

## COPYRIGHT

---

Copyright © 2003 by authors, Utrecht University and Digital Games Research Association (DiGRA).

All rights reserved. Except for the quotation of short passages for the purpose of criticism and review, no part of this publication may be reproduced or utilized in any forms or by any means, electronic or mechanical, including photocopying, filming, recording, or by any information storage and retrieval system, without permission in writing from the copyright holders.

## 23. EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

---

Holin Lin  
Chuen-Tsai Sun  
Hong-Hong Tinn

### ABSTRACT

Virtual online gaming clan organizations are used to analyze social grouping and cooperation within competitive gaming communities. Participants from two popular massive multi-player online role-playing games (MMORPGs) in Taiwan were interviewed to collect data on the social dynamics of gamer networks in virtual worlds. Our essential argument is that joining online clans involves costs and risks, yet the "law-of-the-jungle" nature of the gaming world and the interdependent role structure of most game designs encourage the formation of gaming groups. Players commonly establish clans consisting of individuals from their off-line networks in order to reduce the risk of cooperating with strangers. A typical portrait of careless and vulnerable teenage gamers is found unsound.

### KEYWORDS

Online game, MMORPG, clan, cooperation, network

### INTRODUCTION

Multiple-player online games are community-oriented. As the backbones of successful online games, active player communities are now viewed as having high commercial value (Herz, 2002; Taipei Times, 25, July, 2003<sup>1</sup>), and are attracting increasing attention from researchers interested in the social interactions and group dynamics of artificial environments. Online gaming clans—self-emerging, self-organizing communities of online game players—provide some of the most interesting data in this regard.

In game worlds, players form groups to attack monsters, share treasures, and fight other clans. Accordingly, clans can be viewed as economic units in which players complete missions that are difficult to accomplish by individuals, or as social units in which characters interact while increasing their skill levels. However, even though clans may operate efficiently while performing collective actions that require coordinated mobilization, clan membership rarely exerts true binding power on individual behavior, and many members remain complete strangers to each other. Considering that most clans rely on oral commitments from their members, it is surprising that so many maintain such high levels of stability and loyalty.

<sup>1</sup> Taipei Times, PC Game Success A Rarity for Taiwan, by J. Ho, July 25, 2003, p.10.

In this paper, we will analyze the social dynamics of online gaming clans from three perspectives: a) the motivation to form clans, especially in light of

growing evidence on the costs, risks, duties, and obligations of membership; b) the nature of cooperation among anonymous individuals in gaming situations that allegedly emphasize independence; and c) social interaction factors associated with youth gang culture.

### Research Context

Taiwan's gaming industry has long understood the profitability of pay-to-play online games. Unlike video games, online role-playing games (RPGs) allow players to interact in virtual worlds that they create; these worlds continue to evolve even when participants take time off from playing. The ability to keep players hooked online and to establish and maintain active gaming communities are regarded as keys to success for game designers and managers.

Still, research on the social dynamics of gaming communities is still in its infancy, with the majority of studies focused on the issues of identity formation/transformation (Curtis, 1997; Turkle, 1995) and gender interaction (Danet, 1998; Deuel, 1996; Kendall, 1998) in social Multiple User Dungeons (MUDs). Further, by exploring social and adventure MUDs, Reid (1998) identified an embedded power structure in games between gods/wizards (designers/managers) and players. However, there are important differences between MUDs and such game-based online communities as massive multi-player online role-playing games (MMORPGs). Unlike social MUD players, MMORPG players are influenced

by game designs to compete with other players in task-oriented scenarios. Also, as competition levels grow in tandem, collective action becomes increasingly necessary for MMORPG success (in some cases, for simple survival). In virtual communities, competition and collective action stimulates social interactions and group behaviors in ways that are hardly observed in social MUD contexts.

Observers have noted that online gamers tend to play in small groups (Herz, 2002), which raises the question of why such players form clans that subsequently nurture unique MMORPG cultures. Some researchers prefer profiling the social lives of gamers in the context of shared-interest subcultures (Bryce & Rutter, 2002; Beavis, 1998.). We believe that there are additional, perhaps more sociological ways of approaching the "guilds" and "pledges" of online gamers that shape (and are shaped by) complex social network processes.

