamers who find difficulties overcoming withdrawal symptoms, or who simply refuse to try, conflict with others becomes likely. Such conflict is often social in nature, especially with family members, loved ones, and co-workers who try to intervene in various ways. The conflict can also manifest itself in its effect on work and other obligations, including matters of self-care and personal hygiene. In other words, here gaming has become all-consuming to the detriment of other areas of life (Gentile 2009). When gamers participate in MMORPGs to this extent, they have clearly met the criteria of conflict.

Sometimes, gamers try to avoid conflict with others, using self-deception or hiding addictive behaviors from others. Thus, secrecy also becomes important to gamers at this point. Although secrecy can be a key feature of play (Huizinga 1955), it remains a key feature of addiction too (Griffiths 2002). The play experience in the extreme increasingly resembles pathological behavior. Hiding MMORPG overuse from others (either by avoiding contact with others or by lying about it), especially if other facets of Brown's model are met, provides a clear indication that the behavior is not playful but has instead become an addiction (Griffiths 2002). Such blurring at the boundaries of behavior helps gamers and their families to shrug off worrisome MMORPG overuse in an attempt to avoid conflict. If pathological play behavior continues however, interventions of some type often occur and lead to conflicts of various types (Griffiths 2002).

Relapse and reinstatement

When online gaming behavior reaches a stage where interventions occur (either self-imposed or otherwise), gamers often stop gaming. When attempts to stop gaming fail and the gamer either persists with MMORPGs or resumes gaming in spite of the efforts of others, the facet of relapse and reinstatement characterizes the gamer's behavior. At this point, gamers no longer voluntarily play MMORPGs: they feel compelled to do so. The gamer's life has become completely dominated by MMORPGs and attempts to desist with gaming lead to physical and emotional withdrawal symptoms and to conflict with others and with other aspects of everyday life. What began as playful has become harmful, problematic, and destructive.

Is There a Play-Addiction Continuum?

Although some aspects of Brown's core facets of addiction—euphoria or relief—blend more clearly into playful behaviors, most of them do not. Some of the play criteria overlap with those of addiction because both behaviors contain elements of fun, repetition, secrecy, and stress relief. However, rather than discrete or disconnected behaviors, play and addiction may instead represent opposite ends of a behavioral continuum. In other words, most playful activity is initiated in, and remains at, the playful end of the spectrum. For some people, however, the playful behavior sometimes becomes increasingly attached to negative or

compulsive behaviors that gradually move the behavior from playful to addictive. In terms of MMORPGs, most gamers initiate gaming because they believe it will be fun. Most gamers remain well within the play end of the spectrum. However, some gamers become so entrenched in the virtual world that devotion to the game moves to the addiction end of the spectrum and represents the behavioral markers in Brown's model (Gentile 2009; Griffiths 2000, 2002). Based on animal developmental and hormonal models, play, sex, and aggression are behaviors known to represent a behavioral continuum (Collaer and Hines 1995; Lewis and Barton 2006). In animals play is not characterized by abnormal stereotypy (Burghardt 2005), but it is possible that human psychology allows for the play-addiction continuum.

Along with other leisure activities, MMORPGs invite overuse and abuse, and some gamers find themselves at the addiction end of the play-addiction continuum and experience negative behaviors more associated with pathology than with play. Many look at gamers, and those who regularly use computers in general, and imagine they see the qualities of addiction, regardless of any real diagnosis of clinical dependency (Gentile 2009). The lament that online gaming dominates the lives of gamers has become commonplace; gaming critics consider online gaming negatively precisely because of its potential addictiveness.

On the other hand, in popular usage, the notion of addiction can also conjure up positive enthusiasm. "This game is so addictive!" users—and reviewers—excitedly exclaim. Indeed, software companies make use of this popular sense of addiction to exploit the market for their games, both in the creation of the games themselves and in the selling of them. Even the distributors of electronic games mix the semantics of play and addiction in doses designed to pique curiosity and make the game a fun and appealing experience. This may change over time as we begin to understand the reality of gaming addiction more fully, but it tells us something about the computer world and video gaming and how the genuine pleasure of play can be confused with the highs of addiction.

Is Participation in MMORPGs Play?

Manufacturers market MMORPGs as games and intend them to be playful. Although MMORPGs are fun for most gamers most of the time, these games are not always playful. Certainly, online gaming is unlike work at a computer. It is fun, rewarding, repeated, exaggerated, and stress relieving. Conversely, some online

gamers report that the time investment renders online gaming a chore, leads to negative or addictive behaviors, or creates social anxiety. Thus, MMORPGs qualify as play for most gamers, but not for everyone; it is the context that is important (Fromberg and Bergen 2006), and this is crucial to understanding the nature of online games. The playfulness of MMORPGs is something of a paradox and may further support the idea of a play-addiction continuum.

