

## Prevalence Rates of Gambling Problems in Montreal, Canada: A Look at Old Adults and the Role of Passion

Frédéric Philippe · Robert J. Vallerand

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**Abstract** The purpose of the present research was to determine the prevalence rate of gambling problems in senior citizens (55 years and older). A community-dwelling sample composed of 810 old adults living in the greater Montreal area in the Province of Quebec completed the Revised South Oaks Gambling Screen (SOGS-R). Results revealed that the 12-month prevalence rate was 1.2% for pathological gambling and 1.6% for at-risk gambling. Although, these rates are comparable to those reported elsewhere in Canada and in the US for senior citizens, the at-risk gambling rate was significantly higher than the current one for the general population of the overall Province of Quebec. Finally, a smaller portion of participants also completed two key items from the Gambling Passion Scale (GPS). Results revealed that obsessive passion was higher for pathological gamblers than for at-risk and non-problematic gamblers, while harmonious passion was lower for pathological gamblers than for at-risk and non-problematic gamblers.

**Keywords** Gambling Problems · Prevalence rate · Old adults · Obsessive Passion · Harmonious Passion

The last decade has seen a widespread expansion of legalized gambling across Canada and the US. Gambling facilities are now widely available in bars, restaurants, and lounges. One concern relative to this expansion is the growing number of pathological gamblers (Levens, Dyer, Zubritsky, Knott, & Oslin, 2005). Most authors agree that the prevalence of pathological gambling is linked to the

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F. Philippe · R. J. Vallerand (✉)

Laboratoire de Recherche sur le Comportement Social, Département de Psychologie,  
Université du Québec à Montréal, Station “Centre-ville”, P.O. Box 8888, Montreal (Quebec),  
Canada H3C 3P8  
e-mail: vallerand.robert\_j@uqam.ca

availability of gambling activities (Campbell & Lester, 1999; Ladouceur, Jacques, Ferland, & Giroux, 1999). Much research examined the impact of the gambling expansion in the general adult (e.g. Welte, Barnes, Wieczorke, Tidwell, & Parker, 2004) and adolescent population (e.g. Langhinrichsen-Rohling, Rohde, Seeley, & Rohling, 2004) on pathological gambling. More recently, elderly individuals have been targeted as a possible at-risk population.

Early reports underlined the fact that elderly individuals are involved more than ever in gambling activities, as their gambling participation increased by 45% from 1975 to 1997 (NORC, 1999). Today, gambling is one of the most frequently reported social activities by older adults (McNeilly & Burke, 2001). As gambling participation increases, the rate of pathological gambling in old adults might also increase, thus making them an at-risk population group (NORC, 1999).

Recent epidemiological studies estimate that pathological gambling affects between 1 and 2% of adults of all ages in the United States (Welte, Barnes, Wieczorke, Tidwell, & Parker, 2001; Welte, Barnes, Wieczorke, Tidwell, & Parker, 2002), Canada (Cox, Yu, Afifi, & Ladouceur, 2005; Shaffer, Hall, & Vander Bilt, 1999), and Europe (Beconia, 1996). Pathological gambling also concerns 0.8% of the population in the Province of Quebec in Canada (Ladouceur, Jacques, Chevalier, Sévigny, & Hamel, 2005). However, little empirical evidence exists concerning the current prevalence rates of old adults (Wiebe & Cox, 2005). Moreover, those that exist are not consistent. For instance, some research has shown that old age is associated with lower rates of pathological gambling compared to middle age (e.g. NORC, 1999; Shaffer, Hall, & Vander Bilt, 1997; Wiebe & Cox, 2005), while other studies reported higher prevalence rates of pathological gamblers in elderly individuals (e.g. Erickson, Molina, Ladd, Pietrzak, & Petry, 2005; Levens et al., 2005; McNeilly & Burke, 2000).

