

# Psychosocial Implications of Online Video Games

Online video games have important characteristics and elements which do not exist in traditional offline gaming, and which provide powerful psychological rewards that connect the emotions of the player with the game and with the other participants. The careful identification and analysis of such attributes are required in order to promote healthy and balanced gaming and to better understand what new opportunities, challenges and phenomenon can be derived from gaming activity. Since the impact of gaming in the life of the gamer is individual specific and depends on the combination of many factors, we delineate which factors play a central role. Due to the strong economic component now seen in online communities, virtual casinos, and improvisational betting style games, and due to the psychological impact many of these games may have on gamers, we include a classification of such video games.

**Keywords:** Online games, psychosocial implications, virtual community, virtual economy, gaming impact

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## **Introduction**

We are no longer entering a digital epoch. We are in it. This is evident as we examine the socio-cultural challenges now arising as a direct result from phenomenon associated with new interactive technologies. We cannot discuss the interconnection of modern media without also recognizing the rapidly developing human connections through such media. We are in the age of interconnected intelligences, mind to mind, just as Castranova characterized when he spoke of the power of intellect and imagination. Today, the *homovidens* of Sartori (as cited in Ortiz, A, 2000 p. 10), is no longer limited by a passive reception of images: “The user wants to have in front of him a body-machine that allows seeing the events, not only to watch, but to explore and live them. Actually, it isn’t enough to see the images; more importantly is being inside of them.”

As the most immersive mass media to date, video games are not solely devices of entertainment, but are used didactically. They provide a socialization interface for personal experimentation and self-expression, offering a quasi or pseudo therapeutic space. They are platforms to observe and comprehend human interaction and provide a portal into the mind, motivation and needs of this and future generations. They are interactive tools which emotionally bond participants by manipulating dreams and fantastic storylines through artificial intelligence and extremely vivid sensory experience, opening a window to a world of fantasy and imagination. Yet at the same time, they present new questions regarding the individual consequences of gaming in terms of the physical and psychological health of the participant, as well as broader social and ethical issues. How is the prolonged immersion in these incredible and fantastical worlds impacting the player?

## **Background**

The video game industry has become a major competitor with the film industry. Imports and exports of interactive media are rapidly catching up with and replacing traditional “moving picture” media formats. For example, World of Warcraft has 8 million gamers around the world with 1.5 million in Europe alone, and Second Life has over 3.8 million worldwide with Europe (primarily Germany, U.K., France, Italy and Netherlands) well in the lead, comprising one third of the entire population and increasing. Well established current market trends clearly show a global shift from passive consumption of, to active participation in media products and services.

## **Objective**

The objective of this study is to highlight distinct characteristics of online video games that are most heavily impacting gamers, and through psychosocial analysis, identify the most important challenges and explore solutions to promote healthy and balanced online video game use.

## **Methodology**

This study takes an exploratory qualitative approach. Partly due to the emerging and rapidly changing nature of online gaming, there is very little research incorporating all factors relevant to understanding its current and future psychosocial impact. Although research has been conducted within specific domains relating to video game use, there is insufficient investigation from a systems inquiry approach. This study takes a multidisciplinary approach using various types of primary and secondary sources obtained through search engines such as Google Scholar™, Google and Copernic, Technology periodical database: by author, boolean keyword searches: video games and structure, video games and psychology, video games and classification, virtuality, metaverse, game-play and psychology, online games, cyberspace, and virtual communities. Other articles were obtained through PubMed, books and conferences papers.

## **I. Video Game Evolution**

The very first video games essentially consisted of the manipulation of primitive objects and the exercise of repetitive movements. They were based on structural rules, many using synthetic “midi” background sound tracks and simple two dimensional game backgrounds and atmosphere that did not intend to stimulate a sense of physical presence in the game space.

“Media-Morphosis” (Fidler, 1997), is what dominated between 1995 and the turn of the millennium. Microsoft Windows operating system, carefully crafted for the less technically savvy retail consumer, hit the streets. Meanwhile the internet suddenly exploded. Today, the line between the internet, the media it presents, and its mechanisms of delivery have bonded together, penetrating interactive multimedia into the common household.

