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Social network game: Digital addiction *versus* communication and interaction in CityVille?

Jugar en red social: ¿adicción digital versus comunicación e interacción en *CityVille*?

Jogar na rede social: Vício digital versus comunicação e interação no *CityVille*?

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ABSTRACT

Network playing carries the risks of addiction related to excessive time and money investment and the virtualization of relationships, although it may facilitate communication linked to online entertainment. Interviews with CityVille players (N=105) show the relationship between time and money invested with levels achieved and accomplishments. Men spend more money and time in games than women spend and prioritize competition, while the latter stress collaboration. Both genders perceive having developed interpersonal skills, but women emphasize the communicative ones. Addicted subjects spend more than 5 hours a day and invest 23 USD per month in this game, and play 5 to 7 other online games.

Keywords: Online games, social networks, interaction, communication, addiction, spending, communication skills, interpersonal skills.

RESUMEN

Jugar en red implica riesgos de adicciones, por invertirse excesivo tiempo y dinero y virtualizarse las relaciones, aunque puede favorecer la comunicación ligada al entretenimiento online. Tras consultar a jugadores de CityVille *(N=105), se constata la relación entre tiempo y gasto invertido, y niveles y logros alcanzados. Los hombres dedican más dinero y tiempo a jugar que las mujeres y priorizan la competición; ellas, la colaboración. Todos perciben desarrollar habilidades interpersonales, pero las mujeres subrayan las comunicativas. Los sujetos adictos dedican más de 5 horas diarias y gastan 23 dólares mensuales en este juego, y juegan entre 5-7 juegos online más.*

Palabras clave: *Juegos online, redes sociales, interacción, comunicación, adicción, gasto, habilidades comunicativas, habilidades interpersonales.*

RESUMO

Jogar em rede implica em riscos de vício, ao investir dinheiro e tempo excessivo e virtualizar as relações, embora isso pode facilitar a comunicação ligada ao entretenimento online. Após consulta com os jogadores de *CityVille* (N = 105) é constatada a relação entre o tempo e o dinheiro investido com níveis e realizações. Os homens gastam mais dinheiro e tempo para jogar que as mulheres e priorizam a competição; elas, a colaboração. Todos têm a percepção de desenvolver habilidades interpessoais, mas as mulheres enfatizam as comunicativas. Os indivíduos viciados passam mais de 5 horas por dia e gastam USD 23 por mês neste jogo e jogam entre 5-7 jogos *online* ou mais.

Palavras-chave: Jogos *Online*, redes sociais, interação, comunicação, vício, gastos, habilidades de comunicação, relacionamento interpessoal.

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INTRODUCTION

Online games have proliferated exponentially after inserting into social networks like Facebook, Google+, among others, taking advantage of their advertising platforms to attract users and using their own contacts as engaging elements. Periodically, they inform users about whose friends participate in a particular game, thus enhancing the virtual links that bond them by sharing online hobbies (Chuang, Lin & Shu, 2011). This is contributing occasionally to nest within the generic social network, a community of specific endogenous players (Del Moral & Fernández, 2013), enriching the gaming experience and consolidating their social connections around a particular game. Thus, it becomes a more social activity (Lautman & Curran, 2012), by reuniting users with common interests.

On the other hand, and unlike other games, this ludic network practice is characterized by not requiring an excessively long and prolonged commitment to the game. The users can dispense their sessions without resting score, and incorporate again whenever they want, which is setting up a so-called *casual gamer* profile. Interestingly, in most cases these are subjects who were not video-players before, but they have begun to play because of their membership to a social network, through invitations from their own contacts (Consalvo, 2011). In addition, most of these games are free, or at least they do not require investing money to play, although there is a quicker game mode that allows move faster in it, and involves micro-payments ranging from 60 cents minimum to tens of Euros and/or dollars (Forró, Cauwels & Sornette, 2011). A payment strategy a priori, minimizes the psychological impact for users of being aware of the actual investment made in the game, causing them to lose control of their spending.

All these features make online gaming very controversial applications, well worth a reflection from an educational perspective. Some consider them a risk for encouraging social isolation, especially in groups such as adolescents or especially vulnerable people, looking for acceptance and recognition that they do not find in their daily lives; or by activating disproportionate consumption behaviors or generating the so-called techno-addiction (Echeburúa, Salaberría & Cross-Sáez, 2014; James & Ronald, 2005). Others consider them to be mere "time-stealers" (Careaga, 2011; Van Meurs, 2011) or architects of the migration of all recreational activities to virtual spaces. Some consider them responsible for fewer in-person contexts, that foster interpersonal relationships (Carbonell, Talarn, Beranuy, Oberst & Graner, 2009), and even accuse them of increasing obsession with online game, typifying them of addictive (Sheth, Bell & Kaiser, 2011), not only by the excessive number of hours that users engage in this activity, but also, sometimes, because it is associated with an excessive spending, as shown by studies of the lucrative business Zinga (Forró et al, 2012;. Park & Lee, 2011).