Such confusion in pathological gambling prevalence rates might be due to multiple issues. An important one deals with the variation in population representation, as samples recruited in gambling facilities may differ in significant fashion from community-dwelling samples (McNeilly & Burke, 2000). Indeed, old adults surveyed in gambling facilities are more likely to play, and to some extent, display pathological gambling problems than those surveyed at home. It might thus be necessary to recruit community-dwelling participants when assessing gambling prevalence in a given population.

Finally, little is known about the psychological correlates of older problematic gamblers (Erickson et al., 2005). Gambling is often seen as an activity associated with negative consequences, such as familial disruption (Thompson, Gazel, & Rickman, 1996), substance abuse (Wallish, 1993; Welte et al., 2004), anxiety and depression (Sommers, 1988), and suicide (Petry & Kiluk, 2002). However, recent studies have linked gambling with positive outcomes (Korn & Shaffer, 1999), especially in the elderly, as these activities might permit playful times, social integration, and connection with others (Hope & Havir, 2002; Vander Bilt, Dodge, Pandav, Shaffer, & Ganguli, 2004). Taking these two opposite viewpoints into account, one needs to identify the factors that explain why one person would develop a positive rapport with gambling, while another would develop pathological gambling problems.

One psychological construct that seems promising in discriminating problematic from non-problematic gamblers is the concept of passion (Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand et al., 2003). Passion is defined as a

strong inclination toward an activity that one likes, finds important, and in which one invests time and energy (Vallerand et al., 2003; Vallerand & Houffort, 2003). This theoretical approach posits that there are two types of passion for gambling, a harmonious one and an obsessive one. Harmonious passion reflects an autonomous internalization of the gambling activity in the person's identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them without any contingencies attached to it. The activity is thus in concordance with their self-integrity. The activity remains under their control. Harmonious passion has been linked to adaptive outcomes during engagement in the activity for adults (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003) and the elderly (Rousseau & Vallerand, 2003). Harmonious passion has also been found to be positively associated with adaptive psychological resources and well-being over time (Vallerand, Rousseau, Grouzet, Dumais, & Grenier, in press; Vallerand et al., in press; Vallerand et al., 2003, Study 2). On the other hand, obsessive passion reflects a controlled internalization of the activity that creates an internal pressure to gamble. Such internalization originates from intra and/or interpersonal pressure either because certain contingencies are attached to the activity such as feelings of social acceptance or self-esteem, or because the sense of excitement derived from activity engagement becomes uncontrollable. Obsessive passion is associated with negative outcomes during the activity for adults (Mageau et al., 2005; Vallerand et al., 2003) and the elderly (Rousseau & Vallerand, 2003), and has been found to lead to a decrease in well-being over time (Vallerand, et al., in press; Vallerand et al., in press; Vallerand et al., 2003, Study 2).

Recent research has shown that the concept of passion is applicable to gambling. Following the development of the Gambling Passion Scale (Rousseau et al., 2002), research has shown that obsessive passion was associated with higher amounts of money gambled in general (Rousseau et al., 2002) and with gambling dependence-related consequences such as anxiety, guilt, and rumination after playing and when prevented from gambling (Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004), while harmonious passion was associated with positive affective outcomes (Mageau et al., 2005). In addition, obsessive passion is positively associated with gambling problems, as measured by the South Oaks Gambling Screen (Ratelle et al., 2004), while harmonious passion is not. Finally, the concept of obsessive passion has been found to characterize gamblers with problems so severe that they had to ask to be self-excluded from casinos (Vallerand et al., 2003, Study 4). Passion for gambling would thus appear to represent a useful concept in order to predict pathological gambling.

## The Present Research

This study had two main objectives. The first objective was to assess the prevalence of problem gambling in older adults living in community-dwelling houses in the Greater Montreal area in the Province of Quebec. In line with a recent study conducted in Canada in a community-dwelling (Wiebe & Cox, 2005), it was hypothesized that older adults should not present a higher pathological or at-risk prevalence rate than the general adult population. The second objective was to evaluate gambling problems as a function of the concept of passion. According to past research on passion and gambling (Mageau et al., 2005; Ratelle et al., 2004;

Rousseau et al., 2002; Vallerand et al., 2003, Study 4), obsessive passion should be positively associated with pathological gambling while harmonious passion should be negatively associated with it. Also in line with previous research (Rousseau et al., 2002) that demonstrated that passion can discriminate heavy gamblers from recreational gamblers, obsessive passion should be higher for pathological gamblers than for both non-problematic and at-risk gamblers. Conversely, harmonious passion should be higher for non-problematic gamblers and at-risk gamblers than for pathological gamblers.