Ultimately the advancement and interplay of technology, human-computer interaction, artificial intelligences, graphic arts, and the ability of the gamer to literally alter the publicly experienced game space, has brought game personalization and control to an entirely new level. Game developers are seriously considering the immersion of the gamer in the virtual environment in addition to the fundamental aspects of game play. This has resulted in an extraordinarily enhanced experience for the gamer, enabling an extensive ongoing ad-hoc manipulation of objects and characters. The emotional investment of the gamer with their developed character or avatar has reached an all time high. Much of the virtual physical environment for the gamer has become a matter of emotional touch, evoking not just sensations but lasting emotive imprints, which hold for them many of the same characteristics as memorable real life experiences.

## **II. A New Video Game Culture & Generation**

The changing role of the video game industry is merging with other more traditional forms of entertainment, products and services. The new digital infrastructure can be thought of as a complete self-sustaining ecosystem (Tapscott, 1998 p. 53) that multiplies as in spontaneous generation (Rheingold, 1998). We can observe hyper-mutation of meaningful gaming behavior as public and private intellectual property is created, bought and sold in a hybrid cyberspace by the common individual and not by way of high power business entities or institutions, such as major recording studios, network television or other corporate media producers.

In the past, video gaming was considered an isolated activity, one preferred by the introverted “computer nerd” and as a male activity (Shotton, 1989). Today this no longer the case. Both genders and wide age groups play together. In many cases, parents and children game together (Yee, 2001) and in other cases, the youngest generation witnesses the virtual 3D immersion of their parents. (Stephen Kline, n.d.)

People are establishing social networks through online video games and many consider it not just a game but an e-sport. This allows members to participate in online and offline tournaments and even take classes to improve their abilities. Thousands of gamers travel around the world with their computers, sleeping in the hallways of an event, and waiting in long lines to be at the center of the LAN parties and tournaments.

Evidently, technical network connections, real life organized gaming events, mobile multiplayer interfaces, gaming centers, and cybercafés are heavily contributing to the conceptualization of video games as social entertainment. Of course the real world congregation of gamers doesn’t always translate into gamer socialization since these gatherings don’t necessarily alter their tendency to focus almost exclusively on the screen (Jung, Schrader, Carlson, 2005), keeping the main interaction between gamers mostly within the game interface (Stewart, 2003).

The integration of video games into everyday life activities and routines have become more-or-less natural due to the use of the computer not only for work purposes but as an entertainment vehicle. Convenient access to game information, as well as flexibility to multitask between work and play, has further propelled this integration. For the first time in the human history we have the possibility of accessing information with only one click, at the speed of the light (Ortiz, 1999). We travel around the world not in the eighty days of Jules Verne (Ortiz, 2005), but at will, breaking the barrier of space and time. We are in a time where our youngest generations, as natural citizens of the digital era, are “learning by doing” and not only through passive reception of abstract information. We could only dream of this at their age. The Internet, and the opportunity of massive contact, give today’s youth an autonomy and possibility of being a real part of the world, following a multitude of events, and sharing ideas. Most significant may be the chance for an accelerated development of self-knowledge through the increased availability of trial and error scenarios.

## **II. Money in Online Video Games**

The classification of online gaming activities is more integrative than exclusive. Actually, many video games allow or encourage varying types of involvement (e.g. battle, explore, socialize, and assisting others), much of which require some degree of skill or specialized ability (e.g. plan strategies, advanced hand-eye coordination, negotiation).

The complex interplay between casino, skill, and social based gaming activities has expanded to some of the most popular online video games, finding in them a permanent social 3D arena which offers to the user a possibility of real money trade and competition. Since the investment of real money, as well as the inclusion of gambling features in video games may have psychological impact on the gamer, we include a classification of these games.

### ***Virtual Economy Types***

With the advent of real-time internet communication and a streamlining of a purely digitally information based real world economy, new types of games have appeared where the gamer spends money to enhance the gaming experience (e.g. subscriptions, purchasing virtual items). Many of these games are based on a real economic infrastructure where gamers buy, sell, and exchange virtual items and/or money. In permanent gaming communities that persist the virtual property of members, the gamer can buy and own products, and not merely pay for services as was the case in the past with arcade gaming. There are three basic game subtypes dependent on internal virtual economies:

**Fantasy Money Games** – These are video games which use symbolic or “play” money rather than points, and this money has no value outside the game (e.g. Habbo Hotel).

**Real Trade Money Games (RTM)** – These games have their own virtual currency, and in certain cases the gamer is able to exchange and trade real money for virtual currency and vice versa. Some of these games allow an exchange of virtual currency directly from the website hosted by the game publisher (e.g. Second Life, Everquest). It is even possible to purchase and trade through cash and item trading systems completely external to the official game web, like on eBay, Ige, Igxe (e.g. World of Warcraft, Everquest).