On the contrary, there is another sector more inclined to weigh the contributions of this type of online games, linking it with the opportunities to develop skills of various kinds (Santamaría, 2008), as well as encouraging communication and interaction between the players –from a constructive perspective– through the missions or ludic activities of collaborative nature they contemplate (Ross & Collister, 2014); or by their socializing potential, encouraging the creation of specific online communities to share and discuss issues of common interest related to a particular game (Hughes, 2015; Hussain & Griffiths, 2014; Ross & Collister, 2014).

Thus, after finding that more and more casual players adhere to this ludic practice and share with their peer group, connected from the social network where the games are integrated (Castañeda & Gutiérrez, 2010; Coelho, Espinosa & Medina, 2013; Hussain & Griffiths, 2014), with this research we have tried to raise a reflection on the uncertainties generated about addiction risks arising from the excessive number of hours that some people devote to this activity (Cruzado, Matos & Kendall, 2006). Such dedication is holding lucrative businesses, from the micro-payments that millions of players make in their quest to reach the upper levels of the game (Kossecki, 2011; Silva, 2012), after the promise of enjoying a greater social prestige and reputation in the game, be the first to reach the goal, solve missions successfully, etc. (Del Moral & Guzmán, 2014).

THEORETICAL FRAMEWORK

NETWORK GAMING: THREATS AND OPPORTUNITIES

Games hosted on social networks allow people from different parts of the world to interact with each other, using a ludic scenario as meeting point (Moral-Toranzo, 2009). In this regard, in the present study we have tried to visibilize the opposing positions regarding the implications of such activity. Some authors state that these ludic practices are addictive, confining players to spend much of their leisure time concentrated behind a screen (Justicia & Villadangos, 2010), and warn about the increase in online spending this could bring (Trenta, 2014), censoring that their only goal is to achieve greater virtual presence and social recognition (Esteve, Esteve, Gisbert & Cela, 2012; Núñez, García & Hermida, 2012). Others emphasize the risk involved in spending all the recreational activity on the network, resulting in a progressive virtualization of interpersonal relationships (Geraci, 2014; González, 2010). They even question the instrumentalization that some subjects make of these practices to hide in anonymity (Arias, Gallego, Rodriguez & Del Pozo, 2012) and live another life, tailored, away from their daily reality (Conde, 2011); an existence which, like daydreams, allows them to fulfill from the purchase of virtual goods or properties (Rebs, 2012), distancing from the people in their immediate environment (Van Dijck, 2013) and disassociating of physical contact (Hughes, 2015).

On the contrary, others highlight the benefits that these games can bring to promote various types of learning (Del Moral & Guzmán, 2015; Esnaola, 2009), encourage ludic network practices from their participatory design (Jacobs & Sihvonen, 2011), increase social activity around a game (Lee, Lee & Choi, 2012; Piskorski, 2011), promote new forms of social experimentation (Reis, 2011; Ross & Collister, 2014), promote loyalty and cooperation (Park, Hong, Ohk & Yoon, 2015), and the development of creativity through their virtual creations (Wohn & Wash, 2013). In this sense, we have tried to put special emphasis on analyzing how – and through which strategies– these games activate processes of communication and interaction between subjects, since the individuality that prevailed in conventional video games was one of the critical points to reject them.

COMMUNICATION AND INTERACTION IN ONLINE GAMES

Online games have become a platform for social interaction among Internet users (Hussain & Griffiths, 2014), fostering relationships around certain ludic practices, encouraging communication from the interaction between members of the social network where these games are played. So while, in general, Moral-Toranzo (2009) found that Internet users were somewhat reluctant to interact with others on the network spontaneously, as only 8.1% did so with users considered reliable or loyal, the interaction within a game had no limits, and was produced naturally and fluently around the missions or ludic activities proposed, without any prejudices. On the other hand, Ross and Collister (2014) believe that communication and interaction in virtual scenarios are typical manifestations of human social behavior, which acquire a collaborative dimension between members of specific communities of players sharing the same interests, as happens in the game World of Warcraft.

Hussain and Griffiths (2014) indicate that communication and interaction among the online players is justified from the game and the fun of leveling up with personal effort and collaboration of others, exchanging experiences and/or services for the common good, allowing them to grow in the game and therefore, win. Undoubtedly, the virtualization of relations generated in online gaming communities favors the creation of an interaction among its members, to share tips and strategies that help them "promote levels" in the game. Sometimes these communities reach a high level of organization, placing the veteran players in positions of privilege, generating publications and tutorials at the service of the new users and even with communication formulas of their own (forums, profiles specific social networks, etc.). Obviously, the fact that the games bet for recreational team activities promotes interaction and communication among users (Hughes, 2015). However, despite some games strategies specifically established to encourage team activities, there may be players who barely interact with others, playing solo.