## Method

### Participants and Procedure

A stratified cluster design across the greater Montreal area in the Province of Quebec was used to obtain a representative sample of Montreal residents in 2001. The sample was stratified in randomly selected neighborhoods. Streets in each neighborhood were also randomly chosen. Over 7000 households were visited by 21 interviewers. Following a door-to-door procedure, participants were first asked about their age group. If they were 55 and higher, they were invited to fill out the questionnaire described below. If they were not of that age group, they were asked if someone living at home was 55 years of age or over. If no one was of that age group, they were thanked and the interviewer moved on to another randomly selected household. A total of 810 persons (458 females and 335 males, 17 gender missing data) who were at least 55 years old and who accepted to complete the questionnaire participated in the present study. Their mean age was 66.10 years (SD = 8.34).

### Measures

*The South Oaks Gambling Screen Revised.* The Revised South Oaks Gambling Screen (SOGS-R; Lesieur & Blume, 1993) is a 21-item scale, completed on a yes or no basis. It assesses the level of problem gambling by requesting information about 12-month prevalence gambling behavior. A score of 0–2 yields a non-gambling problem level, a score of 3–4 an at-risk gambling problem level, while a score of 5 and higher is considered a pathological gambling level. The SOGS has been widely validated (e.g., Ladouceur et al., 2000; Lesieur & Blume, 1987; Stinchfield, 2002). The Cronbach alpha of the SOGS-R in the present study was .78.

*The Gambling Passion Scale.* Two key items from The Gambling Passion Scale (GPS; Rousseau et al., 2002) were used in order to assess participants' passion for gambling. These items were completed by a small subset of participants ( $n = 142$ ). The GPS is composed of two subscales; the obsessive subscale and the harmonious subscale. This original scale has been shown to be reliable, valid, and free of social desirability concerns (Rousseau et al., 2002). In the present study, participants were asked to write down their favorite gambling game and to indicate their degree of agreement with the two key items from the GPS. The harmonious passion item was "This gambling game is in harmony with the other activities in my life" while "I have almost an obsessive feeling for this gambling game" was the obsessive passion item. Only one item of each subscale was used in order to keep the questionnaire as short as possible, as respondents were elderly people who also had to complete the SOGS-R.

Each key item had been selected on the basis of top loading on each factor of the original factorial analysis (Rousseau et al., 2002). In another sample ( $n = 107$ ) with the full GPS, the obsessive passion item correlated at .83 ( $p < .01$ ) with the full obsessive passion subscale, while the harmonious passion item correlated at .65 ( $p < .01$ ) with the full harmonious passion subscale. The two items were responded on a 7-point Likert scale ranging from 1 (Do not agree at all) to 7 (Completely agree).

## Results

Out of 810 respondents, 385 had gambled at least once during the past 12 months. Of these 385 individuals, 10 scored five and higher on the SOGS-R and were considered pathological gamblers. Thus, the current 12-month prevalence rate of pathological gambling problems in the Greater Montreal area for people aged 55 years and higher was 1.2%. Finally, a total of 13 participants scored three or four and were considered at-risk gamblers (1.6%). Table 1 reports the frequency and percentage of gambling problems according to each group as identified by the SOGS-R. Category membership on the SOGS-R did not differ as a function of sex, age, level of education, or socioeconomic status (all  $ps > .05$ ).