**Real Cash Economy** – These are video games where it isn’t necessary to exchange virtual currency for real money, but where virtual currency that the gamer accumulates is transferred automatically to their real life bank account and gamers can even withdraw cash converted from

their virtual game funds using an ATM card. Also, games like Entropia Universe sell virtual banking licenses where gamers can set auctions and actually become bankers in the virtual world.

### ***Gambling and Betting Types***

This section includes types of video games that have traditional aspects of simulated gambling or which involve gambling or betting practices in significant ways. There are two basic subtypes:

**Gambling Infrastructure Games** – These refer to video games where the developers allow, support and intend gambling features. Here is a further breakdown of this subtype:

- **Casino games** (e.g. poker, bingo, roulette, racing) – These can be played either in games where the only objective of the game is simulated gambling for real money (e.g. World Series of Poker) or where conventional gambling is an optional activity within the game and the virtual money won has no real world value (e.g. Grand Thief Auto: San Andreas). We also see a degree of casino activity in some Virtual Economy massively multiplayer games, where RTM exists (e.g. Second Life, Lineage 2).
- **Skill Based Betting** – These are games where it is possible to wager virtual money or virtual property. Like for example, through a *Match Battle System* in games that allow the organization of online matches and tournaments in which the gamer bets virtual money (e.g. Dead or Alive 4) and in games referred to as *High Stakes Video Games* where it is possible to bet virtual money and virtual property (e.g. Need for Speed: Most wanted).

**Improvisational Gambling Games** – These games are where the developer never specifically made gambling part of the game, but where gamers have innovated a way to use resources available in the game to gamble, and subsequently, purely player organized betting has become common. They also may have devised a way to set up real cash competitions through matches supported through a network of unofficial gamer websites.

- **Cash Fragging** – Games where it is possible to compete in death matches, shooting other gamers to accumulate money directly into the gamer’s real world bank account in lieu of just points (e.g. Quake 4 cash)
- **Pure Skill Betting** – Games where it is possible to bet real money, primarily based on the skill of the gamer [www.monkeypays.com](http://www.monkeypays.com)
- **“Pot” Betting** – The “pot” accumulates real money from the fees of each gamer entered in the game. The organization takes a portion of this money, very much as in real world casinos. (E.g. [www.gamelio.com](http://www.gamelio.com))

### **III. Online Gaming Psychology**

The most popular and sophisticated online communities expose the user to rapid and frequent reception of sensory stimuli through multiple channels: synchronous gamer initiated interactions, vivid real-time three-dimensional feedback of subjective actions, availability of flexible virtual object management, social interaction, an opportunity for projection of fantasy, and the exercise of the imagination within malleable fictional and pervasive environments. All of these contribute to a highly engaging gaming environment. As Grodal conceptualized (as cited in Ermi, L, & Frans, M, 2005, p. 3), the playing of digital games allows an experimental game-flow by linking perceptions, cognitions, and emotions with first-person actions.

A Chumbley and Griffiths (2006) study in solitary gaming found that the structure of in-game reinforcement combined with player skill significantly influences a number of affective measures, most notably excitement and frustration. The arousal generated by video games (Griffiths & Dancaster, 1995) can be manipulated by varying the information rate (i.e. complexity, variability, novelty of stimuli) while permitting user to select desired levels of information rate according to the research of Mehrabian and Wixen (as cited in Chumbley, et al, 2006 p. 315).

In online video gaming, the challenges facing a gamer stem from many diverse sources. The gamer attempts to master the virtual game environment as he or she learns to control the technical game interface, and may often face, for example, a violent “gang” which could in reality be a computer simulation or an actual group of other gamers with whom they are competing.

Online video games effectively attract gamers of varying personality profiles since the games cater distinct activities like socializing, battling, role playing, exploring, customizing, building, virtual property consumption, and engaging in cybersex. This flexibility often powerfully fulfills the psychological needs of the gamer in areas like: group identification, ownership, companionship, personal catharsis, relaxation, self-expression, and disinhibition.