The study focuses on analyzing the opportunities and threats of a particular case of online gaming with a marked social character, such as CityVille, and by extension, of all those who adopt similar logics and dynamics..

CITYVILLE: A CASE STUDY

CityVille promotes a virtual alternative life for their players, based on building their own city (Bernabé, 2011), which implies a new form of socialization from collaboration with its neighbors (Choi et al., 2012) and exchange strategies to prosper quickly, promoting levels and gain prestige in the game (Del Moral & Guzmán, 2014). It has features that give it great acceptance, as it a safe and attractive (Lewis, 2014) interactive environment (Lee, Jeong, Park & Ryu, 2011), and similar to movies (Gosciola, 2009). It also encourages the sense of belonging to a community through cooperative play, support and social recognition (Queiroz & Perfeito, 2013); include surprises and ensure fun (Whitehead, 2011); present challenges and affordable missions (Orland & Oxman, 2011), and new opportunities to earn from investments to purchase virtual properties (Bonk & Khoo, 2014).

However, following the dialectic narrative adopted to present the issue from a dichotomous view, below (table 1) we show the dimensions of analysis regarding the threats and opportunities of online gaming in general, and inferred from the studies cited. The most significant aspects of the case of Cityville are identified by a SWOT matrix (strengths, weaknesses, opportunities, and threats), which allows a glimpse of its advantages to enhance communication and interaction between players in a ludic online context, as the risks for some subjects prone to "hook" to them.

METHODOLOGY

The methodology adopted in this study is quantitative, as we have obtained different types of data, statistically treated subsequently. To collect the information, we created a profile within the social network Facebook, called *Fans-CityVille*, which –by becoming an endogenous virtual community gathering exclusively regular players of the game and focusing common issues– served, among other things, to invite them to answer an online survey on various aspects related to their network gaming experience, which could be accessed at any time.

RESEARCH OBJECTIVES

This research focuses on: 1) analyzing the relationship between *the money* invested by players Fans –*Fans-CityVille* community– and the *level and achievements* (number of neighbors...), along with the *time* spent to create their virtual cities; 2) identifying their priorities to play; 3) noting the interpersonal and communication skills that players perceive to have developed with the game and, finally, 4) calibrate to what extent this type of network entertainment may be positive or, conversely, involve risks of addiction for some subjects.

INSTRUMENT

We designed an online survey to obtain information, answered by members of the Facebook community *Fans-CityVille* –made up of 110 active players–, obtaining the views of almost all (N=105). We collected data on their profile as players: gender, nationality, age, online games in which they participate, time playing CityVille, money spent and invested in the game, level reached, inhabitants and virtual neighbors, etc. More specifically, other questions aimed at knowing: a) their priorities to play, measured by their degree of agreement with certain statements, and b) their opinion on the level of acquisition of interpersonal and communication skills after playing, both issues measured with items (Likert scale of 1-5). The reliability of the instrument showed a Cronbach's alpha=0.93 and was validated with ten active players over 35 years of CityVille to debug its writing.

SAMPLE DESCRIPTION

The respondent gamers from *Fans-CityVille* are distributed as follows: 37.1% women and 62.9% men. The most representative range of age is *36-45 years* (44.8%), followed by those aged *26-35 years* (22.9%), *46-55 years* (20.0%), and 12.4% is made by *18-25 year* olds (7.6%), over 55 years there is 3.8% and *under 18*, 1.0%. In terms of geographical distribution, they are mostly located in Europe, 41.6% (Italy, Spain and Germany); South America, 38.0% (Colombia, Brazil and Paraguay); and North America, 20.9% (Mexico, Canada and the United States).

PROCESS

Having obtained the information through the online survey, we analyzed the data using descriptive statistical techniques to show the context of the

Table 1. Threats and opportunities of the online game CityVille

Threats	Opportunities
Relating to the environment • Extensive scenario inducing to be lost in navigation to contemplate the cities of multiple players for hours.	*Relating to the environment* • Attractive scenario that allows seeing the cities of other players.
Game with economic investment • With spending (purchase of city CityVille cash or money) players advance faster in the game. Micro-payments are set for players to "bite" again and again.	*Game without economic investment* • Game guaranteed without spending, although progress is slower.
Addictive ludic activity • Risk of permanent connection to the game. • Multiple stimuli and gratified missions with prizes and virtual collection for growth, promoting a flow effect or uncontrolled immersion.	*Casual ludic activity* • On-demand gaming sessions that do not penalize the player if the levels are not completed. • Allows resuming the game at any time, collecting the accumulated bonuses.
Invasive advertising • Periodic emails or messages to the social network via internal messaging to return to the game.	*Informative advertising* • Information about which friends play, to become neighbors, indicating the level in which they are and their growing needs.
Privacy questioned • Using communications via social network, reports which acquaintances play the same game, allowing to access their data.	*New networks* • Allows expand and contact with more people interested in the same game; not only close people, but also other players.
Competitiveness • Periodic reporting of scores achieved by neighbors, rankings, etc. that encourage competition and poses constant challenges.	*Collaboration* • Encourage situations to strengthen ties through participation in missions involving aid and support players, to expand the cities.
Negative habits • It can accentuate addiction to online games. • Allows the player to act individually and not in-group. • Instrumentalizes support to others for personal gain. • May contribute to the isolation of the players, it is not essential to work collaboratively to advance or win.	*Positive skills promoted* • Encourages the exchange of strategies to build and manage built cities. • Promotes interpersonal relationships from contact with other players. • Enables creativity by allowing each city to organize its response to their own tastes and interests • Enables creativity by allowing each city to organize its response to their own tastes and interests. • Promotes decision making and problem solving.