Of course understanding the extent to which participation in MMORPGs is playful is only the beginning of any effort to assess their impact on society. What might be the long-term mental, physical, and social consequences of children socially interacting through online media rather than in person? Phil Hodgkins and his colleagues (2008) speculate that the relatively recent rise in childhood obesity rates may be connected to increased leisure time spent on gaming systems rather than in traditional physical play. Other writers such as James Gee (2007) and Steven Johnson (2006) instead point out the intellectual and social benefits that come from engaging in these new forms of play.

The world of MMORPGs is filled with computer-generated images of mythical, mystic, and futuristic beasts such as dragons, orcs, zombies, aliens, and unicorns. Perhaps the desire to defeat or befriend these and other beings in a virtual world, with real-life players controlling them, simply speaks to a playful side of human nature—or to human desire for social contact through any means possible. Perhaps MMORPGs allow children and adults alike to maintain social contact in a playful manner and represent contemporary social play in an increasingly electronic world. Perhaps membership in an online guild reflects human social groupings. Humans are intensely social, so MMORPGs conceivably represent a reasonable way to join social cliques and networks in modern society where, arguably, we deal less and less in face-to-face contact. Perhaps play researchers just need to embrace MMORPGs fully as a modern human activity, a contemporary manifestation of the ancient art of play. There is no doubt that online gaming and other gaming consoles represent the current state of what is playful to many children and adults in industrialized countries. Consequently, with so many people participating in MMORPGs, it may not be surprising that addiction to gaming occurs and continues to be a concern. If games reflect culture and society's views (Chudacoff 2007), then MMORPGs must be taken seriously, especially because so many people play them. If millions of people play games that are not always playful, it may have huge implications for culture and society. After all, gamers are given a choice when they log on to their computer and video games. They can hit the quit button. Or they can hit play.

References

Anderson, Craig A., Douglas A. Gentile, and Katherine E. Buckley. 2007. *Violent video game effects on children and adolescents: Theory, research, and public policy*.

Bateson, Patrick. 2005. The role of play in the evolution of great apes and humans. In *The nature of play: Great apes and humans*, ed. Anthony D. Pellegrini and Peter K. Smith, 13–24.

Bekoff, Marc, and John A. Byers. 1981. A critical re-analysis of the ontogeny and phylogeny of mammalian social and locomotor play: An ethological hornet's nest. In *Behavioural development*, ed. Klaus Immelmann, George W. Barlow, Lewis Petrinovich, and Mary Main, 296–337.

Brown, R. I. F. 1991. Gaming, gambling and other addictive play. In *Adult play: A reversal theory approach*, ed. John H. Kerr and Michael J. Apter, 101–18.

Burghardt, Gordon M. 2001. Play: Attributes and neural substrates. In *Developmental psychobiology*. Vol. 13, *Handbook of behavioral neurobiology*, ed. Elliott M. Blass, 317–66.

———. 2005. *The genesis of animal play: Testing the limits*.

Caillois, Roger. 2001, English trans. 1961, first published 1958. *Man, play and games*. Trans. Meyer Barash.

Charlton, John P. 2002. A factor-analytic investigation of computer "addiction" and engagement. *British Journal of Psychology* 93:329–44.

Chen, Lily Shui-Lien, Hill Hung-Jen Tu, and Edward Shih-Tse Wang. 2008. Personality traits and life satisfaction among online game players. *CyberPsychology & Behavior* 11:145–49.

Chudacoff, Howard P. 2007. *Children at play: An American history*.

Cohen, David. 2006. *The development of play*. 3rd ed.

Cole, Helena, and Mark D. Griffiths. 2007. Social interactions in massively multiplayer online role-playing gamers. *CyberPsychology & Behavior 10:575–83.*

Coleman, Sarah, and Nick Dyer-Witheford. 2007. Playing on the digital commons: Collectivities, capital, and contestation in videogame culture. *Media, Culture & Society* 29:934–53.

Collaer, Marcia L., and Melissa Hines. 1995. Human behavioral sex differences: A role for gonadal hormones during early development? *Psychological Bulletin* 118:55–107.

Donchi, Lauren, and Susan Moore. 2004. It's a boy thing: The role of the Internet in young people's psychological wellbeing. *Behaviour Change* 21:76–89.

Ducheneaut, Nicolas, and Robert J. Moore. 2004. The social side of gaming: A study of interaction patterns in a massively multiplayer online game. *Proceedings of the ACM conference on computer supported co-operative work*, Chicago, Illinois, 360–69.

Entertainment Software Association. 2009. Essential facts about the computer and video game industry: 2009 sales, demographic and usage data. http://www.theesa.com.

Fagen, Robert M. 1981. *Animal play behavior*.

Ferretti, Stefano. 2008. Cheating detection through game time modeling: A better way to avoid time cheats in P2P MOGs? *Multimedia Tools and Applications* 37:339–63.

Fromberg, Doris P., and Doris Bergen, eds. 2006. *Play from birth to twelve: Contexts, perspectives, and meanings*. 2nd ed.

Gee, James Paul. 2007. *What video games have to teach us about learning and literacy*. Rev. ed.

Gentile, Douglas. 2009. Pathological video-game use among youth ages 8 to 18: A national study. *Psychological Science* 20:594–602.

