

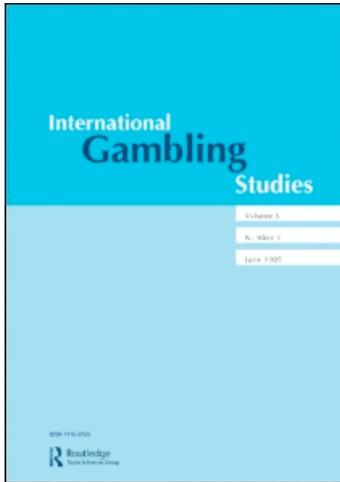
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Johanne Saint-Charles ^{ab}; Pierre Mongeau ^{ab}; Jean-François Biron ^c

^a Département de communication sociale et publique, Université du Québec à Montréal, Canada ^b Centre de recherche interdisciplinaire sur la biologie, la santé, la société et l'environnement (CINBIOSE) Université du Québec à Montréal, ^c Direction de santé publique de Montréal,

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A Communication Perspective on Video Lottery Terminals

JOHANNE SAINT-CHARLES,^{1,2} PIERRE MONGEAU^{1,2} & JEAN-FRANÇOIS BIRON³

¹Département de communication sociale et publique, Université du Québec à Montréal, Canada;

²Centre de recherche interdisciplinaire sur la biologie, la santé, la société et l'environnement (CINBIOSE) Université du Québec à Montréal; ³Direction de santé publique de Montréal

ABSTRACT Video Lottery Terminals (VLT) are associated with pathological gambling and with most of the requests for help in combating gambling addiction. Embeddedness of a person in his or her social network is among the communicational factors that may help explain this phenomenon. To verify this, we compared ego networks of VLT gamblers, of gamblers of games with low request for help and of VLT gamblers in treatment ($n = 90$). The networks of regular VLT gamblers are small and dense and offer little social support. Gamblers in treatment also have small networks, but they are less dense, have more components and offer more social support. Networks of gamblers with low requests for assistance are approximately twice the size as those of VLT gamblers, are sparser and offer more companionship. In conclusion, the VLT gambler is not an isolated individual, but rather an individual 'shut-in' a small network of tightly knitted relationships.

Introduction

Video lottery terminal (VLT) gambling has been growing in popularity in many countries and, consequently, so too have the gambling problems strongly associated with it. Many studies have been conducted to address this problem (Griffiths & Wood, 2000; Kalischuk, Nowatzki, Cardwell, Klein & Solowoniuk, 2006; Morgan, Kofoed, Buchkoski & Carr, 1996; Reith, 2006) and most of them deal with the socio-economic and personal characteristics of gamblers (Oliveira & Silva, 2001; Rugle & Melamed, 1993; United States General Accounting Office, 2000), the prevalence of VLT gambling (Chevalier et al., 2004) or the harmful structural characteristics of the machines (Diskin & Hodgins, 1999; Griffiths, 2004, 1995, 1993). In all, very few studies have examined the psychosocial and communicational characteristics of VLT gambling (Bélanger, Boisvert, Papineau, Vétére & Marchildon, 2003) which can be partly explained by the fact that VLT gambling is a rather recent social phenomenon, combined with the methodological and ethical difficulties of studying such a population (Parke & Griffith, 2002). In the study presented here, we have looked at VLT gamblers' problems through a communication perspective, namely through a study of the personal networks in which they and their gambling practices are embedded.

Context

In Canada, the control of games of chance and money is the responsibility of the provincial governments. In the province of Quebec, a state-owned corporation called *Loto-Québec* was created in 1969. Its first mandate, to implement a system of public lottery, has grown to include the management of three casinos where a variety of games of chance are available (table games, roulette, electronic horse racing track, slot machines, etc.), a network of bingo products and a network of VLTs operated by bars, pubs or taverns. Globally, Loto-Québec has a double—somehow ambiguous—mandate: on the one hand, it has the responsibility to manage all games of chance in Quebec; the profits of this operation being returned to its sole shareholder, the Quebec Government, with the exception of the ‘network of bingo products’ where net earnings are given to nonprofit organisations. On the other hand, it is expected to fight against excessive gaming (Loto-Québec, 2007).

To legally play games of chance and money in Quebec, one either goes to one of the three casinos, to a bingo hall or to a bar, pub or tavern. There are 460 bingo halls throughout the province of Quebec which are owned by nonprofit organisations, private or community-held organisations and close to 25% of these offer Loto-Québec’s bingo products (Loto-Québec, 2007). The VLTs’ network was created in 1994 mostly in order to control the spread of illegally operated video-poker-type machines. In compliance with this, establishments owning an alcohol permit and having an area reserved for adults were able to get a license to install VLTs on their premise. It has been shown that these establishments are mostly located in underprivileged neighbourhood (Gilliland & Ross, 2005).

Video Lottery Terminal Gambling in Quebec

In the Canadian province of Quebec, VLT gambling is the game of chance and money most strongly associated with pathological gambling. In fact, 43% of VLT gamblers, at least, are considered at risk (Chevalier & Allard, 2001). The high number of requests for assistance associated with VLT, when compared with other lottery games, indicates that VLTs are socially more problematic. Indeed, the 2004–2005 annual report of the Canadian organisation Gambling: Help and Referral (Gambling: Help and Referral, 2005), shows that 91% of the requests for assistance are related to VLT gambling. The figures for other types of lottery games are much lower (less than 4% of the requests) while national lottery is related to only 3% of the requests for assistance, although it is by far the most popular lottery game (Chevalier & Allard, 2001). Moreover, the large majority of individuals suffering from compulsive gambling is not being treated since less than 10% of individuals seek help (National Research Council, 1999) and many studies show that the large majority of them will have to deal with a problem of gambling almost all their life (Bélanger et al., 2003; Buhlinger & Konstanty, 1992). Data on suicides related to excessive gambling with VLTs also indicate that they are *the most dangerous games* (Conseil canadien de la sécurité, 2007; Ministère de la sécurité publique, 2001).