Source: Own elaboration.

players. In addition, we proceeded to group their answers in response to the skills they believe they have developed with the game, categorizing them in communicative and interpersonal following Gros (2004) criteria. Similarly, we determined the priorities they point out to develop by communicating with their neighbors in the game, classifying them in collaborative and competitive, according to the criteria of Llorens and Capdeferro (2011) and Moreno-Ger, Martínez-Ortiz, Francisco and Hervás (2012).

We used Kendall's Tau-b as statistics to measure the relationship between variables in the bivariate correlations, an median comparison was done trough analysis of variance (ANOVA, ANalysis of VAriance) (Hair, Prentice, Cano & Suárez, 2007). The statistical package used was PASW (Predictive Analytics SoftWare, V. 18).

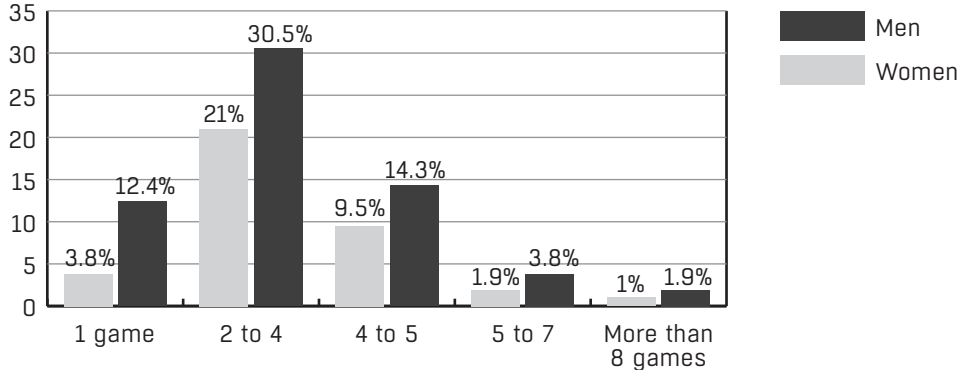
RESULTS

PROFILE OF THE PLAYERS OF *FANS-CITYVILLE* COMMUNITY

A 59.0% of men play CityVille more often than women (35.2%) do. When asked by the number of online games they usually play, more than half (51.4%) indicates "2-4" games; of those, 21.0% are women and 30.5% are men (figure 1). Five to seven online are played by 23.8%, 16.2% only plays one game, a considerable 5.7% says they play 8-10 games simultaneously, and another troubling 2.9% is involved in more than 10 games. After the test statistic contras, we found that being a regular player in CityVille is significantly related to participate in a greater number of online games simultaneously (p<.000), especially for men (p<.019).

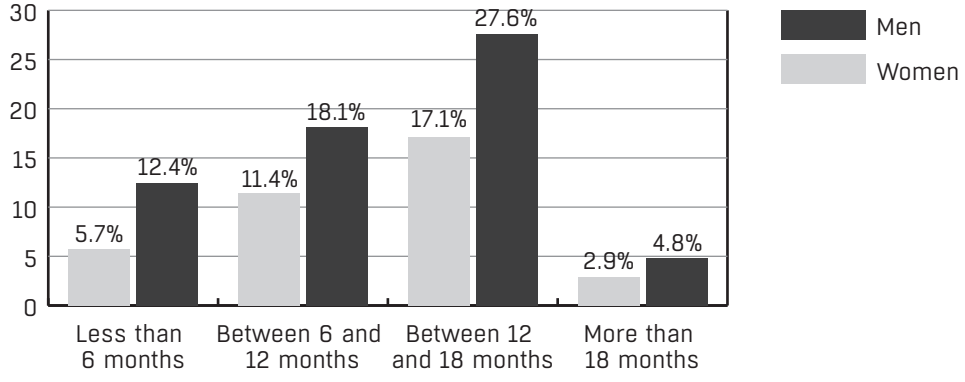
Regarding their degree of loyalty to the game, those who have been playing CityVille for 12-18 months represent 27.6% (men) and 17.1% (women)