The average online gamer is very young (Fromme, 2003; Liverstone et al., 2001), and online game culture is therefore dominated by youthful ideas on friendship, competition, and community. On the other hand, the marginal status of adolescents and children in mainstream society also colors the ways that the general public views online gaming culture. The press and academic research are often attracted to the negative consequences of computer games such as violence (Herz, 1997; Goldstein, 1998; Russel et al, 2002; Anderson and Bushman, 2001; Fleming

# EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

290

and Rickwood; 2001.) and addiction (Charlton, 2002; Griffiths, 1998; Kandell, 1998). The underlying assumption of these works is that adolescents are passive and uncritical consumers of computer games and their messages (Beavis, 1998). Young gamers are regarded as playing merely out of pleasure-making, and their behavior in virtual worlds is often seen as spontaneous events.

In addition to common interests, network diffusion is often identified as a nature phenomenon in the formation of online gaming communities. When explaining the frenzy in Korea over the Lineage game, an educational psychologist asserted, "If everyone you know plays Lineage, you have to play it" (Time magazine, 4, June, 2001<sup>2</sup>). It may seem a simple explanation to state that friends tend to play the same games together, but it appears to overlook the actual mechanisms through which such processes evolve. A closer look at how clans recruit members may show that "natural diffusion" has insufficient explanatory power regarding off-line networks.

In this paper, we will discuss how diverse groups of gamers create social enclaves in online environments and how rules and disciplinary actions are established to make cooperative activities possible. Primary research questions are: a) How are clans formed? b) What are the incentives for players to join a clan? c) What are the inclusive/exclusive principles of clan membership? and d) What are the mechanisms that make cooperation possible among clan members?

## DATA COLLECTION

We looked at the social dynamics of clans arising from the two most popular online multi-player RPG games in Taiwan: Lineage (NCsoft, 2000) and Ragnarok Online (RO) (Gravity, 2002).<sup>3</sup> Our two primary data sources were interviews with online gamers and articles posted on bulletin boards (BBSs) and electric forums dedicated to the two games. We used snowball sampling to locate fourteen Lineage and RO gamers who were willing to be interviewed. Nine of the fourteen interviewees were Lineage gamers; six of the fourteen interviewees were experienced RO players. Only two of the interviewees were female, matching the general underrepresentation of female players in online gaming.

To ensure the heterogeneity of our sample and to build a greater understanding of online gaming clan culture, we tried to find interviewees from clans with different orientations, sizes, and member compositions. During our initial contact, we allowed potential informants to choose their preferred interview situation or location; seven of our discussions took place via MSN or Yahoo instant messaging systems or e-mail, and seven took place as traditional in-person interviews.

Articles posted on bulletin boards and electronic game forums were our secondary sources of data. Gamers use these boards and forums to exchange tips, share opinions, give support, and to offer advice on avoiding scams and managing clan business.

<sup>2</sup> Time magazine, Where Does Fantasy End? by M. Levander. June 4, 2001, vol. 157, no. 22.

<sup>3</sup> By 2003, Lineage had been on the Taiwan market for almost three years, and now holds the number one position in the local online gaming market. RO has given

Lineage strong competition since its release in August, 2002. One year later, the Taiwan distributor for RO claimed that the game's market share had surpassed that of Lineage, but this claim has yet to be verified.

## GAMES AND CLANS

### Local Lineage and RO Contexts

Lineage is a Dragons-and-Dungeons type of fantasy game whose players take on the personas of knights, wizards, elves, and members of royal families as they move through a world filled with adventure, treasure, monsters, and other challenges that must be met in order to increase their skill levels and earn virtual rewards. To gain control of castles that dot their virtual world, Lineage players fight each other as members of teams or clans headed by clan masters. Victors levy taxes upon the virtual villages they control, and dun fellow gamers a percentage of every online weapons sale. In Asian countries, the Lineage frenzy has resulted in a booming black market of products that blur the line between virtual and real worlds. Players exchange real money for virtual treasures or game currency (Taipei Times, 25, July, 2002).<sup>4</sup>