Faced with the growing problems related to VLT gambling, Quebec’s government has, since 2001, imposed a moratorium on the allocation of new permits and has accepted Loto-Québec’s 2004–2007 Development Plan (Loto-Québec, 2007) in which the Corporation plans to redeploy existing video lottery

terminals in order to reduce the number of sites by a minimum of 31%. Moreover, VLT gambling is now considered a public health research priority in Quebec (Ministère de la santé et des services sociaux, 2002; MSSS & FQRSC, 2007).

Communication and Social Networks

Since Durkheim's (1897) writings on social integration and mental health, many studies have shown the important role played by an individual's network (ego network) on his or her well-being, behaviours, values and attitudes (Bidart & Lavenu, 1999; Erickson, 1988; Granovetter, 1982; Saint-Charles & Mongeau, 2005; Wellman & Berkowitz, 1988).

A social network is a set of actors (persons, groups, organisations, etc.) connected by a set of ties representing relationships between the actors. When the attention is on a single focal actor, this actor is called 'ego' and 'alters' are all actors who have ties with ego. This set of ties and actors is called an 'ego-network'. A collection of network analysis tools enables researchers to identify structural characteristics of the network, such as its size, density (proportion of existing ties that are actualized) or heterogeneity (which can be expressed by the number of components, i.e. subgroups of alters linked together and not linked to others). Both actors' attributes and tie characteristics (nature, strength, reciprocity, frequency, etc.) are considered in the analysis (Scott, 1991; Wasserman & Faust, 1994).

Studies related to social support, social capital and ego network composition show the critical role of interpersonal relationships on psychological and physical health and highlight the importance of the scope and diversity of the ego network for social support (Carpentier & White, 2001; Lin, Dumin & Woelfel, 1986; Sanicola, 1994; Wellman & Wortley, 1990). However, this reasoning can be reversed because as the range of an actor's personal network narrows, the social ties can also create a net imprisoning ego in maladaptive situations and supporting norms that facilitate undesirable behaviour (Borgatti & Foster, 2003; Gargiulo & Benassi, 2000). The range of an ego network is a combination of its size, density and heterogeneity—larger size, lower density and greater heterogeneity would be indicators of greater range (Wellman, 1990).

Studies on the ego networks of people with addictive behaviours, in particular users of marijuana and cocaine, have shown that the ego networks of these users were generally small and dense (Lee, 2000, 2002). In his literature review on ego network composition and social support, Wellman (1990) found that smaller ego networks were associated with less social support and showed that denser ego networks seem to augment pressure to conform and limit access to new information or to 'outside' specialists—for example not encouraging ego to visit a doctor. Again according to Wellman (1990), the average size of active and significant ties for white middle-class people in North America is 20. These ties are those with whom one has repeated sociable contact, support, or feelings of connectedness (p. 28).

Furthermore, in their study, Trevorrow and Moore (1998) found that women with VLT gambling problems (as measured by the South Oaks Gambling Screen) experience more boredom, isolation and loneliness than women having mild or no gambling problems although the study does not conclude on the direction of the influence between the two factors. Using what they call crude measures of social network adequacy, they found no differences between the three groups. Also, according to this study, women with gambling problems were more likely to be part of social networks for which gambling was normative. In research

conducted in Ontario on adolescents, Hardoon, Gupta & Derevensky (2004) reported that adolescents either at-risk or probable pathological gamblers declared having significantly more immediate family members and friends with gambling, alcohol or drug problems. They also reported having less social support from their family and friends. Although not specific to VLT gambling, many studies have also shown the impact of gambling on the family of the gamblers. For an extensive literature review, see Kalischuk et al. (2006).

Scientific literature has shown that social support is not a one-dimensional concept; there are different types of social support like instrumental support, informational support, emotional support and companionship. People generally have specialized ego networks based on these types, meaning that different types of social support are offered by different people (Kogovsek, Ferligoj, Coenders & Saris, 2002; Vaux, 1988; Wellman & Wortley, 1990) suggesting again that the diversity of ego-network is related to the availability of social support.

Hypothesis

Considering that structural characteristics of ego networks and perceived social support may be related to the type of games played and to an individual ability to seek help we formulated two hypotheses and a research question.

Hypothesis 1

The range of ego networks—as expressed by the three indicators of size, density and number of components—of VLT gamblers, of VLT gamblers in treatment and of gamblers preferring games for which there is a low request for assistance differs significantly.

Hypothesis 2

VLT gamblers not in treatment have less supportive alters than gamblers in treatment.

Research Question

Since no study, to our knowledge, has explored the theme of structural properties with relation to VLT gambling, we pose the following question: Are there characteristics of a gambler's ego network, other than range (e.g. frequency of contact with alters; type of ties; type of support), that are related to the type of games played or with the fact that treatment is sought?

Method

To gather data on the composition and structure of the ego network of gamblers, we conducted 90 interviews: 30 with regular gamblers of VLT (gambling associated with high requests for help), 30 with bingo gamblers (gambling associated with low requests for help) and 30 with gamblers of VLT in treatment.