Figure 1. Percentage distribution of users, based on the online games involved



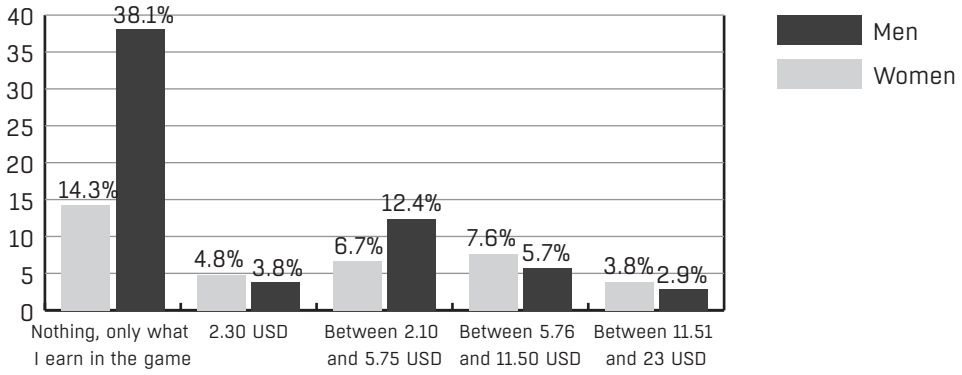
Source: Own elaboration.

Figure 2. Percentage distribution of users, based on the months of loyalty to the game



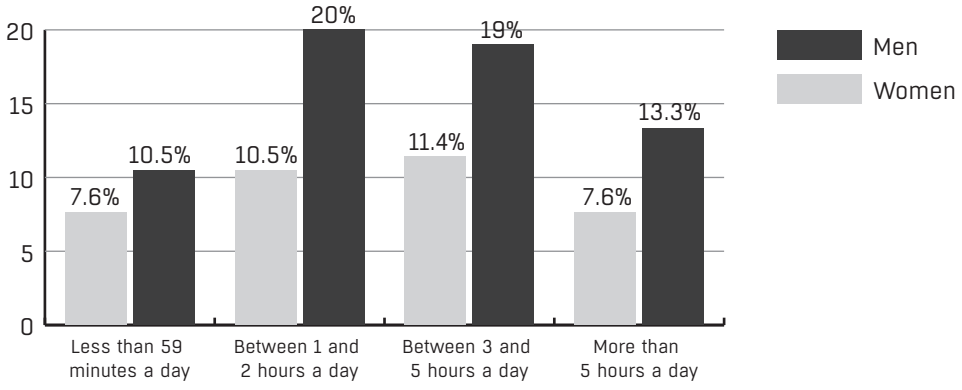
Source: Own elaboration.

Figure 3. Monthly expenditure made by players in CityVille (US dollars)



Source: Own elaboration.

Figure 4. Percentage distribution of respondents according to the daily play time



Source: Own elaboration.

(figure 2). Women are the most loyal over time, resulting significant (p<.005).

MONEY INVESTED IN THE GAME CITYVILLE

Slightly more than half of respondents (52.4%) say they do not spend money in the game, while the remaining 47.6% does. Figure 3 shows how a 19.0% spend between 2.10 to 5.75 USD, 13.3% between 5.76 to 11.50 USD, 8.6% spends 2.30 USD and 6.7% from 11.51 to 23 USD. CityVille stipulates the spending amounts and the player chooses its investment in the game by purchasing *citycash*, and thus moves faster in building their virtual city.

While the average spending by users in CityVille is 2.13 USD, the standard deviation of 1359 evidences a large dispersion: there are players who do not invest, and others do. The median difference is significant, according to gender, because men spend more money than women do (p<.000); however, women do higher investments than men do, as shown in figure 3.

TIME SPENT IN CITYVILLE

Respondents follow a regular player profile, as stated by 94.3%. A 30.5% spends between 3 and 5 hours daily playing, 18.1% play between one and 2 hours, another 18.1% spend less than 1 hour, but it is worrisome that 16.2% plays more than 5 hours a day (figure 4). On the other hand, a minority 4.8% manifests playing sporadically once a week. When performing statistical tests, we found that men tend to be more hours a day playing than women, with a significant intergroup difference of p<.481.

RELATIONSHIP BETWEEN MONEY AND TIME SPENT WITH THE LEVEL ACHIEVED IN THE GAME

The correlation between money spent and time invested significantly relates to the number of online games in which players participate (W=.362, p<.000). On the other hand, and regarding CityVille, as might be expected, after making bivariate correlations and applying Kendall's Tau-b, we detected a positive relationship between money invested in the game and the level reached by the players (W=. 582, p<.000). In addition, there is a positive relationship between the expenditure and the number of residents of the city (W=.545, p<.000); spending and the number of neighbors (W=.474, p<.000). Logically, there is also a significant relationship between the level achieved in the game by users, the number of neighbors they have in CityVille and the money they invest per month (p <.013).

