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A Descriptive Study of Gambling Among Emerging Adult Males in French-Speaking Switzerland

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Abstract The aims were twofold: to examine the gambling habits of emerging adult males in the French-speaking regions of Switzerland and to what extent these habits predict problem gambling within this population. We also evaluated problem gambling rates and provided data concerning variables such as gambling location, level of information about problem gambling and awareness of treatment centers. 606 Swiss male conscripts, aged 18–22 years, completed a self-report questionnaire. This was administered during their army recruitment day in 2012. Problem gambling was assessed through the Problem Gambling Severity Index (PGSI) (Ferris and Wynne 2001). 78.5 % of the respondents were lifetime gamblers, 56.1 % were past-year gamblers. Four out of ten past-year gamblers played in private spaces and in back rooms. The PGSI indicated that 10.8 % of past-year gamblers presented with moderate gambling problems, whilst 1.4 % appeared to be problem gamblers. The majority of respondents had never received information about problem gambling. Moreover, they were unaware of the existence of treatment centers for problem gambling in their region. PGSI scores were significantly predicted by the variety of games played. Problem gambling rates among young men appear to be higher than those of the general Swiss population. This confirms that emerging adult males are a particularly vulnerable population with regards to gambling addiction. The implications of this are considered for youth gambling-prevention programs.

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Introduction

Gambling is a popular activity for the general population. Recent studies report that past-year gambling prevalence, within European countries, ranges from 39 to 80 % (Griffiths 2010). However, gambling leads to pathological behaviors for 0.5–2 % of the European population (Griffiths 2010). This amounts to 0.5 % of the general population in Switzerland (Bondolfi et al. 2008).

Gambling represents a significant risk factor for mental illness and for social and legal difficulties (Chen et al. 2006; Ferland et al. 2008; Fong 2005; Oliveira et al. 2008; Wong et al. 2010), which eventually may lead to suicide (Chen et al. 2006; Wong et al. 2010). Many consequences appear several years after the first gambling experiences. However, the seeds of pathological gambling often develop during adolescence and emerging adulthood. Previous research has shown that 89 % of problem gamblers report that they gambled before age 21 (Bondolfi et al. 2000). This indicates that young people are particularly high-risk populations for pathological gambling. Numerous studies from various jurisdictions converge in showing high problem gambling rates in adolescents (for a review see: Volberg et al. 2010). Less numerous are studies that have been carried out to examine gambling behaviors in emerging adults. Yet, emerging adulthood is a distinct period of the life between 18 and 25 years of age where young people experience important changes, are less monitored by their parents, and have greater freedom in seeking novel sensations (Arnett 2000). Multiple gambling prevalence studies conducted on general populations have shown that young age between 18 and 25 and male gender are consistent demographic correlates of problem gambling (for a review see: Williams et al. 2012). The relatively few studies on emerging adults' gambling behaviors report problem gambling rates between 1.3 and 6.2 % (Engwall et al. 2004; Ferland et al. 2009; Huang et al. 2007; Williams et al. 2006).

What is the situation for young people in a country such as Switzerland, with a highly industrialized gambling industry? The 1998 legalization permits unlimited stakes within Swiss casinos (Dombrowski et al. 2001), and there has been consequent growth within the gambling industry. This has led to problem gambling becoming a concern for Swiss health authorities and the public. Several studies have been conducted to determine prevalence rates for the general population (Bondolfi et al. 2000; Brodbeck et al. 2009; Molo Bettelini et al. 2000). However, it is only very recently that attention has been given to gambling amongst young people.

A study using the 2007 Swiss Health Survey data based on an telephone interview plus a self-administered questionnaire has raised awareness of the gambling participation rate for 15–24 year-olds (Luder et al. 2010). This has shown that 48.3 % of the 1,116 participants were past-year gamblers of which 34.8 % were occasional gamblers, and 13.5 % were weekly gamblers. The research also showed that gambling is more frequent in the French-speaking areas of Switzerland than in the German and Italian speaking parts. Moreover, there were more male gamblers, than non-gamblers.