A partial correlation was computed between obsessive passion and the SOGS-R level (continuous score), controlling for harmonious passion. Results revealed a positive correlation ( $r_p = .49$ ,  $p < .01$ ) between the two. A partial correlation was also computed between harmonious passion and the SOGS-R level, this time controlling for obsessive passion. Results revealed a negative correlation ( $r_p = -.24$ ,  $p < .01$ ). These results suggest that obsessive and harmonious passions for gambling are respectively positively and negatively associated with gambling problems.

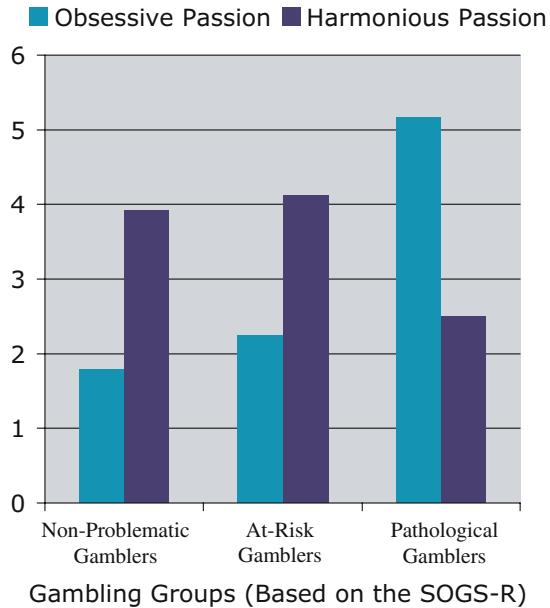
A 2 (Passion: obsessive passion, harmonious passion)  $\times$  3 (SOGS-R: non-problematic, at-risk, and pathological gamblers) analysis of variance with repeated measures on the passion variable was computed in order to assess the relation between the two types of passion and the types of gambling problem categories based on the SOGS-R. As expected, results revealed no significant main effect for passion ( $F = 1.26$ , ns) or for the SOGS-R ( $F = 1.37$ ,  $p > .05$ ) but a significant interaction effect ( $F = 13.66$ ,  $p < .01$ ). Simple effects analyses showed that pathological gamblers had significantly higher scores on obsessive passion ( $M = 5.17$ ) compared to gamblers without problems ( $M = 1.79$ ),  $t(2, 142) = -5.64$ ,  $p < .01$  and at-risk gamblers ( $M = 2.25$ ),  $t(2, 142) = -3.77$ ,  $p < .01$ . Gamblers without problems and at-risk gamblers did not differ significantly between themselves with respect to obsessive passion ( $t[2, 142] < 1$ , ns). In addition, harmonious passion was found to be

**Table 1** Twelve-month prevalence rates for elderly individuals in the greater montreal area

	Frequency	%
Non-gamblers	425	52.5
Gamblers without problems	362	44.7
At-risk gamblers	13	1.6
Pathological gamblers	10	1.2

Note:  $n = 810$

**Fig. 1** Obsessive and Harmonious Passion as a function of the three gambling categories based on the SOGS-R:  $n = 142$ . Note: The two types of passion were scored on a 7-point scale



marginally lower for pathological gamblers ( $M = 2.50$ ) compared to both gamblers without problems ( $M = 3.95$ )  $t(2, 142) = 1.75, p < .10$  and at-risk gamblers ( $M = 4.13$ )  $t(2, 142) = 2.23, p = .10$ . Gamblers without problems and at-risk gamblers did not differ significantly with respect to harmonious passion ( $t[2, 142] < 1, ns$ ). Of additional interest, pathological gamblers scored higher on obsessive passion ( $M = 5.17$ ) than on harmonious passion (2.50). However, as can be seen in Fig. 1, a complete reversal occurred for gamblers without problems ( $M = 1.79$  versus 3.95) and at-risk gamblers ( $M = 2.25$  versus 4.13) where harmonious was higher than obsessive passion.