In RO, players start as novices with no special powers. As characters reach the highest novice level, they are given a choice of six occupations: swordsman, thief, acolyte, magician, archer or merchant. Each occupation has its own game settings, but the characters' goals are essentially the same: to buy and sell items and use available money and equipment to defeat monsters in order to earn experience. Figures released at the end of August, 2003 show an estimated 1 million Taiwan residents of a total population of 23 million with active Lineage accounts; the record for concurrent online players

is approximately 180,000 (China Times Express, 25 August, 2003<sup>5</sup>). The estimated number of RO subscribers at the end of July, 2003 was 1.8 million.

### Clans

In online gaming worlds, clans exist as self-emerging player organizations. Lineage clans are known as "blood pledges" and their RO counterparts are called "guilds." We will use the general term "clan" to refer to both types. According to the official Taiwanese websites for the two games, there are currently 450,000 Lineage clans and 7,610 RO clans.<sup>6</sup> The smallest ones may have 3-6 members, the largest ones hundreds of members.<sup>7</sup> For complex actions such as castle sieges, competing parties need as many helpers as possible, and alliances are made and broken among clans of various sizes; some clans have gone so far as to organize last-minute recruitment programs or to hire mercenaries to increase their power. Other clans temporarily organize themselves into subgroups for the purpose of performing less challenging tasks (e.g., defeating certain classes of monsters). Outsiders are sometimes invited to participate in these task-oriented, short-term projects, but it appears that most clans prefer creating teams that consist of established members.

Clan masters have complete power to accept or reject new member applications. Each player can activate three characters, and individual characters can only belong to one clan at a time. After joining a clan, a player can have a nickname showing above his or her avatars on the screen and use the exclusive chat line to

<sup>4</sup> In September, 2003 the exchange rate for New Taiwan Dollars to Lineage Dollars increased from 1:1000 to 1:1500.

<sup>5</sup> China Times Express, Lineage II is about to release, by Lee, Y.C. Aug 25, 2003.

<sup>6</sup> However, the number of RO clans is underestimated, since they are not required to register with the official website.

<sup>7</sup> In Lineage, the allowable number of clan members was limited to only 40 until April 30, 2003. Since May 1, Lineage administrators have started giving permission for

gamers to form much larger clans, and are helping gamers to document the relationships of various affiliations.

# EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

---

292

talk to members of the same clan. Members are also given access to clan-owned warehouses for storage. More sophisticated clans have their own virtual accommodations for socializing, resting, and working on fighting skills.<sup>8</sup>

## RESULTS AND DISCUSSION

The vast majority of online gamers have belonged to at least one clan at some time. According to an unpublished survey of *Lineage* gamers that we conducted earlier this year, only 5.7% of 493 respondents stated that they had never belonged to a clan. Data collected via the interviews we conducted for this report show that most gamers feel a need to join a group in order to benefit from the various kinds of support they offer. Several interviewees expressed a desire to belong to a clan because of the "law-of-the-jungle" feeling of game worlds and the interdependent structure of game design.

### The Need for Cooperation and Protection

The majority of our interviewees used such terms as "dark world" and "a world that makes you lose faith in humanity" when describing gaming environments. They claimed that playing any game alone can be unpleasant or even dangerous, especially for newbies. The most frequently cited example is treasure that is stolen by onlookers after a character single-handedly defeats a monster. Inexperienced players are frequently the victims of fraud. Weaker characters can be bullied by stronger ones, often for no discernible reason. Being victimized is bad enough in

any game, but the real cash value of virtual goods in these two games makes these situations even more unpleasant. Thus, inexperienced players are happy to find more experienced comrades to show them the ropes and to back them up against bullies. Membership in a strong clan is thus viewed as a means of self-protection.