More recently, a questionnaire-based survey (Suris et al. 2011) was conducted to examine gambling behaviors and problem gambling amongst students. The sample included 1,102 first and second year students in post-compulsory education (15–18 years, or over) within one French-speaking canton. The questionnaire included the South Oaks Gambling Screen—Revised, for Adolescents (Winters et al. 1993). Findings indicated that

4.3 % of respondents were at-risk gamblers, whilst 1.3 % were problem gamblers. The study also showed that the majority of at-risk and problem gamblers were males (86 %).

In light of these findings, and within the context of a problem gambling prevention program for emerging adult males, we carried out the present study. The aim was to examine basic gambling variables (i.e. games played, variety of games played, gambling location, and gambling frequency) and to what extent such variables predict problem gambling within a Swiss population characterized by two demographic correlates of problem gambling: emerging adulthood and male gender. The data collected will provide us with primary prevention-focused information about gambling in a sensitive yet unexplored population. The sample included French-speaking males aged between 18 and 25 years. All of them were conscripts that were approached during recruitment days for compulsory military service, held in Lausanne, Switzerland. As far as male gender is concerned, surveying conscripts in recruitment centers provides us with a more heterogeneous sample than those that can be constituted in other institutions such as college campuses. We also aimed to gather information about the self-management of gambling addictions. Furthermore, we sought to understand how well-informed this population was about gambling-related risks and the existence of treatment centers. Finally, we also administered questionnaires to a sample of non-gamblers. This enabled us to consider why non-gamblers do not gamble and explore their perspective on gambling advertising.

Method

Sample

Respondents were 620 Swiss French-speaking males. Because individuals aged 23, 24 and 25 were insufficient to be considered for weighting ($N_{23} = 9$; $N_{24} = 4$; $N_{25} = 1$), they were excluded from the sample. Therefore, the final sample was constituted of 606 males, aged 18–22 years ($M = 20$; $SE = 0.8$). Participants came from seven Swiss cantons (Vaud = 39.2 %; Geneva = 19.8 %; Fribourg = 12.9 %; Valais = 9.6 %; Neuchâtel = 6.9 %; Jura = 6.2 %; Bern = 5.5 %). The participants were all conscripts attending recruitment days between June and July, 2012. These were held at the Swiss army recruitment center in Lausanne, Switzerland. Young males with physical or mental handicap were excluded (as standard) from the regular recruitment program. Similarly, individuals undergoing judicial proceedings (prosecuted or convicted) were not permitted to participate. Therefore, around 10 % of the French-speaking young Swiss male population was not represented in the current sample. Regarding occupations, 83 % of participants were undertaking training or studies, 10.6 % were employed, and 1.4 % were unemployed. Moreover, 3.6 % did not undertake any specific activity, and 1.4 % selected several of the above categories. When asked about their income, 69 % reported earning money solely from professional activities, 19 % received financial support exclusively from their families, 2.5 % from social benefits, and 0.2 % from savings. The remaining respondents indicated multiple sources of financial support, namely from family and employment (6.7 %). The median income (unweighted) was 1,000 Swiss Francs (CHF) per month.

Procedure

The conscripts were approached as groups of 20–30 individuals within a classroom setting. They were asked to participate in an enquiry aimed at gathering useful information for a

gambling prevention program. They were informed that the enquiry involved a questionnaire on gambling habits and were assured that their answers were anonymous. No recruitment personnel were present in the room during administration of the questionnaires. All participants were voluntary and agreed to participate by reading and signing an informed consent form. The protocol was approved by the Clinical Ethics Research Committee of the Faculty of Biology and Medicine at the University of Lausanne.

Questionnaire

The questionnaire was entitled "Gambling habits of young people from French-speaking Switzerland". It included two sections: The first pat concerned all participants; the second applied to only the past-year gamblers.

The first section included questions aimed at all participants. The respondents were asked to indicate their age, canton of residence, main activity, average monthly income (during the past year) and source of income. The first section of the questionnaire comprised items that examined gambling in family members and friends. This included the number of gamblers, and 18–25 year old problem gamblers they knew.