The time respondents spent playing CityVille is related significantly with the level achieved in the game (W=.340, p<.000). Something similar happens with the degree of loyalty –the months participating in the game– (W=.321, p<.000), the age of the players (W=.305, p<.000) and their status as regular players (W=.204 p <.024).

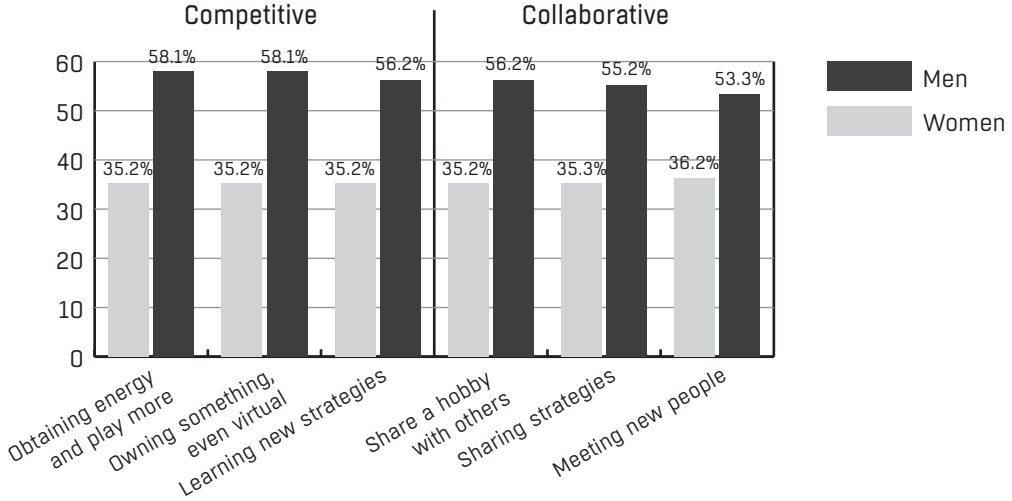
PRIORITIES TO PLAY CITYVILLE

It is also illustrative to summarize what are the priorities of the respondents to play CityVille (figure 5): the main is to *gain energy to sustain and play* (93.3%), *have a city of their own, even if only virtual* (93.3%), *learn new strategies* (91.4%), etc., all with a marked competitive nature. On the other hand, they point out collaborative priorities, such as *sharing hobbies* (91.4%), *sharing strategies* (90.5%), and *meet other people* (89.5%).

One step further, the analysis focuses on how their priorities profile the users as competitive or collaborative players, for which we conducted an ANOVA, noting that their priorities are significant –according to gender– regarding the competitive aspect of the game. For men, it is about how to *obtain energy and play more* (p <.048), *have something of their own, even virtual, in CityVille* (p<.017), or *level-up faster through learning new strategies* (p<.043). As for the priorities of women, they are significant regarding *wanting to meet other people* (p<.002), *sharing strategies* (p<.005), and *sharing hobbies* (p<.032), underlining its strong collaborative nature.

The age of the players is significantly related to most of the priorities identified, although this does not necessarily mean that they are more competitive or collaborative. However, when addressing the gender variable, we detected that age in men relates significantly with their priorities to play. Specifically, the median contrast is significant, noting that male subjects under 45 years are more competitive, while

Figure 5. Percentage distribution of the priorities of the players, by type



Source: Own elaboration.

older are not. However, women, regardless of age, are more collaborative (p<.002).

INTERPERSONAL AND COMMUNICATION SKILLS DEVELOPED

A 61.9% of players agree that playing CityVille has helped them develop interpersonal skills related to *increasing their leadership capacity*; *actively engaging in collaborative projects* with other players; enhancing their critical thinking to recognize their work and the work from others, through the design and management of the cities of their neighbors in the game, etc. (figure 6). Almost all (93.3%) consider that the game allows them to *interact with other players*; and a similar percentage (91.4%) emphasizes that it helps them *keep in touch with friends*. On the other hand, the communication skills enhanced with the game are linked to the reasons for their interaction with neighbors, which are grouped into: those related to *decision making* (85.7%), *problem solving* (81.0%) and *searching for information* (60.0%).