Acting as a solo player can be frustrating in other ways, since access to the more interesting adventures only comes after a character reaches a certain level. Without the required capital and equipment, a character may find it very hard to move to the next level of play. As one interviewee told us, "In *Lineage*, monsters are hard to beat and money is hard to earn." New characters need guidance and gifts from experienced gamers, who in turn need support to achieve certain MMORPG goals—for instance, defeating some of the more challenging monsters. The interdependent structure of both games requires group action. *RO* characters have different attributes and special abilities: swordsmen are slow yet effective fighters, archers are fast but vulnerable, and acolytes are weak physically but have healing powers. In *Lineage*, members of royal families are weaker than all other class characters in every specialty, yet they are the only ones who can establish and lead a clan.

Differences in role specialties make surviving without help a difficult job for any role a character plays, and many tasks in game require cooperation of varied

<sup>8</sup> Players can recover their competitive power more quickly in a clan house than in wild.

roles further strengthen the need to conjugate. Castle siege is a typical case of game designed to facilitate collective actions by gamers. To siege a castle, or to defend one, is a massive project requires cooperation by a combination of hundreds of different role characters. This interdependent structure built into the system motivates gamers to form clans and act together. These designs in system and “law-of-the-jungle” nature in gaming world provide strong incentives for social grouping among gamers.

#### **Risks of Cooperation**

Joining a clan and cooperating with fellow clan members can be costly and risky. Members are held to certain obligations, and helping or chatting with other members can be very time-consuming. Group fights arising from disputes between clans and outsiders can cause severe damage to characters.<sup>9</sup> For some Lineage gamers, even the “ultimate clan goal”—a castle siege—is a dubious enterprise in terms of costs and benefits. In addition to requiring extensive planning and a huge capital investment, participants are at high risk of getting hurt in battle. Basic water and blood supplies for supporters can cost as much as 10 million Lineage dollars;<sup>10</sup> salaries for 200 mercenaries who took part in one siege was 4 million Lineage dollars. If the attacking clan succeeds, the profits can be generous. However, the chance of success in the first few attempts is slim. One interviewee told us that 10 members of a clan that she belonged to decided to leave their group rather than take part in a questionable siege.

Offering assistance to fellow clan members can backfire. We heard many stories of thefts and scams involving money and coveted virtual weapons. Our interviewees shared many stories about cheating, betrayal, and espionage. Lending valuable equipment to fellow members is a difficult decision for many, since recipients sometimes hold on to the equipment beyond the agreed-upon time period, or in some instances, refuse to return it. Some members who lost items that they borrowed did nothing to compensate the original owners, nor did they even offer apologies.

The most common disputes are about dividing treasure, collectively owned equipment, or collectively obtained valuables. Since participating characters differ in terms of experience and contributions, the issues of entitlement and the size of shares can become very complex. We heard numerous complaints about members who reaped profits without doing anything to earn them, about greedy players who refused to share captured items, and about cowards who abandoned difficult missions. Stealing treasure accumulated by others via the completion of arduous tasks was perhaps the greatest source of discontent.

An important difference between the two games should be noted here. When a monster is slayed through a collective effort in Lineage, the resulting treasure is immediately transferred to each participating gamer; in RO, the treasure falls to the ground, where anyone can pick it up—including outsiders who

<sup>9</sup> Fighting can cause health and economic damage to individual characters. Wounded players must buy magic potions or experience value to recover. Furthermore, they run the risk of losing equipment.

<sup>10</sup> Approximately US\$290.

## EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

294

did not participate in the slaying. In Lineage, no one knows exactly how much each participant gets, unless they decide to discuss the issue openly. This design feature underscores the importance of trust among Lineage gamers.

### **Reducing the Risk of Cooperation**

Reciprocal supportive relationships are expected among clan members, for reasons of social norms and economic rationality. Loaning equipment that is not in use helps the clan become stronger, which benefits everyone when larger rewards are earned and distributed. But if a clan suffers from too many “free-riders,” the risks of lending will become too high—that is, a sense of unfairness may grow to the point that healthy interactions and basic operations are damaged. For this reason, most clans feel compelled to develop mechanisms for securing trust and reducing risk.

The most important mechanism in this regard may be the creation of online networks based on existing off-line social relationships among core members. In Taiwan, the vast majority of these social networks revolve around the players’ schools, with core clan members mostly consisting of classmates, friends from the same school, and siblings and neighbors. For the most part, online clan members with no off-line connections to the original members hold marginal positions. However, clans that do not take online members tend to make exceptions for special campaigns, or when a large number of members have conflicting schedules.