### ***Psychological Earnings and Reinforcement***

The rewards a the gamer receives from online gaming is not limited to the specific mechanisms intentionally embedded by game designers (e.g. fixed rules, points, levels). The outcome of the game is variable (Juuls, 2003). Gamers manage and administrate self-reward easily, for example though buying things, discovering new places or transforming their avatar. Gamer goals are not always explicit, and never really reaching a final outcome; they only temporarily achieve success at the point of logging out of the game (Juuls, 2003). The gamer also receives individual and collaborative outcomes derived from their social interaction (Griffiths, Davies, Chappell, 2004).

Responses the gamer receives from other gamers provide effective variable ratio or intermittent behavioral conditioning. “It can take just a few seconds or you may never arrive” (Wallace, 1999 p.183). Other examples of this can be seen in textual messages, voice communication and expression deviation patterns. Abrupt demands by virtual co-habitants often provide powerful stimuli, for example, an individual might be hailed by bystanders with a plea of “kill the monster and save us”. Furthermore, the experience of viewing “the online person”, as Patricia Wallace (1998) refers to the avatar, is very psychologically appealing. Watching the movements or expressions of the virtual puppet controlled by the gamer, under specific contextual moments in time, not only manifest the gamer’s emotional state but also significantly influence the perceptions and emotional state of other gamers.

Online game connections present some grade of latency called “lag”, which is the delay between the gamer’s press of a key or mouse button and their witness of the expected result in the game, or feedback reception (Wallace, 1998 p.114). It depends on the quality and characteristics of gaming hardware and software, but also on the quality of network or broadband internet connection and localization of the servers. (Armitage, 2003).

To be precise, an increase in internet latency prevents the reception of immediate feedback, and likewise, reduces the gamer’s ability to control the game and avoid real-time related interaction errors involving other gamers. Certain types of games are more tolerant to lag than others and some individual may be more tolerant than others (Henderson, 2001).

## IV. Specific Psychological Phenomenon

### *No “Game Over”*

With online multiplayer games, the gamer never actually receives a “Game-Over” message. There will always exist many activities and possibilities to be explored in the game, and even outside the game (e.g. game discussions, magazines, game tips, and sportscaster narration of game play from a third person perspective via streaming WebTV video feeds). As an engaging and pervasive activity, gaming stimulates the flow of mental state<sup>1</sup> because it:

- Demands concentration or varying levels of attention depending on the degree of interaction, manipulation of virtual objects and reception of different stimulus
- Is intrinsically rewarding, allowing users to complete tasks, accomplish goals, follow rules and experience seemingly real success, failure and control
- Offers a pre-established balance between ability level and challenge
- Triggers the subjective distortion of time and trance states
- Enables users to lose feelings of self-consciousness via avatar manipulation and self representation where “every movement of the gamer is a game action” (Turkle, 1984).

### *Extreme Competition*

Extreme competition has become a mainstay of contemporary society, whether it be at work or play, and whether through controlled popular media consumption (i.e. television, music, other forms of marketing, etc.) or within the highly interactive online experience. Today the gamer not only competes to improve his own ranking, but to establish massive contact and competition with other gamers, which has the effect of eliciting tremendous spatial presence, engagement, anticipated threat, post-game challenge appraisals, and physiological arousal (Ravaja, N et al., 2006). Multiplayer gaming competitions can be either online or offline (tournaments) and the success of the team brings recognition and esteem to its individual or key members, very similar to real world professional team sports. Socially competitive situations, where real money is wagered, often adds a component of arousal, excitement and makes the gaming more engaging.

### *Mastering, Power and Control*

The control gamers experience in online communities differs in quality and complexity from the single player computer games of the past, where rules were more rigid and challenges not as varied. Technically speaking, the sophistication of today’s games have produced in the skilled gamer an ability to synchronize and synthesize mental and physical actions at a level comparable to that of a master musician, where it’s all about “thinking with your fingers” (Turkle, 1984). Yet in MMOG’s, the experience of mastering, power and control is not limited to game knowledge, skill, and hand-eye coordination; it requires additional personal involvement due to the social nature and the unpredictable game environment common to these games. Gamer actions have become a series of “power tests”, where the outcome determines future testing behavior, as well as the gamer’s perception of their own skill and abilities. The gamer perceives and pursues a combination of two very different types of power: one as an object of possession which is

<sup>1</sup> Flow is the mental state of operation in which the person is fully immersed in what he or she is doing, characterized by a feeling of energized focus, full involvement, and success in the process of the activity. Proposed by psychologist Mihaly Csikszentmihalyi, the concept has been widely referenced across a variety of fields.

wielded like a sword, and the other as a state of group collaboration which requires ongoing maintenance for persistence. Some examples of mastering and control in online games are: Blocking other gamers or disconnecting and re-connecting, knowledge of the game environment, rule “bending”, and mastering self-control through desensitization to better endure future stress.