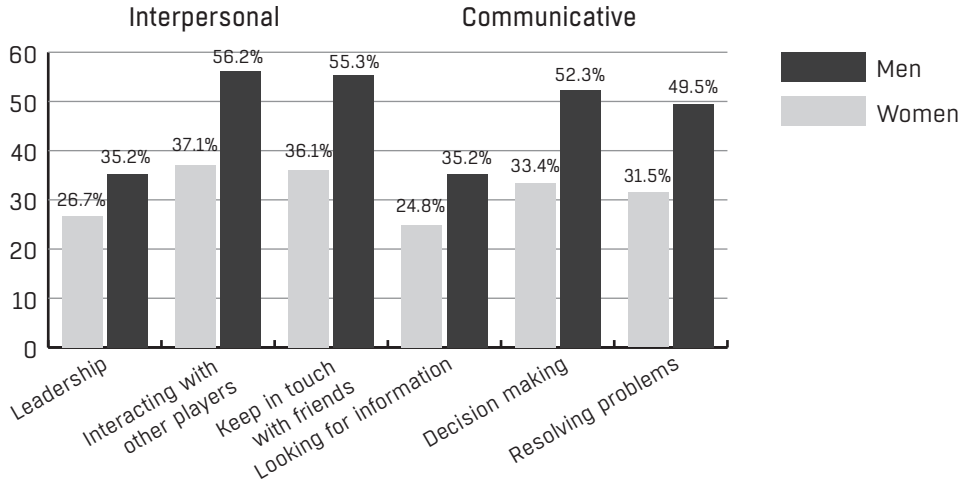
However, when comparing the medians depending on the age of the subjects, we detected that, in their opinion, they perceive to have increased their *leadership* abilities (p<.039). If, however, we consider the gender variable, while *leadership* (p<.000) is significant for men, for women what is meaningful is *interaction with others* (p<.011) and the possibility of *contacting friends* (p<.024). Regarding the communication skills enhanced by the game, linked to the reasons for their interaction with neighbors, we detected that for men what is significant is *taking decisions* (p<.054) and solving problems (p<.036) while for women is about *searching for information* (p<.051).

DISCUSSION

Thus, it appears that the respondents are regular players in CityVille, more than half of which (51.4%) states to participate simultaneously in more than two online games. Furthermore, from the analyze we can see that the spending made by players of the *Fans-CityVille* community is positively related to the time spent playing and creating their virtual cities, and with their level and achievements, as verified through bivariate correlations where results were significant. Logically, those who have been playing for more time have the virtual cities with the largest number of people and also invest more *citycash* in the game. Although more than half of users (52.4%) do not invest anything in the game, from those who do, men spend more money than women do, but when the latter choose to spend money, they invest more.

Regarding the priorities to play and communicate with their neighbors, there are more competitive

Figure 6. Percentage distribution of interpersonal skills developed in CityVille



Source: Own elaboration.

respondents, who look for *entertainment, gaining energy to advance in the game, have a city of their own, even if it is only virtual, obtain more points to level-up and move faster,* and *learn new strategies*. Other respondents have collaborative priorities, such as *sharing hobbies and strategies* and *meet others*. Statistical analysis reveals that men are significantly more competitive, and women, more collaborative (p<.000). Similarly, Hughes (2015) shows that players create online communities that encourage the exchange of strategies to promote levels in the game.

Regarding interpersonal skills, in general, men gamers perceive to have developed *leadership abilities, participation in collaborative projects* and *critical thinking* (p<.039); for women, it is about the *possibility to interact with other users* (p<.024) and to *keep in touch with friends* (p<.011). On communication skills enhanced, decision making (p<.054) and problem solving (p<.036) stand out for men, while for women is the *search for information* (p <.051).

Considering the time and money spent in the game, although we cannot clearly specify that it is a form of risky entertainment –prone to addiction– we can analyze trends in some subjects. A 16.2% states to play CityVille *more than 5 hours* a day, 23.8% is involved at the same time on *5-7 online games*, a considerable 6.7% spends between 11.51 to 23 USD a month, and a 13.3% that has a fixed monthly expense of 5.76 to 11.50 USD for this game. The study of Ross and Collister (2014) also found that the players of World of Warcraft invest money to stay in the game, some in an excessive way. And, similarly, the investigation of Hussain and Griffiths (2014) found that users play for hours, simultaneously in several games, interacting with different groups of players, which are willing to spend money to level-up. No doubt, their life is concentrated in the virtual game, suggesting addictive behaviors, likely to expend all their activity in virtual contexts, blinded by the game and to reach the highest levels at the expense of investments that can be worrying, if we extrapolate the conduct manifested in CityVille to the other games in which they participate simultaneously. In this case, it seems that men, given their competitive nature, are more predisposed to these attitudes, which can be encouraged by the logics of this type of games, capable of causing an effect of total immersion in the players.

However, without wanting to be apocalyptic, we must recognize that the game does not involve confrontations; on the contrary, it provides an ideal place to promote feelings of belonging to a group of players with the same tastes and interests. It also encourages creativity in players to design and realize their dreams of owning their own city and be involved in its gradual growth, fostering a leisure scenario that promotes personal achievement, and learning from designs of other players.

CONCLUSIONS

There are conflicting positions on the risk of addiction involved for some online games and the advantages they offer to enhance interpersonal and communication skills in a ludic context. This study has sought to highlight the opportunities and threats represented by CityVille (created by Zinga), a successful online game that brought together a large number of users around the world through Facebook. Although it was closed in May 2015 –after the overwhelming success of Candy Crash Saga (created by King)– it is considered a benchmark for other similar social games, which have adopted their same logics and dynamic. On the other hand, in the study we analyze the implications of this online game for players, inferred from the responses of users integrated in the community of *fans* of the game to questions about the time spent playing, the investment made in it, their priorities for playing, and the skills they perceive to have developed with the game.