Several questions explored the perception of gambling (perceived problem gambling rate in Switzerland, perceived degree of responsibility for problem gamblers). In addition to this, data on gambling onset (age, type of gambling at onset) was obtained. Another set of items examined the information that participants had received about gambling and to what extent they were aware of local problem gambling treatment centers. It also explored whether they felt it necessary to inform young people about the risks of gambling. Finally, in the first part of the questionnaire participants indicated whether they had gambled during the past 12 months.

The second part of the questionnaire was completed by past-year gamblers only. Respondents completed a table to indicate their playing habits. This included: a list of games they had participated in (by responding "Yes" or "No" to each item); the location in which they played (Internet, Casino, Bars and restaurants, Selling points, Private locations, Back (unofficial) rooms, other); the frequency of gambling (daily, 1–6 per week, 1–3 times per month, 6–11 times per year, 1–5 times per year). From the responses in the table, data on the following variables was obtained: Type of gambling, variety of games played, gambling locations and frequency of gambling. Following this, past-year gamblers rated the 9-item Problem Gambling Severity Index (PGSI; Ferris and Wynne 2001), which has stronger psychometrical properties than comparable gambling scales (Currie et al. 2010). They also reported the amount of money bet during the preceding 12 months. The final question concerned the method of payment used during Internet gambling (credit cards, prepaid cards, etc.).

Analyses

Age categories within the sample were not proportionately equivalent to those of the target population. In order to address this, data was weighted, based on the age of the participants. All results were obtained by performing SPSS 20.0 Complex Samples analyses. We also performed descriptive analyses and logistical regressions. The level of significance was set at 0.05.

Results

All Participants

Results relative to the entire sample of participants are displayed in Table 1.

Gambling Amongst Family Members and Friends

On average, participants reported that there were 3.24 (SE = 0.26) gamblers amongst their family and friends. More than a third of respondents (37.6 %) indicated that they did not know of any gamblers. Furthermore, 28.1 % of them knew one to two gamblers, 19.4 % knew three to five gamblers, and 14.9 % knew more than six gamblers. When asked about young gambling addicts, aged 18–25, 56.7 % of the respondents did not know of any amongst their relatives or friends. A further 19.8 % knew one to two, young problem-gamblers, 11.9 % knew three to five of them and 11.6 % reported to know more than six young people addicted to gambling.

Perceptions of Gambling and Gamblers

Participants largely overestimated the percentage of the Swiss population suffering from gambling addiction (M = 22.1 %; Md = 17 %). Furthermore, the majority (63.9 %) perceived problem gamblers to be responsible for their addiction.

Information About Gambling

Almost two young people out of three (65.1 %) had never received information about gambling addiction. Moreover, 76 % were unaware of any treatment centers in their region. The majority of participants (81.8 %) felt it necessary to inform young people about the risks of gambling.

Gambling Rates

The analysis shows that 78.5 % of the respondents had gambled at least once in their lives, whereas 56.1 % reported past-year gambling.

Past-Year Gamblers

Gambling Onset

On average, past-year gamblers in the sample started gambling at 15.7 years (SE = 0.17). More than two-thirds of past-year gamblers (68.7 %) started gambling under the age of eighteen. This differs from the average starting age in Switzerland, and the minimum legal age for entering casinos. A further 35.1 % of the past-year gamblers started gambling under the age of 16. The games that young people played included Scratch Cards (48.3 %), Poker (19.1 %), Lottery (11.3 %), Roulette (9.1 %), Betting (4.1 %), Slot Machines (3.9 %), Blackjack (2.9 %), and other games (1.0 %). A crosstabs analysis showed that the most popular games for 16 year-olds were Scratch Cards (48.9 %, CI 39.6–58.3 %), Poker (29.6 %; CI 18.7–43.5 %) and the Lottery (27 %; CI 13.2–47.0 %).