### ***Powerful self- extensions***

Most advanced online games require that the gamer creates and/or customizes a unique character in the game space. This character is referred to as an “Avatar”, a term borrowed from ancient religions where the avatar was an incarnation of a deity (Avatar, 2007). Through their avatars, gamers adopt diverse roles, cloning or projecting an ideal self; which is very attractive, especially for adolescents where a self-identity quest is heavily underway. “Cyberspace works as an identity laboratory, overflowing with props, audience and other gamers for our personal experience and experimentation” (Wallace, 1999, p 48). “The human identity is influenced by ego perceptions of multiplicity, hetero-genesis, flexibility and fragmentation” (Turkle, 1997, p 226)

The abilities of the gamer and the status of avatars is important (Yee, 2006). The avatar as an extension of the gamer represents a powerful tool, like for example, a car is an extension of our legs and allows us to move great distances. Yet in this case, the avatar is not only an extension of specific ability, but an extension of the self, created and own by the gamer. Such avatar development sometimes has even gone to extremes where it becomes a powerful idol that other gamers want to own, and for which many have paid real money in order to possess.

### ***Flexible Environment***

Since the game is real-time, gamers can dramatically influence or change game history. Online communities are in constant transformation. The advance of artificial intelligence permits gamers to create, accelerate and develop civilizations and organisms with their own life-like attributes.

### ***Permanent Community***

Online communities are persistence worlds and what the gamer accomplishes in the game is permanent. They can conserve virtual property, scores or rankings, social networks, and social status. However, the gamer cannot freeze the virtual space-time, or pause the game, since what happens in the game is in real-time and events continue to occur even when the gamer is offline.

### ***Mixed Realities***

Sometimes gamer accomplishments, and the events inside the game, transcend to outside the world of the game and into the gamers real life. Gaming and blog sites publish top scores and cover news and inside game events. Some virtual communities have become interactive 3D platforms and extensions of real life web pages (e.g. Second Life). Also, video game associations organize real life events and some include real life marketing, popular music backgrounds, and universal icons and symbols which may evoke the association of real life events and emotions with the game environment, and become easily associated with the game even when the gamer is not logged in (e.g. promotional articles, clothing, books, wallpapers, themes).

Also, advancements in game technology now allow the recording of virtual media within game, where photos and video clips can be captured by the gamer as they happen. In some first-person shooter and MMOG engines we see Machinima, or Machine Cinema, take place. Gamers publish their multimedia in sites like YouTube, where sometimes real money video and film contests take place.

### ***Multitask Gaming and Level of Interaction***

Online games require involvement in different activities (e.g. exploring, battles, forming groups) as well as valuable gamer abilities like hand-eye coordination, strategy planning, control of emotional reactions, and social skills. Also, games use secondary applications like Internet Relay Chat (IRC) through which gamers communicate simultaneously while performing in the game. In many online games, members regulate their level of participation in the game space. They can decide to interact with other individuals, join the battle or only be an observational “lucker”. In fact, some games allow learning new tactics via observation of other gamers playing in special game sets (e.g. Unreal Tournament). The different levels of interactivity allow the combination of game playing with daily activities, like watching TV, talking on the phone, doing homework, etc.

### ***Belonging and Emotional Bonds***

Virtual gaming environments often allow members to communicate and share real life topics through private or group communications where gamers can find support and advice for real life problems. The gamer participates in groups and guilds with their own rules for etiquette and behavior, adopting idols and gods of unimaginable variety.

In games where interaction occurs in dangerous environments, gamers need to support and assist each other to accomplish goals and overcome the enemy. They establish emotional and psychological bonds between their “war buddies” after “surviving” the conflict situation.

### ***Self Expression and Personal Investment***

Virtual communities have created unprecedented opportunity for self-expression and self-advancement by people from diverse backgrounds. As a result, gamers are engaging in a rich array of self expressive and status developing activity that historically in the real world has been reserved for those of power and influence. Now, the status of the individual in real life is not necessarily important. Furthermore, gamers are not only exercising a right to free speech and behavior, but are creating high-demand consumable objects, art, buildings, and a variety of virtual media for both personal and public use. This public exposure of gamer creations grants to them the same omnipresence real world innovators often enjoy. The circulation of “buzz” relating to highly desirable resident created products reaches far outside the game itself, and in-game films, objects, articles, tips and tricks are prominently available in off-site web networks.