Participants

All 90 participants have similar socioeconomic characteristics. The proportion of women in the entire sample is 56% although this figure does not represent the

repartition in the three subgroups: 80% of the bingo gamblers are women, whereas 63% of VLT gamblers are men and 65% of the gamblers in treatment are men. These discrepancies reflect the social reality of each group: bingo gamblers are mostly women while VLT gamblers are predominantly men (Chevalier, 2005). There is no significant difference between mean age for gamblers in treatment (48.8 years) and regular gamblers of VLT (42.9 years). The bingo gamblers' group is older (60.3 years; $F = 19.56$; $p < 0.001$) which again reflects the social reality. Although, bingo gamblers are considered as one of the 'low request for assistance' groups, the choice of this population for comparison with VLT gamblers is not ideal. At the onset of the research, our plan was to compare VLT gamblers with groups sharing similar characteristics in terms of age and sex such as gamblers of roulette or table games (e.g. Black Jack or Baccarat). However, in Quebec the only places where these games are allowed are owned by the state-run gambling corporation 'Loto-Québec' and they refused us access to their premises for this research. Nonetheless, as we will see, the comparison between communication networks of bingo and VLT gamblers still offers interesting answers and research avenues, be it only because it allows for the comparison between ego networks of VLT gamblers with those of players of games associated with low requests for help.

Procedure

The interviews were carried out where the gambling takes place and in a treatment centre. The active gamblers (not in treatment) are all gamblers who play regularly (once or more per week for at least the last two months) either VLT or bingo. However, some of them are also occasionally involved in other types of gambling. To reach the subjects, who answered voluntarily and signed a form of consent approved by the ethic committee of our institution, we had the support of Community organisations (for access to the bingo centres), bar owners and personnel (for VLTs), as well as of the employees of a treatment centre for pathological gamblers, Orientation Praxis (<http://orientationpraxis.ca/index2.html>). Interviews with VLT and Bingo gamblers were conducted by fieldworkers and interviews with gamblers in treatment were conducted by employees of the treatment centre; both groups were trained in the use of the questionnaire.

Measures

We used a questionnaire to gather the following data: socio-demographic information about the respondent (age and gender), the alters in his or her ego networks (age; gender; type of tie: family, friend, colleague, etc.; gambler or not) and information about the relationships with those alters (frequency of contact: weekly, monthly, yearly; closeness; types of support offered by alter: companionship, services, emotional support, financial support (Kogovsek et al., 2002; Vaux, 1988; Wellman & Wortley, 1990). We used a name generator to elicit alters' names (McCallister & Fischer, 1978; Van DerGaag & Snijders, 2005). Although the questionnaire itself required no more than 20 minutes to be completed, the sensitive nature of the topic required that fieldworkers spend much more time with the respondents to create a climate of confidence and to provide feedback and support when needed.

Network analysis was conducted using Ucinet (Borgatti, Everett & Freeman, 2002), and NetDraw softwares (Borgatti, 2002), and SPSS for variance analysis (ANOVA and T-test).

Results

Results related to our two hypotheses are presented first, followed by the findings which shed light on our research question. Figure 1 summarizes all of the main results.

Hypothesis 1

To test hypotheses 1, we compared the mean size, density and number of components between the three groups. The results support H1

The mean size of the ego networks of VLT gamblers (in treatment or not) and of bingo gamblers differ significantly. Compared to bingo gamblers (25.8 alters), VLT gamblers (11.2 alters) and gamblers in treatment (13) have smaller networks ($F = 31.5; p < 0.001$). Bingo gamblers' mean network size is higher than the mean

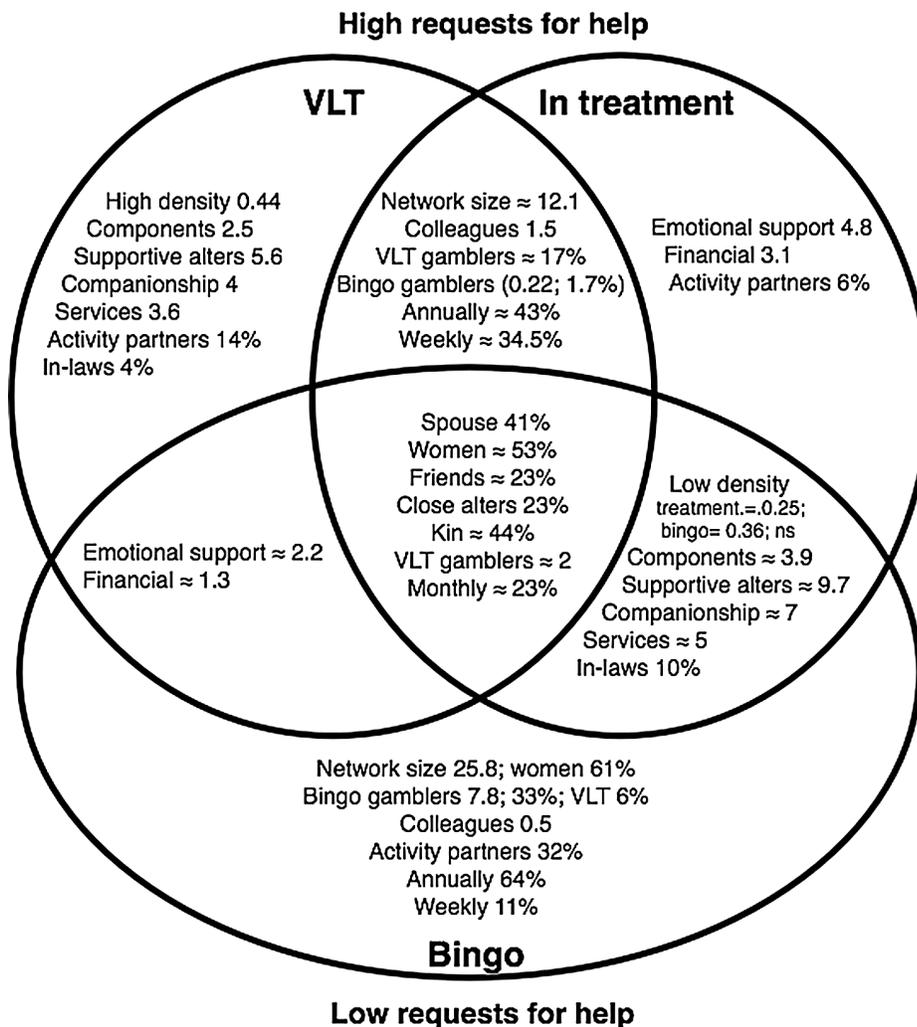


Figure 1. Summary of the main characteristics of the ego networks of gamblers.

size suggested for the Canadian population ($n = 20$; Wellman, 1990) and is more than twice the size of ego networks of both VLT groups.