Most of our interviewees argued that online strangers in the game world should not be trusted, and that off-line “real contacts” are much more reliable in terms of potential clan membership. While this may seem obvious on the surface—off-line members are naturally more inclined to enjoy a range of leisure activities

with each other—the online replication of off-line networks holds considerable meaning. The rational principle underlying the overlapping of networks is that off-line relationships are more likely to guarantee a mechanism for tracking down perpetrators of fraud, theft, and other online infractions, thus reducing risk and minimizing potential damage. The whole point of such mechanism is not only to reduce the chance of risk (by having reliable friends as fellow partners), but also to minimize the possible damage caused by it (by tracing the person for compensation). As a Chinese saying puts it: “A monk can run, but not the temple he belongs to.”

Distinctions between online and off-line relationships raise many questions regarding trust. Several interviewees emphasized the risk of not being able to retrieve items that they loan out. One in particular made it very clear that he would only make loans to online friends who were willing to share their verifiable real-world addresses. This sense of traceability is increasingly becoming the standard for extending online trust in game worlds. Still another clan (more oriented toward engaging monsters in combat) has enforced a ban on equipment loans so as to prevent all potential conflicts; violators risk expulsion. In other words, off-line connections are welcomed because they are easy to locate should any problem occurs. And this friendliness can be extended online if online friends can provide similar sense of traceability.

The master of a 76-member clan gave us a detailed explanation of how the trust-securing system works. All 75 members have off-line connections with the clan core—no strangers or online friends allowed. During our interview, he described his clan’s membership qualifications:

‘Our rule on connection is this: either I have to know the person directly, or there can only be one



person between the would-be member and me, just to be sure that we can find the person directly via one member. This way it's convenient and won't get too complicated.'

Why?

'If the connections are too remote, the person may just disappear after doing something bad, and we won't be able to find him . . . Since everybody knows each other, if anything happens, the one who introduced this member to the clan is responsible for finding him.'

The clan master's description is one of a ripple-like pattern of resource allocation and job assignment. Smaller member numbers mean a higher percentage of direct connections to a master or to core founders. The same interviewee told us, "The first thirty members are fine; they take care of each other." Those 30 members get the largest shares of any pie that needs to be distributed. During collective missions, core members are the only ones entrusted with such critical roles as magicians. By placing more resources and obligations into these trusted hands, risks attached to cooperation are reduced in a virtual organization.

#### **Rules, Discipline, and Punishment**

The second most important risk reduction mechanism is the combination of punishment and discipline. The threat of discipline from social relationships has a preventative effect. Additional rules and punishments—e.g., expulsion—allow a clan to control the

actions of its members and the potential negative effects of dealing with strangers. For clans with large online memberships, these mechanisms are considered necessities. One interviewer's pledge does not exclude outsiders who have no acquaintance with a certain member. The size of his pledge is quite big, its members seldom conduct large-scale, high-risk, and potentially profitable operations, thus reducing the need to ask for large time commitments from core groups of trustworthy comrades. On the contrary, the primary activities of the members are chatting with each other and defending the castle in return for pay from the master. This type of clans resembles large bureaucratic systems.

Another interviewee's pledge, on the other hand, is a monster-beating-oriented clan, and it sets a rule that a member is not allowed to lend or borrow equipment to another so as to prevent conflicts from happening. Anyone violates this rule will be expelled. Based on our observation, a clan open to strangers either suffers no problems caused by trust or relies on strict discipline and severe punishment.

#### **Balanced Exchange Relations and Gang Culture**

Social interactions in online gaming communities generally reflect a mix of economically rational exchange patterns and adolescent gang culture. Exchange relationships among gamers are generally balanced, with clan member obligations usually corresponding to the degree of entitlement. Gift

## EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

---

296

exchanges are mostly limited to small items of marginal value unless the two parties have a particularly strong relationship. For the most part, powerful clans do not accept members who have no immediately useful skills, and skillful characters tend to avoid joining weak clans.