## **V. The Challenges and Vicissitudes of Online Video Games**

The way the gamer perceives the game, and under which physical and emotional circumstances it is played, is highly relevant when examining the cognitive and psychological impact such gaming has in the life of the gamer. It can be an essential portal into their fantasy world, an important part of their real life, or some combination of both (Whang, Sang-Min, Jee-Yeon, K (2005)). The frequency and duration of gaming sessions, as well as levels of engagement attained (e.g. emotional arousal, immersion, etc.), are also important considerations. In certain cases, the psychological earnings obtained through online gaming may contribute to, or even accelerate, prevalent problematic gaming, while in other cases, benefit is primarily demonstrated. In this section we will provide examples of how this can occur in some circumstances.

## *The Impact of Psychological Earnings*

- **Relationship Idealization** – The absence of face to face communication, the possibility of building a virtual identity can stimulate projection, idealization, and demonization of other individuals.
- **Game Idealization** – The virtual world is a permanent place, where the gamer can escape from real life problems and for some people it can be more exciting than daily routine. The gamer can log in when he or she wants, own and do what in real life may not be possible. The gamer can become popular, be part of prestigious groups and feel less inhibited by the absence of real physical presence and the autonomy experienced.
- **Idealization of Skill and Rapid Progress** – Altruism is common among gamers when it comes to assisting a “newbie” in learning how to navigate the game environment. This can result in not only one-on-one, but group learning, where losses or “near misses” can be generally attributed to the fault of other gamers or the game system. Also, in some cases it is possible to buy powerful avatars from unofficial websites that allow rapid game advancement, learning tricks, inside game information, and obtaining cracked codes.
- **High Frequency Use** – Virtual communities change all the time (even when the user is not online) which can stimulate a desire to play all the time in order to not lose friends or virtual property and to be able to control and know what is happening in the unpredictable online world. Membership payment or investment of real money in the game can cause the gamer to keep participating to prevent the loss their investment.
- **Recurrent Game Thoughts** – Online games often require strategy planning and emotional involvement, stimulating thoughts about the game offline during everyday life.
- **Extensive Duration Sessions** – Due to the competitive and social nature of online games, each level becomes more difficult and in every session the gamer can establish more friends or contacts. This creates a demand on the gamer to incrementally invest more and more time in synchronous or asynchronous activities relating to the game in order to maintain personal status or stay at the same the gaming level of his or her friends.
- **Change of Emotional States** – The gamer can experience dramatic changes in mood derived from game activity (e.g. sudden changes, establishing and losing contacts, experiencing truths and lies, changing from the fantasy world to the real world, etc.) and perhaps sadness or depression when comparing his or her abilities, material wealth and popularity in the virtual world with that of real life.
- **Real Life Relationship Substitution** – Risk of substituting real life friends for virtual friends due to the highly realistic and social virtual setting as well as the individual need to avoid isolation. This is especially true when considering the massive contact which can be experienced, the range of user groups and email lists accessible, the convenience and availability of digital communication, and the sheer quantity of others with whom the individual can either compete or find an affinity for with respect to ideals and values.
- **Magical Thoughts** – The unpredictability of artificial intelligence can sometimes confirm false beliefs and superstitions, like for example, the thought of playing at a specific hour or during a specific time session, following certain routines prior to or during the game, owning special items, etc. may increase the possibility of accomplishing set goals.

## *Triggering, Stimulation or Satiation of Personality Disorders and Characteristics*

Gaming can trigger, stimulate or satiate pre-existing personality disorders and characteristics:

- **Shopping Addiction** – From the possibility of buying virtual property (guns, avatars, clothes, buildings, etc.)
- **Eating Disorders** – From the possibility of creating or customizing an ideal avatar “self”.
- **Exhibitionist and Voyeurism** – From the possibility of staying in the game space to observe other gamers, dancing nude, being able to customize avatars to excess.
- **Social Phobias** – From the possibility of establishing a mass social contact that is not possible to have in real life.
- **Sadism and Masochism** – The possibility of being a grief (one who sabotages), flaming (a verbal offender), or cyber bully in cyberspace.
- **Sex Addiction** – The possibility to participate in flirtation and cybersex activities.
- **Sensation Seeking** – The possibility to win and lose, and to game for real money may satisfy the need for feelings of euphoria, adrenaline rush and risk behavior.
- **Depression** – The fluctuation between fantasy and the real world, constant changes.
- **Consumption of Substances or Stimulants** – Consumption of stimulants to extend sessions and attain greater immersion.