Thus, among the opportunities presented by the game highlights its attractive environment to facilitate the players the creative design of cities –from their constructions–, and promote learning by mimicry, as they are able to see the cities of neighbors and take them as a reference. On the other hand, we cannot say that the game seeks for monetization at any price, since it contemplated a game mode without economic investment, although it is true that buying *citycash* allowed moving faster and reaching higher levels before. In addition, the user, who was not penalized if the levels were not completed in a predetermined time, for he could resume the game at any time, making effective accumulated bonuses when he wished. It

also facilitated contact between players with similar interests and favored leisure to strengthen ties between them, promoting challenges involving mutual help and support to benefit jointly. The game encouraged self-improvement (linked to social recognition from others for their virtual cities) and competitiveness, showing who was playing, their scores, growth needs, etc.

Linked to the objectives formulated initially in relation to CityVille threats, this study has allowed us to analyze the usual expenditure by players of the *Fans-CityVille* community and the time spent creating their own virtual cities, showing how they relate to the level and achievements in the game. As expected, those who spent more time gaming and investing more money in it reached the highest levels and therefore had more neighbors, etc., being men who stood out for their behavior, if possible, more addictive than of women.

Similarly, it should be noted that the game promoted simultaneously both collaborative communication between players, encouraging and rewarding interaction between them, and planning and implementation of effective strategies to expand their virtual cities. The aid given by neighbors allowed advancing and achieving higher levels and power. On the other hand, we identified the type of priorities that the users established when playing CityVille, noting that while among younger men the competition to become recognized by their neighbors and conquer the title of mayor or governor of their cities prevailed, women had more collaborative attitudes: they preferred to progress from the proposed aid and support to their neighbors to advance and grow their cities together.

Also it has been shown that communication and interpersonal skills that users perceive to have developed when playing CityVille exceed the communicative offer given by the simple fact of being present in a social network like Facebook, offering a virtual ludic stage to share their leisure with other players, and providing rewarding activities that generated personal satisfaction.

To recapitulate, this research has responded to the objectives formulated initially.

Regarding the first, we found that the money invested by players and the time they devoted to the game is directly related to their levels conquered and achievements, since those who played the most reached higher levels, which often coincided with those who spent more, speeding promotion.

Regarding the second objective, it is clear that the priorities of fans of Cityville when playing are competitive, giving priority to survival: *gain energy to sustain and play*; or, issues related to possession: *having a city of their even if it is virtual*, and *learn new strategies*, etc. In addition, there are other collaborative priorities: *sharing hobbies and/or strategies* and, to a lesser extent, *meet other players*. These options clearly configure a competitive profile for younger men and a collaborative for women.

As for the third objective, we have identified the type of skills that the players perceive to have developed the game. On the one hand, they mention *interpersonal skills*, such as increasing their *leadership* skills to engage actively in collaborative projects with other players; strengthening their *critical thinking* to recognize one's own work and that of others, embodied in the design and management of cities of their neighbors in the game; greater *interaction with other players* and *contact with friends*. On the other hand, they refer to *communication skills*, related to the reasons for their interaction with their neighbors: *make decisions*, *solve problems* or, to a lesser extent, *seek information*.

The fourth objective, oriented to estimate to what extent this form of entertainment can be positive or involve the risk of addiction for some subjects, developed from the above. Regarding this, we observe that this network entertainment may involve the risk of addiction for those individuals who succumb to the flow effect, or uncontrolled immersion in the game, spending several hours in front of the screen, without breaks, participating in many games simultaneously and investing excessive money to be the best, highlight, acquire a virtual reputation and be recognized by the other players. This may suggest the absence of a full social life in the real world, and the exclusive pursuit of that satisfaction derived from the virtual game, where real identities are blurred.

However, from a positive perspective, a reasonable dedication to the type of social games represented by CityVille can convert entertainment on a chance to develop interpersonal skills and acquire communication strategies, as to level-up, in almost all online games, it is necessary to adopt collaborative tactics and rely on other players. Undoubtedly, these games enhance interaction

and communication, promoting and strengthening relations between friends and/or virtual neighbors, and contribute to expand their social networks by building cities in CityVille, farms in Farmville, castles in Castleville, etc.

Among the study's limitations are those related to its transversal design, since it reduces inferences of relationships between variables, which in future work could be addressed from a qualitative approach through ethnographic techniques. On the other hand, new lines of investigation are opening. On the one hand, in the field of psychology and education, to investigate about specific cases of the techno-addiction related to this type of online games, and the possibility to take advantage of these games for learning and developing socio-emotional skills. On the other hand, in the field of game design, to devise new formulas that provide enriching experiences focused on collaborative games from the interaction and communication between users in different parts of the world.

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