Goodman, Aviel. 1990. Addiction: definition and implications. *British Journal of Addiction* 85:1403–8.

Graf, William D., Gian-Emilio Chatrian, Stephen T. Glass, and Thomas A. Knauss. 1994. Video-game related seizures: A report on 10 patients and a review of the literature. *Pediatrics* 93:551–56.

Griffiths, Mark. 2000. Does Internet and computer "addiction" exist? Some case study evidence. *CyberPsychology & Behavior* 3:211–18.

———. 2002. *Gambling and gaming addictions in adolescence*.

Griffiths, Mark D., Mark N. O. Davies, and Darren Chappell. 2004. Demographic factors and playing variables in online computer gaming. *CyberPsychology & Behavior* 7:479–87.

Grüsser, M., R. Thalemann, and Mark D. Griffiths. 2007. Excessive computer game playing: Evidence for addiction and aggression? *CyberPsychology & Behavior* 10:290–92.

Hodgkins, Phil, Mike Caine, Steve Rothberg, Martin Spencer, and Paul Mallison. 2008. Design and testing of a novel interactive playground device. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture* 222:559–64.

Hsu, Shang Hwa, Ming-Hui Wen, and Muh-Cheng Wu. 2009. Exploring user experiences as predictors of MMORPG addiction. *Computers & Education* 53:990–99.

Huizinga, Johan. 1955, first published 1950. *Homo ludens: A study of the play element in culture*. Trans. R. F. C. Hull.

Hussain, Zaheer, and Mark D. Griffiths. 2008. Gender swapping and socializing in cyberspace: An exploratory study. *CyberPsychology & Behavior* 11:47–53.

Johnson, Steven. 2006. Everything bad is good for you.

Kearney, Paul. 2007. Cognitive assessment of game-based learning. *British Journal of Educational Technology* 38:529–31.

Lancy, David F. 1996. *Playing on the mother ground: Cultural routines for children's development.*

Lewis, Kerrie P., and Robert A. Barton. 2006. Amygdala size and hypothalamus size predict social play frequency in non-human primates: A comparative analysis using independent contrasts. *Journal of Comparative Psychology* 120:31–37.

Lo, Shao-Kang, Chih-Chien Wang, and Wenchang Fang. 2005. Physical interpersonal relationships and social anxiety among online game players. *CyberPsychology & Behavior* 8:15–20.

Mitrofan, Oana, M. Paul, and N. Spencer. 2009. Is aggression in children with behavioural and emotional difficulties associated with television viewing and video game playing? A systematic review. *Child: Care, Health and Development* 35:5–15.

Pellegrini, Anthony D. 1988. Elementary-school children's rough-and-tumble play and social competence. *Developmental Psychology* 24:802–6.

———. 2005. *Recess: Its role in education and development*.

———. 2008. The recess debate: A disjuncture between educational policy and scientific research. *American Journal of Play* 1:181–91.

———. Forthcoming. Play. In *Oxford handbook of developmental psychology*, ed. Philip Zelazo.

Pellis, Sergio, and Vivien Pellis 2009. *The playful brain: Venturing to the limits of neuroscience*.

Piaget, Jean. 1962, first published 1951. *Play, dreams and imitation in childhood*. Trans. C. Gattegno and F. M. Hodgson.

Power, Thomas G. 2000. *Play and exploration in children and animals.*

Ryan, Richard M., C. Scott Rigby, and Andrew Przybylski. 2006. The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion* 30:347–63.

Smith, Peter K. 2005. Social and pretend play in children. In *The nature of play: Great apes and humans*, ed. Anthony D. Pellegrini and Peter K. Smith, 173–212.

Steinkuehler, Constance, and Dmitri Williams. 2006. Where everybody knows your (screen) name: Online games as "third places." *Journal of Computer-Mediated Communication* 11:885–905.

Sutton-Smith, Brian. 1997. *The ambiguity of play*.

Tegano, Deborah W., Janet K. Sawyers, and James D. Moran III. 1989. Problem-finding and solving in play: The teacher's role. *Childhood Education* 66:92–97.

Tejeiro Salguero, Ricardo A., and Rosa M. Bersabé Morán. 2002. Measuring problem video game playing in adolescents. *Addiction* 97:1601–6.

Williams, Dmitri, Scott Caplan, and Li Xiong. 2007. Can you hear me now? The impact of voice in an online gaming community. *Human Communication Research* 33:427–49.

Wilson, Penny. 2009. The cultural origins and play philosophy of playworkers: An interview with Penny Wilson. *American Journal of Play* 1:269–82.

Yee, Nick. 2006a. The labor of fun: How video games blur the boundaries of work and play. *Games and Culture* 1:68–71.

———. 2006b. The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments. *Presence: Teleoperators and Virtual Environments* 15:309–29.

———. 2007. Motivations for play in online games. *CyberPsychology & Behavior* 9:772–75.

Yee, Nick, and Jeremy Bailenson. 2007. The Proteus Effect: The effect of transformed self-representation on behavior. *Human Communication Research* 33:271–90.