The ego networks of VLT gamblers have a significantly higher density (0.44) than VLT gamblers in treatment (0.25) and Bingo gamblers (0.36) ($F = 6.70$; $p = 0.002$) networks.

The VLT gamblers' networks have fewer components (2.5) than those of VLT gamblers in treatment (4) and of Bingo gamblers (3.7) ($F = 3.425$; $p = 0.038$).

Hypothesis 2

Hypothesis 2 is supported by the findings. Indeed, VLT gamblers in treatment reported having more supportive alters (9.7) in their ego network (offering all types of social support—companionship, services, emotional support, financial support) than did VLT gamblers not in treatment (5.6) ($t = -3.94$; $df = 58$; $p = 0.001$). Table 1 shows the number of alters by type of support (types of support are not mutually exclusive: the same alter can give more than one type of support) which shows that in all cases, VLT gamblers in treatment reported having more supportive alters.

Research Question

To answer our research question, we explored potential differences between the structure and composition of ego networks of the three groups.

1. Frequency of Contact

On a weekly basis, both groups of VLT gamblers meet with a greater proportion of their alters than bingo gamblers do: 33% of the alters are contacted every week for regular gamblers, 36% for gamblers in treatment and 11% for bingo gamblers ($F = 8.09$; $p < 0.001$). This situation is partly related to the respective size of their networks. Thus, VLT gamblers (both not in treatment and in treatment) know fewer people but see most of them more often.

2. Type of Ties

Bingo gamblers have a greater proportion of their network composed of 'activity partners' (acquaintances—not friends—they do an activity with (playing cards or bowling, meeting in a bar, etc.) than the two other groups: 32% vs 14% and 6%, respectively, for regular gamblers of VLT and those in treatment ($F = 11.12$; $p < 0.001$). The difference is not significant between the two categories of VLT users.

Table 1. Mean number of alters by type of support for VLT gamblers

Type of support	VLT gamblers in treatment	VLT gamblers not in treatment	<i>p</i> -value
Emotional support	4.8	1.6	$dl = 59$; $f = 23.62$; $p < 0.001$
Financial support	3.1	1.3	$dl = 59$; $f = 19.72$; $p < 0.001$
Services	5.2	3.6	$dl = 59$; $f = 6.36$; $p < 0.01$
Companionship	6.6	4	$dl = 59$; $f = 6.5$; $p < 0.01$

Where family is concerned, the proportion of kin in the ego network is similar for all groups, but, the ego network of VLT gamblers has a smaller proportion of in-laws (4.6%; $F = 4.32$; $p = 0.01$) compared to both bingo gamblers and gamblers in treatment (10%). No significant difference appears between the three groups for the presence of a spouse: close to half of the respondents were married or living with a significant other.

3. Type of Support

We have seen with H2 that there is a significant difference in the number of supportive alters between in treatment and not in treatment VLT gamblers. What is worth noting, is that bingo gamblers have a similar number of supportive alters than do VLT gamblers in treatment but when it comes to the type of support, they resemble more VLT gamblers not in treatment for financial and emotional support while they resemble VLT gamblers in treatment for companionship and services (see Figure 1).

Figure 1 presents a summary of the characteristics of the three groups. Results for each group are within a circle and intersections of the circles show where there are no significant differences between groups. Parts of the circles that do not intersect with others contain variables for which there are significant differences between groups ($p = 0.01$ or less). For example, the VLT gamblers have a significantly lower number of components (2.5) than the other groups (4). Where the three circles intersect, the non-significant differences or similarities between the three groups are worth noting. Among these common points, the number of VLT gamblers present in the ego network remains constant, two gamblers on average. Thus, VLT gamblers do not seem to have more VLT gamblers in their networks. However, considering the size of the networks, the proportion is obviously higher in the case of VLT gamblers (of both groups) whose average network size is half the size of the network of the bingo gamblers. Other common characteristics between the three groups are the presence of a spouse, the proportion of women and men, of friends, of intimate friends and of kin.

Typical Examples of Ego Networks in Each Group

Figures 2–4 are illustrative examples of the structure and composition of the ego networks of the three groups of gamblers. To obtain a clearer image, the gambler is not represented in the network (since he or she obviously has links with all the members of his or her ego network)—however, the strength of the tie between the gambler and his or her alters is indicated by the colour of the node (see the legend below).

Legend

Node colour: intensity of the tie with ego (black = strong, grey = medium, white = weak)

Node size: give support (yes = larger)

Node shape: sex (round = women; square = men)

Link = strength of tie between alters (strong = large; weak = thin)

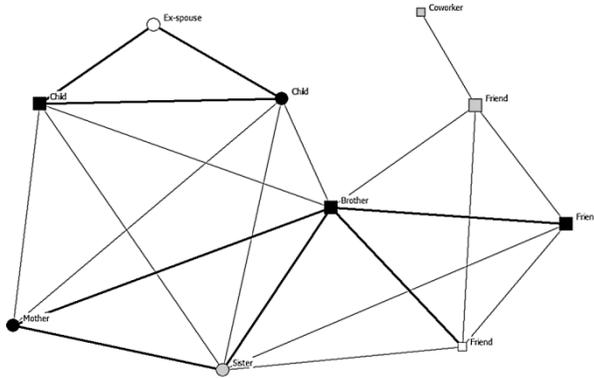


Figure 2. Network of a regular VLT gambler.