On the other hand, it would be too simple to summarize resource exchange and social dynamics in online gaming worlds as calculated behaviors in response to economic incentives, since influences of social role expectations on character behavior are also evident. The clan master role is an interesting example of social expectations. In *Lineage*<sup>11</sup>, living up to the social expectations of a clan master/member of royalty requires the mentality of “taking care of one’s people” that extends beyond purely economic calculations. According to our observations, some clan masters enjoy the responsibility of being a good leader so much that they are willing to sacrifice a great deal of time and wealth to support their followers. Such popular works as *Lord of the Rings* provide role models and cultural scripts for interactions between clan masters and their supporters—with both positive and negative results. When one interviewee was asked why he obeyed a weak, unreason-

able clan master’s orders, he replied, “because he is the King, and this is the culture of the story!”

Finally, we observed a number of similarities between gang culture and online gaming clan culture—for instance, the exclusivity of social interactions and occasional fights between clans. We heard stories of unprovoked killings of outsiders by clan members, and claims that when a fight occurs, clan members immediately join in without asking questions. Heroic behavior is considered admirable, and running away from a group battle is considered cowardly. Group awareness and an emphasis on solidarity are also remindful of gang culture, although without the same degree of criminality.

<sup>11</sup> In *Lineage*, clan masters are exclusively reserved for the royal class.

## CONCLUSION

We gathered data on clans organized around Taiwan's two most popular online games to investigate their compositions, operations, social dynamics, and interactive cultures. Our primary findings are:

1. The primary reason why clans emerge from online gaming environments is not for social purposes but for character survival and game success. The basic design of all local MMORPGs makes collaboration a necessity, since slaying monsters or capturing castles are impossible tasks for solo players. Game managers and player cultures have combined to create a "law-of-the-jungle" atmosphere in the online gaming world, in which single characters are bound to confront dangerous and frustrating situations. As committed groups dedicated to providing mutual support for successful gaming, clans may be considered an adaptive survival strategy.
2. Exchanging favors and resources has its own set of risks, especially when the same resources have value in the physical world. To reduce potential risk and damage, online clans are generally rooted in off-line social networks; however, overlapping online and off-line networks should not be considered just a ready extension from an existing off-line community to an online game world, because considerable rational calculation is involved in the process. Many online organizations restrict outside membership to the friends of core members (in some cases, introducing potential members to the world of a particular game) in order to avoid the risk of filling a clan with online strangers. Limiting online membership to acquaintances once removed from a clan master also ensures that online rule violations can be effectively addressed off-line, resulting in effective damage control.
3. The mainstream cultural narrative concerning video games views them as sources of addictive behavior leading to negative consequences. We found that teenage online gamers have developed various mechanisms to cope with complex interpersonal interactions—both among game characters and the individuals who control those characters. They carefully evaluate risks and benefits to avoid being cheated, and lower their expectations of strangers in a manner that we considered very practical. This finding resists the questionable portrait of teenaged gamers being restless, careless, and vulnerable. We consider these images to be false stereotypes.