## Discussion

The first purpose of the present study was to identify the prevalence rate of gambling problems among community-dwelling old adults of the Greater Montreal area. It is the first study to do so. The present findings lead to a number of implications. First, prevalence rates of 1.6 and 1.2% were found for at-risk and pathological gamblers, respectively. Wiebe and Cox (2005) reported the exact same rates for at-risk gamblers and pathological gamblers with their sample of older adults in Manitoba, Canada ( $n = 1,000$ ). Furthermore, these two prevalence rates in our sample were not significantly different from those of a community-dwelling sample of old adults recruited in a Midwest metropolitan area in the US (at-risk: 1.3%,  $\chi^2 [1, 1034] = 0.09, ns$ ; pathological: 2.7%,  $\chi^2 [1, 1034] = 2.40, p < .12$ ; McNeilly & Burke, 2000). The prevalence rates of at-risk and pathological gamblers in older adults living in community-dwelling in Montreal, Quebec, is thus comparable to the ones found with older adults in Manitoba, Canada, and in a Midwest area in the US.

Some researchers have suggested that old adults are more at-risk of developing gambling problems (e.g. NORC, 1999; Shaffer et al., 1997). The present findings provide some tentative support for this analysis. Although, the current pathological gambling prevalence rate in older adults was not significantly different ( $\chi^2 [1, 9638] = 1.65$ , ns) from that of the general population of the entire Province of Quebec (0.8%: Ladouceur et al., 2005), the fact that the at-risk prevalence rate in the present study (1.6%) was significantly higher than the one previously reported in the overall population (0.9%: Ladouceur et al., 2005,  $\chi^2 [1, 9638] = 3.96$ ,  $p = .05$ ) suggests that the pathological problem prevalence rate in old adults may go up in the years to come. Future research using longitudinal designs will be needed in order to test this hypothesis.

A second major implication from the present findings pertains to the concept of passion. First, results revealed that an obsessive passion for gambling was positively correlated to the number of symptomatic behaviors relative to pathological gambling, while harmonious passion was negatively correlated to it. These findings are in line with past research on the role of passion in gambling where obsessive passion has been found to predict pathological gambling, while harmonious passion was not associated with it (Ratelle et al., 2004; Vallerand et al., 2003, Study 4) and has even been found to predict positive affective and cognitive outcomes (Mageau et al., 2005). Second, the present research suggests that the concept of passion might help articulate a classification criterion, which can serve to distinguish between recreational and pathological gamblers. The present results revealed that the categories of non-problematic gamblers and at-risk gamblers present a similar pattern, that is a moderate level of harmonious passion and a low level of obsessive passion (See Fig. 1). However, a complete reversal occurs for pathological gamblers who report a high level of obsessive passion but a low level of harmonious passion. Such a pattern has also been obtained in a previous study comparing regular casino players to self-excluded casino players (Vallerand et al., 2003, Study 4). The relative scores of harmonious and obsessive passion may thus be used to distinguish pathological from recreational gamblers. Future research on the potential use of the relative scores of the two types of passion as a screening device is thus encouraged.

Some limitations of the present research need to be underscored. First, the present research used a sample of participants recruited from the Greater Montreal area. Prevalence rates for elderly individuals might be different elsewhere in the Province of Quebec. Thus, future research should examine the pathological and at-risk gambling prevalence rates for the entire Province of Quebec. A second limitation is that a population of community-dwelling participants might be different from a population residing in senior centers or in long-term care centers, as the latter are more likely to be suffering from sickness, loss of physical autonomy, and loneliness. These might represent risk factors in developing gambling problems (Erickson et al., 2005). As a growing number of elderly individuals leave their home to live in long-term care centers, it might prove important to survey these individuals in future research. Finally, passion for gambling was assessed with only two key items. Even though their respective correlations with the full Gambling Passion Scale are high, using a limited number of items to measure a concept might lead to measurement error. Future research is thus encouraged to replicate the present findings.

Despite these limitations, the present study offers preliminary information regarding the prevalence rates of pathological and at-risk gambling in old adults living in the greater Montreal area in the Province of Quebec. Furthermore, the use



of the concept of passion for gambling seems to be useful in distinguishing individuals with gambling problems from those without problems. Future research on this issue would thus appear promising.

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