Typical Ego Network of a Regular VLT Gambler

The typical ego network (based on the means obtained for each indicator) of a VLT gambler is composed of close to 11 alters (11.2), has a small number of components (2.5), a higher density (0.44), and almost half of the alters (5.6) offer some kind of support. Figure 2 shows an example with 10 alters and only one component.

Typical Ego Network of a VLT Gambler in Treatment

The typical ego network of a VLT gambler in treatment (based on the means obtained for each indicator), although not significantly larger than the network of the regular VLT gambler (13) has several components (4) and close to 10 alters

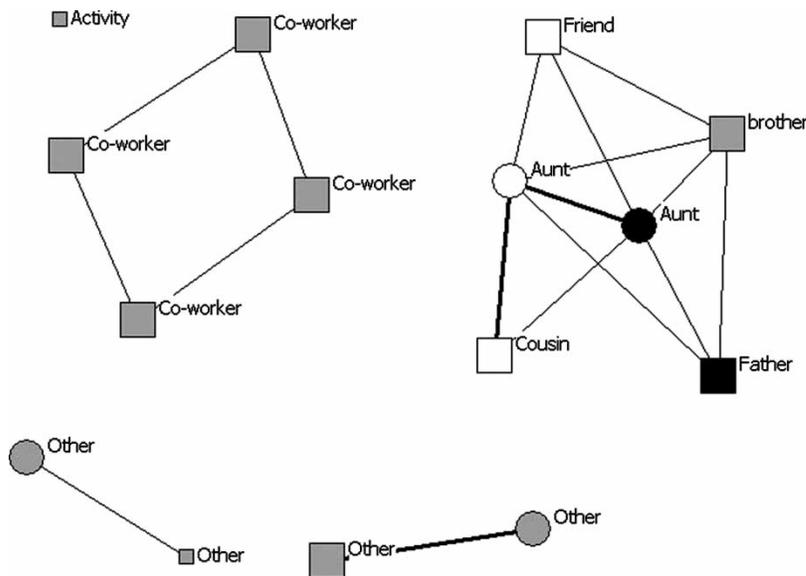


Figure 3. Network of a gambler in treatment.

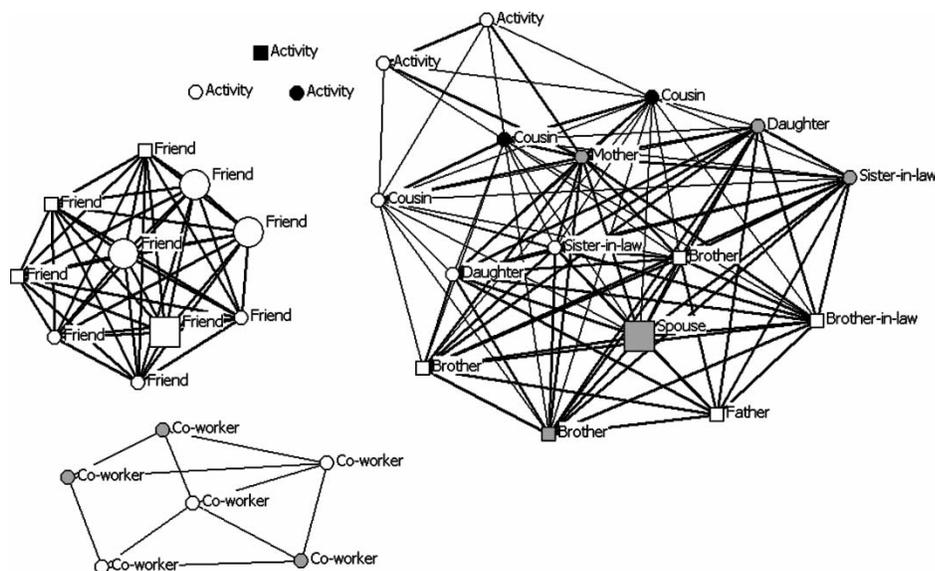


Figure 4. Network of a bingo gambler.

offering support (more than 75%). Figure 3 shows an example with 15 alters and 5 components.

Typical Ego Network of a Bingo Gambler

The typical ego network of a bingo gambler (based on the means obtained for each indicator) is significantly larger than those of the two other groups (25.8) and includes several components (4). They have as many supportive alters as VLT gamblers in treatment (9.7) which represents 38% of their network. Figure 3 shows an example with 35 alters and 6 components.

Discussion

This research sheds new light on the social integration of the VLT gamblers and offers new avenues for professionals seeking to help these people.

It appears that some features of ego networks are related to an orientation towards particular gambling activities. The gamblers' embeddedness in his or her network is characteristic of the type of games he/she plays. A smaller network—close to half the size of the mean network for the Canadian population (Wellman, 1990)—is associated with a solitary game which has been shown to isolate the gambler from his or her environment while playing (Mongeau, Saint-Charles & Biron, 2005). On the other hand, the bingo gamblers we interviewed had a mean ego network bigger than the mean size for the Canadian population which is unexpected considering that bingo gamblers are older and that the size of the ego network tends to decrease as age increases (Bidart, 1997; Burt, 1990).