## *Multifactors to be Observed in Problematic Gaming*

To agree with Wood, Griffiths, Chappell, and Davies (2004) excessive gaming or gambling is derived from a complex relation between the activity in itself (e.g. structural characteristics), social factors (e.g. friend influence) and psychological factors (e.g. mood modification).

This section looks to the psycho-dynamic elements which may be required and which underlie the development of some types of problematic gaming.

- **Motivational Factors** – Why does the gamer play? (e.g. for entertainment, to pass the time, as a catharsis, out of solitude, for socialization, to make money etc.)
- **Frequency** – How much overall and how much increasingly during each session? (e.g. The gamer takes pauses or not, how long does he play without interruption)
- **Structural Game Characteristics** – What does the gamer play? (e.g. A war game, sport, educational) Which activities does he perform? (e.g. socialize, hunt)
- **Gaming Style** – How does the gamer game? (alone, with friends, under what ergonomic conditions) How do they interact with others game?
- **Level of Engagement** – How is the game perceived? Is the game considered to be a part of the fantasy world or as an important part of real life? Ability to become immersed in the fantasy world (e.g. emotional reactions to avatars, game actions and events).
- **Gamer Typology and gamer profile** – Hardcore, professional, casual gamer, etc. Favorite activity in the game (e.g. explorer, socializer), introverted, extroverted, sex, age.

- **Change of mood** – How is the conflict between fantasy and reality managed, (e.g. depression, anxiety, and frustration). How does the player manage his or her emotions during and after a gaming session? (e.g. anxiety, fears, excitement) Physiological reactions (e.g. sweat, heart palpitations, stress).
- **Conflict** – How are online and offline activities combined, change of pattern behaviors (e.g. to eat, to sleep, maintain personal hygiene, or enjoy doing other activities that were previously enjoyed before becoming involved in the game)
- **Stress and Life Situation** – Influence of friends, unemployment, etc.

## VI. Conclusion

Online video games have potential to include many forms of media and can be a platform for commercial products, services and education. Virtual worlds are places where a visual engineering of the game design and architecture is constantly redefined by gamer interaction, becoming a complex improvisational real-time choreography of simulation. Virtual communities have become an important element in the lifestyle of children, adolescents and even adults. Moreover, the line between online gaming and gambling is rapidly disappearing. Many online games now involve some form of earning virtual or real money, a trend and definitive indicator that as a society we are crossing a new economic and societal threshold into a frontier which at times is too unfamiliar to comprehend.

The structural game characteristics, elements and dynamics of these new social environments raise questions about whether the massive social and competitive interactivity, as well as the reception of powerful and diverse stimuli, can increase or decrease health risk factors relating to gaming activity.

Online communities establish a bridge between the phenomena of the fantasy world and real life. These games allow individuals to establish social networks and relationships under unique conditions (e.g. anonymity, absence of face to face communication, avatar identification and projection) and to create and communicate without limits or inhibitions, resulting in the simulation of many real life activities and the projection of fantasies into the screen.

Online video games are spaces of self-expression, experimentation, and places of emotional touch which allow individuals to realize and connect with new facets of their personalities (e.g. feelings, fears, anxieties, and frustrations). They are also increasingly necessary to teach young people to discriminate between different types of information, learn to be assertive, delineate between fantasy and real world phenomenon, and protect themselves (especially the youngest age groups). We cannot, and should not, avoid embracing the potential of our new digital era. Rather, we must diligently work to optimize the psychological and social benefits of emerging interactive virtual technologies while finding effective ways to reduce the risks or dangers it can present in some cases.

We actually don't have sufficient studies on the potential consequence of such rapid change in the way humans interact with, and through, representationally interactive media technologies (i.e. social avatar manipulation), but it is necessary to formulate and reformulate models to understand how we may cross the "Hanging Bridge" during this period of adaptation. A period where the intensive use of the technology may be perceived as excessive, yet very well could be the normal lifestyle of tomorrow.

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