# EXPLORING CLAN CULTURE: SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

298

## REFERENCES

1. Anderson, C. A. and Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science*, 12(5): 353-359.
2. Beavis, C. (1998). Computer games: Youth culture, resistant readers and consuming passions. Paper presented at Australian Association for Research in Education annual conference. Adelaide, Australia. Available: <http://www.aare.edu.au/98pap/bea98139.htm>
3. Breeze, M. (1997). Quake-ing in my boots: Examining clan community—Construction in an online gamer population. *Cybersociology Magazine* [Online], 2. Available: <http://www.socio.demon.co.uk/magazine/2/is2breeze.html>
4. Bruckman, A. (1998). Finding one's own in cyberspace. In R. Holeton (ed.), *Composing Cyberspace* (171-179). Boston:McGrw Hill. (Reprinted from *Technology Review*, 1996.)
5. Bruckman, A. (1996). Gender swapping on the Internet. In P. Ludlow (ed.), *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace* (317-325).
6. Bryce, J. and Rutter, J. (2002.) Killing like a girl: Gendered gaming and girl gamers' visibility. Paper presented at Computer Games and digital Cultures Conference. Tampere, Finland.
7. Charlton, J. P. (2002). A factor-analytic investigation of computer 'addiction' and engagement. *British Journal of Psychology*, 93:329.
8. Griffiths, M. (1998). Internet addiction: does it really exist? In J. Gackenbach (ed.), *Psychology and the Internet* (61-75). San Diego: Academic Press.
9. Curtis, P. (1997). Mudding: Social phenomena in text-based virtual realities. In S. Kiesler (ed.), *Culture of the Internet* (121-142). Mahwah, New Jersey: Lawrence Erlbaum Associates.
10. Danet, B. (1998). Text as mask: gender, play and performance on the Internet. In S. G. Jones (ed.), *Cybersociety 2.0: Computer-mediated Communication and Community Revisited* (129-158). Thousand Oaks, CA: Sage.
11. Deuel, N.R. (1996). Our passionate response to virtual reality. In S. C. Herring (ed.), *Computer-Mediated Communication* (129-46). Amsterdam, Philadelphia: John Benjamins.
12. Dibbell, J. (1996). A rape in cyberspace; or how an evil clown, a Haitian trickster spirit, two wizards, and a cast of dozens turned a database into a society. In P. Ludlow (ed.), *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace* (375 - 397). Cambridge, Mass: MIT Press.
13. Doyle, P. and Hayes-Roth, B. (1998.) Guided exploration of virtual worlds. In F. Sudweeks et al. (eds.), *Network and Netplay: Virtual Groups on the Internet* (243-263). AAAI/MIT Press.
14. Fleming, M. J., & Rickwood, D. J. (2001). Effects of violent versus nonviolent video games on children's arousal, aggressive mood, and positive mood. *Journal of Applied Social Psychology*, 31(10): 2047-2071.

15. Fromme, J. (2003). Computer games as a part of children's culture. *Game Studies* [Online], 3(1). Available: <http://www.gamestudies.org/0301/fromme/>
16. Goldstein, J. H. (1998). Immortal kombat: War toys and violent video games. In J.H. Goldstein (ed.), *Why We Watch: The Attractions of Violent Entertainment* (53-68). New York: Oxford University Press.
17. Herz, J. C. (1997). Moral kombat. In J.C. Herz, *Joystick Nation* (183-195). Boston: Little, Brown, and Co.
18. Herz, J.C. (2002). Gaming the system: Multi-player worlds online. In: L. King (ed.), *Game On, the History and Culture of Videogames* (86-97). London: Laurence King Publishing.
19. Kandell, J. 1998. Internet addiction on college campuses: The vulnerability of college students. *CyberPsychology & Behavior*, 1(1). Available: [http://www.behavioraledu.com/sampler/ia\\_resources.html](http://www.behavioraledu.com/sampler/ia_resources.html)
20. Kendall, L. (1998). Meaning and identity in "Cyberspace": The performance of gender, class, and race online. *Symbolic Interaction*, 21(2): 129-153.
21. Lin, H. and Sun, C. T. (2003). Problems in simulating social reality: Observations on a MUD construction. *Simulation & Gaming*, 34(1): 69-88.
22. Livingstone, S., d'Haenens, L. and Hasebrink, U. (2001). Childhood in europe: contexts for comparison. In S. Livingstone and M. Bovill (eds.), *Children and Their Changing Media Environment. A European Comparative Study* (3-30). Mahwah, NJ, London: Lawrence Erlbaum Associates.
23. Reid, E. (1997). Hierarchy and power: Social control in cyberspace. In P. Kollock and M. Smith (eds.), *Communities in Cyberspace* (107-133). London, New York: Routledge
24. Russel, B. W. and Caryl, A. C. (2002.) Aggression, competition and computer games: Computer and human opponents. *Computers in Human Behavior*, 18:495-506.
25. Zaccaro, S. J. and Bader, P. (2003). E-Leadership and the challenges of leading E-Teams: Minimizing the bad and maximizing the good. *Organizational Dynamics*, 31(4): 377-387.