This research—not being longitudinal—gives no information on the direction of the influence between the game played and ego networks. Most probably the

influence goes both ways: high sociability creating occasions for more sociability and low sociability favouring VLT gambling which in turn limits the opportunities for meeting others. However, the network size of the bingo gamblers cannot be solely explained by the fact that bingo, being played by a large number of people, creates a context for communication: even though one third of the alters of bingo gamblers are themselves bingo gamblers, this leaves many of the alters not accounted for in the 'bingo creates occasions' explanation.

Studies done by Hardoon et al. (2004), Trevorrow and Moore (1998) and others (Kalischuk et al., 2006) indicated a potential relationship between gambling and the presence of other gamblers in the network. We found similar results: bingo gamblers have 33% (7.8 alters) of their ego network composed of bingo gamblers; VLT gamblers (both in and not in treatment) have 17% of their ego network composed of VLT gamblers, which makes for 2 alters—the same number of VLT gamblers found in the bingo gamblers' ego networks.

A Closed Network

Turning to the differences between the networks of VLT gamblers in and not in treatment, the most striking difference is their density: regular gamblers have very dense networks with high connectivity, as is illustrated by the example in Figure 2, while in treatment gamblers have sparser networks. It is our contention that this may have an important impact on the social behaviour of the individuals of this group since they belong to a homogeneous group where people meet on a regular basis. In such a network, individuals have access to less diversified information (Granovetter, 1982), have less social capital (Borgatti & Foster, 2003; Gargiulo & Benassi, 2000) and also have less freedom and therefore less opportunity to 'redefine' themselves; defined as 'deviant' (gambler) by the interactions they share with their group, they may tend to maintain this definition of themselves and therefore maintain this deviance (Abrams, Hogg, Hinkle & Otten, 2005). Therefore, the VTL gamblers in our study seem to be imprisoned in a closed network. Ciarrocchi and Hohmanns' (1989) results, indicating that gamblers reported less interest for cultural, intellectual and political activities, corroborates the idea of a more contained social life.

It could be that the state of the regular VLT gamblers' ego network is the result of their gambling practice which may have driven away all but their closest kin and friends—something only a longitudinal or retrospective study could confirm. However, such an explanation implicates individual behaviour (gambling) as the cause of the problem; an individual-centred perspective that does not take into account the social and communicational context. Vakalahi (2001), in a literature review on adolescent substance use and family influences, proposes a systemic perspective on the role played by family interactions in the emergence and maintenance of problematic gambling behaviours; our results invite a widening of this perspective in order to encompass the totality of the gambler's ego network and not only the family.

Contrary to regular gamblers, VLT gamblers in treatment have ego networks that are less dense and have more components. In addition, the proportion of in-laws is significantly larger in the treatment group than in the regular gamblers group (Figure 1) and although this finding needs more investigation, we may hypothesize that in-laws do not frame the individual as a gambler as much as the proximate family does and that the presence of many components (distinct sub-

groups of alters not having connexion with one another) gives more opportunities to be something else than a gambler.

Supportive Alters

What also raises concerns for this group of VLT gamblers is the fact that these attributes are not compensated by one of the advantages usually associated with high density: the presence of strong social support (Granovetter, 1982; Wellman, 1990). As we have seen, the regular VLT gamblers declare not having many supportive alters. This result is in line with studies showing that excessive gamblers often reported lack of satisfaction with their family relationships and lack of support (Kalischuch et al., 2006).

In opposition, VLT gamblers in treatment declared having many alters providing social support among which are many providers of emotional support. Although that much perceived support is unusual for a small network, the lower density and the presence of different components are indicators of a wider range associated with more social support (Wellman & Wortley, 1990). Social support literature shows that perceived social support is related to health and well-being (Carpentier & White, 2001)—it may be that VLT gamblers decided to undergo treatment because they felt they received the emotional support needed to do so. It may also be that they are made more aware of the emotional support in their network because of the process they are undergoing—although most of them have not been in treatment for more than three months and most of the relationships they identified as part of their ego network existed for many years.

Finally, the characteristics common to the three groups demystify a popular belief about VLT gamblers and more specifically about pathological gamblers: that these people are solitary. Although their networks are small, the presence of 11–13 significant relationships does not lend support to solitude. Answers—and many more questions—are found in the structure of the network and in the communication dynamics.

Conclusion

Despite the fact that VLT is the game of chance most strongly associated with pathological gambling in Quebec, the majority of compulsive gamblers seldom seek help (Chevalier & Allard, 2001). Thus, we found it important to better understand what distinguishes those who seek help and those who do not. In this first communication study related to the problems of VLT gambling in Quebec, we compared the ego networks of two groups of gamblers sharing similar characteristics in terms of their age, socioeconomic status and gender: regular gamblers and gamblers in treatment. We also compared the ego networks of these groups with those of gamblers of a game for which there are few requests for help.

Regular VLT gamblers not in treatment have smaller and denser networks, seemingly living in a closed social space with little social support. Although we cannot know with certainty if these regular gamblers perceived they have problems with gambling, the significant differences we found between their networks and the networks of those in treatment invite more research on this topic.

In sum, analysis of the results suggests, from a communication point of view, that the regular VLT gamblers are not socially isolated individuals, but rather they are 'locked up' in a small network of close relationships from which gambling can be an escape. They are living in a space cut off from the others as much when they

play as when they are with members of their ego network (Mongeau et al., 2005). Therefore, it becomes necessary to deepen our understanding of how ego networks are constructed or 'de-constructed' for compulsive gamblers. Similarly, other questions arise concerning the role and influence of certain aspects of the gamblers ego networks, namely their access to emotional support and the role of in-laws in the network.

In terms of social intervention and prevention of compulsive gambling, professionals should keep in mind the difficulties involved in dealing with people confined in a dense network. To counter the effect of such a 'closed space', strategies of 'opening up to the world' could be devised. Finally, social network analysis can be used as a complementary tool to reframe and reorient intervention plans—something that is now being done: professionals at the treatment centres who helped with this research have asked the authors to adapt the questionnaire constructed for this research into a tool for intervention (Biron, Montreuil, Saint-Charles, Mongeau & Chevalier, 2008).

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References

- Abrams, D., Hogg, M.A., Hinkle, S., & Otten, S. (2005). The social identity perspective on small groups. In M. S. Poole, & A. B. Hollinghead (Eds.), *Theories of small groups* (pp. 99–137). Thousand Oaks, CA: Sage.
- Bélanger, Y., Boisvert, Y., Papineau, E., Vétére, H., & Marchildon, A. (2003). *La responsabilité de l'état québécois en matière de jeu pathologique: la gestion des appareils de loteries vidéos*. Montréal: Urbanisation Culture et Société de L'INRS.
- Bidart, C. (1997). *L'Amitié. Un lien social*. Paris: La Découverte.
- Bidart, C., & Lavenu, D. (1999, Mai). Enchaînements de décisions individuelles, bifurcations de trajectoires sociales, Paper presented at the 5^e journées d'études sur l'analyse longitudinale du marché du travail, Clermont-Ferrand
- Biron, J.-F., Montreuil, J., Saint-Charles, J., Mongeau, P., & Chevalier, S. (2008). *Profil de l'insertion sociale par l'analyse de réseau: un outil pour la relation d'aide. Version adaptée pour le jeu pathologique*. Montréal: Agence de la santé et des services sociaux de Montréal. Direction de santé publique. Ecoles et milieu en santé.
- Borgatti, S.P. (2002). *NetDraw: Graph visualization software*. Harvard, MA: Analytic Technologies.
- Borgatti, S.P., Everett, M.G., & Freeman, L.C. (2002). *Ucinet for Windows: Software for social network analysis*. Harvard, MA: Analytic Technologies.
- Borgatti, S.P., & Foster, P.C. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management*, 29(6), 991–1013.
- Buhringer, G., & Konstanty, R. (1992). Intensive gamblers on German-style slot machines. *Journal of Gambling Studies*, 8, 21–38.
- Burt, R. (1990). Kinds of relations in american discussion networks. In C. Calhoun, M.W. Meyer & W.R. Scott (Eds.), *Structures of power and constraint*. Cambridge: Cambridge University Press.
- Carpentier, N., & White, D. (2001). Le soutien social. In H. Dorvil & R. Mayer (Eds.), *Problèmes sociaux* (pp. 277–304). Montréal: Presses de l'Université du Québec.

- Chevalier, S. (2005, octobre). Santé publique et appareils électroniques de jeu, Paper presented at the *La prévention dans les jeux de hasard et d'argent à Montréal*, Montréal
- Chevalier, S., & Allard, D. (2001). *Jeu pathologique et joueurs problématiques: le jeu à Montréal*. Montréal: Régie régionale de la santé et des services sociaux de Montréal-Centre, Direction de la santé publique.
- Chevalier, S., Hamel, D., Ladouceur, R., Jacques, C., Allard, D., & Sévigny, S. (2004). *Comportements de jeu et jeu pathologique selon le type de jeu au Québec en 2002*. Montréal et Québec: Institut national de santé publique du Québec et Université Laval.
- Ciarrocchi, J., & Hohmann, A.A. (1989). The family environment of married male pathological gamblers, alcoholics, and dually addicted gamblers. *Journal of Gambling Studies*, 5(4), 283–291.
- Conseil canadien de la sécurité (2007). *Le visage hideux du jeu*. Retrieved 30 August 2007 from <http://www.safety-council.org/CCS/sujet/commun/jeu.html>
- Diskin, M.K., & Hodgins, C.D. (1999). Narrowing of attention and dissociation in pathological video lottery gamblers. *Journal of Gambling Studies*, 13, 17–28.
- Durkheim, É. (1897). *Le suicide. Étude de sociologie*. Paris: Les Presses universitaires de France.
- Erickson, B. (1988). The relational basis of attitudes. In S.D. Berkowitz & B. Wellman (Eds.), *Social structures: A network approach* (pp. 99–121). Cambridge: Cambridge University Press.
- Gambling: Help and Referral (2005). *Annual Report 2004–2005*. Retrieved November 2006 from <http://www.info-reference.qc.ca/gambling.html>
- Gargiulo, M., & Benassi, M. (2000). Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital. *Organization Science*, 11(2), 183–196.
- Gilliland, J.A., & Ross, N.A. (2005). Opportunities for video lottery terminal gambling in Montréal: An environmental analysis. *Canadian Journal of Public Health*, 96(1), 55–59.
- Granovetter, M.S. (1982). The strength of weak ties: A network theory revisited. In P.V. Marsden & N. Lin (Eds.), *Social structure and network analysis*. Beverly Hills, CA: Sage.
- Griffiths, M. (2004). Slot machines, structural characteristics and addiction. Paper presented at the *Jeux de hasard et d'argent*, Montréal
- Griffiths, M. (1995). Technological addictions. *Clinical Psychology Forum*, 76, 14–19.
- Griffiths, M. (1993). Fruit machine gambling: The importance of structural characteristics. *Journal of Gambling Studies*, 9, 133–152.
- Griffiths, M.D., & Wood, R.T.A. (2000). *Lottery gambling and addiction: An overview of European research*. Psychology Division, Nottingham Trent University.
- Hardoon, K., Gupta, R., & Derevensky, J. (2004). Psychosocial variables associated with adolescent gambling. *Psychology of Addictive Behaviors*, 18(2), 170–179.
- Kalischuk, R.G., Nowatzki, N., Cardwell, K., Klein, K., & Solowoniuk, J. (2006). Problem gambling and its impact on families: A literature review. *International Gambling Studies*, 6(1), 31–60.
- Kogovsek, T., Ferligoj, A., Coenders, G., & Saris, W.E. (2002). Estimating the reliability and validity of personal support measures: full information ML estimation with planned incomplete data. *Social Networks*, 24(1), 1–20.
- Lee, J.-S. (2002). *Modeling drug use using empirical social networks*. Pittsburg: Social and Decision Sciences, Carnegie Mellon University.
- Lee, J.-S. (2000). Modeling deviance using empirical ego-networks, Paper presented at the *Computational Analysis of Social and Organizational Systems*, International Conference, Pittsburg, July 2000.
- Lin, N., Dumin, M.Y., & Woelfel, M. (1986). Measuring community and network support. In N. Lin, A. Dean & W. Ensel (Eds.), *Social support, life events, and depression* (pp. 153–170). New York: Academic Press.
- Loto-Québec (2007). *Loto-Québec*. Retrieved 30 November 2007 from <http://lotoquebec.com/corporatif/nav/en/about-loto-quebec>
- McCallister, L., & Fischer, C.S. (1978). A procedure for surveying personal networks. *Sociological Methods Research*, 7(2), 131–148.
- Ministère de la santé et des services sociaux (MSSS). (2002). *Plan d'action gouvernemental sur le jeu pathologique 2002–2005*. Québec Ministère de la Santé et des Services sociaux.
- Ministère de la Santé et des Services sociaux (MSSS) and Fonds québécois de la recherche sur la société et la culture (FQRSC). (2007). *Les impacts socioéconomiques des jeux de hasard et d'argent, Ministère de la Santé et des Services sociaux et Fonds québécois de la recherche sur la société et la culture*. Retrieved February 2007 from <http://www.fqrsc.gouv.qc.ca/>
- Ministère de la sécurité publique (2001). *Les caractéristiques des suicides liés au jeu pathologique*. Montréal: Bureau du coroner.

- Mongeau, P., Saint-Charles, J., & Biron, J.-F. (2005). *Une approche communicationnelle de la problématique des appareils électroniques de jeu dans la région montréalaise*. Montréal: Régie régionale de la Santé et des services sociaux de Montréal-Centre, Département de communication sociale et publique, UQAM.
- Mongeau, P., Saint-Charles, J., & Biron, J.-F. (2005). *Une approche communicationnelle de la problématique des appareils électroniques de jeu dans la région montréalaise*. Montréal: Régie régionale de la Santé et des services sociaux de Montréal-Centre, Département de communication sociale et publique, UQAM.
- Morgan, T., Kofoed, L., Buchkoski, J., & Carr, R.D. (1996). Video lottery gambling: Effects on pathological gamblers seeking treatment in South Dakota. *Journal of Gambling Studies*, 12, 451–460.
- National Research Council (1999). *Pathological gambling: a critical review*. Washington, DC: National Academy Press.
- Oliveira, M.P.M.T., & Silva, M.T.A. (2001). A comparison of horse-race, bingo and video poker gamblers in Brazilian gambling settings. *Journal of Gambling Studies*, 17, 137–149.
- Parke, J., & Griffith, M. (2002). Slot machines gamblers—Why are they so hard to study?, [Electronic Version]. Periodical Title, Volume, Pages. Retrieved June 2005 from <http://www.camh.net/egambling/archive/index.html>
- Reith, G. (2006). *Research on the social impacts of gambling*. Edinburgh: Scottish Executive Social Research, The Scottish Centre for Social Research.
- Rugle, L., & Melamed, L. (1993). Neuropsychological assessment of attention problems in pathological gamblers. *The Journal of Nervous and Mental Disease*, 181(2), 107–112.
- Saint-Charles, J., & Mongeau, P. (2005). L'étude des réseaux humains de communication. In J. Saint-Charles & P. Mongeau (Eds.), *Communication: horizons de pratiques et de recherches* (pp. 73–99). Québec: Presse de l'Université du Québec.
- Sanicola, L. (Ed.) (1994). *L'intervention de réseaux*. Paris: Bayard.
- Scott, J. (1991). *Social network analysis: A handbook*. London: Sage.
- Trevorrow, K., & Moore, S. (1998). The association between loneliness, social isolation and women's electronic gaming machine gambling. *Journal of Gambling Studies*, 14(3), 263–284.
- United States General Accounting Office (2000). *Impact of gambling, economic effects more measurable than social* [Electronic Version]. Document GA 1.13: GGD-00-78. Retrieved 30 November 2007 from <http://www.gao.gov/new.items/gg00078.pdf>
- Van Der Gaag, M., & Snijders, T.A.B. (2005). *Measurement of individual social capital*. Amsterdam: NWO.
- Vakalahi, H.F. (2001). Adolescent substance use and family-based risk and protective factors: A literature review. *Journal of Drug Education*, 31(1), 29–46.
- Vaux, A. (1988). *Social support: theory, research, and intervention*. New York: Praeger.
- Wasserman, S., & Faust, K. (1994). *Social network analysis—methods and applications*. Cambridge: Cambridge University Press.
- Wellman, B. (1990). *Supportive community networks: Which network members, relationship and networks provide what kinds of social support?* Toronto: Health and Welfare Canada.
- Wellman, B., & Berkowitz, S.D. (Eds.). (1988). *Social structures—a network approach*. Greenwich, CT: JAI Press.
- Wellman, B., & Wortley, S. (1990). Different strokes from different folks: Community ties and social support. *American Journal of Sociology*, 96, 558–588.