Table 1 Results for all participants

Variable	Response category	Unweighted n	%	95 % CI
Number of gamblers amongst family and friends	0	217	37.6	33.2–42.3
	1–2	148	28.1	23.6–32.6
	3–5	109	19.4	15.9–23.5
	6–10	52	10.3	7.7–13.7
	>10	31	4.6	3.1–6.8
Number of 18–25 year-old problem gamblers amongst family and friends	0	298	56.7	51.8–61.4
	1–2	106	19.8	16.2–23.9
	3–5	61	11.9	9.0–15.6
	6–10	35	6.5	4.5–9.4
	>10	30	5.1	3.4–7.5
Believe that problem-gamblers are responsible for their addiction	Yes	354	63.9	59.3–68.2
	Neutral	140	23.3	19.6–27.5
	No	74	12.8	10.0–16.2
Had received information about problem gambling	Yes	215	34.9	30.7–39.4
	No	355	65.1	60.6–69.3
Aware of the existence of treatment centres for problem gambling in Romandy	Yes	144	24.0	20.3–28.2
	No	428	76.0	71.8–79.7
Believe that young people should be informed about risks of gambling	Totally unnecessary	22	4.0	2.5–6.3
	Quite unnecessary	77	14.2	11.1–17.9
	Quite necessary	307	54.1	49.4–58.7
	Totally necessary	167	27.7	23.8–32.0
Gambling rates	Lifetime	474	78.5	74.3–82.3
	Past-year	335	56.1	51.5–60.8

CI confidence interval

Gambling Frequency

13.1 % of respondents gambled at least once a week. Of these, 0.6 % gambled daily, 24.1 % up to three times per month, 27.4 % six to 11 times per year, and 31.7 % up to five times per year.

Games Played

The most popular and the most available games played were, by far, Scratch Cards. More than eight out of ten respondents (81.9 %) had tried these during the past year. Poker appeared to be the second most popular game (44.4 %). These were followed by the Lottery (39.5 %), Roulette (37.8 %), Slot Machines (31 %), Black Jack (23.8 %) and betting on sports (20.7 %). 11 % of our population played Scratch Cards on Electronic Gaming Machines (EGMs) and less than 11 % played games in the "other" category.

Gambling Locations

The young people in our sample gambled at vending points (77.9 %), Casinos (52.1 %), private locations (40 %), bars and restaurants (32 %). They also gambled, to a lesser extent, on the Internet (15.9 %), in back rooms (9.4 %) and other locations (6.6 %).

Number of Different Games Played

On average participants that had gambled during the past year played more than three different games (M = 3.08; SE = 0.11). More than half (53.7 %) of past-year gamblers played three or more games (three to five games = 42.5 %; six to 12 games = 11.2 %). Furthermore, almost half the population (46.3 %) reported playing one (20.2 %) or two (26.1 %) different games during the past 12 months.

Amount of Money Bet

The unweighted median amount of money spent on gambling during the preceding 12 months was CHF 100. 53 % of the past-year gamblers bet up to CHF 100, 30.4 % bet CHF 100–500, 9.1 % bet CHF 550–1,000, and 7.6 % bet more than CHF 1,000 (see Table 2).

Forms of Payment for Online Gambling

We also examined the forms of payment used when gambling on the Internet. As illustrated in Table 2, credit cards seem to be the main form of payment for online gambling (42.8 %). The second most popular form of payment was prepaid cards (34.5 %). Gamblers also paid by e-banking (18 %) and postal remittance slips (5 %).

Problem Gambling Rates

The analysis revealed that 64.7 % could be identified as non-problem gamblers and 23.2 % as low-level problems gamblers. A further 10.8 % presented with moderate-level problems leading to some negative consequences. Finally, 1.4 % were problem-gamblers with negative consequences and a possible loss of control. All categories were defined according to PGSI criteria (Table 3).

Predictors of Problem Gambling Among Past-Year Gamblers

Three separate complex samples logistic regression analyses were conducted. These enabled us to identify the gambling-related factors that predicted problem gambling in our population. In order to perform the analysis, the PGSI score was dichotomized. The derived values were 1 = Low risk gamblers and 2 = at-risk problem gamblers. Low-risk gamblers were defined as the reference category. Predictors of the first analysis were the different types of games played. Predictors of the second analyses were the different Gambling locations. For the third analysis predictors included Income, Age of gambling onset, Number of gamblers known amongst friends and family and variety of games played. Due to its large range (CHF 0–60,000), Income was dichotomized. This enabled us to use units in order to make interpretations within the regression analysis.

Table 2 Results for past-year gamblers

Variable	Response category	Unweighted n	%	95 % CI
Age at gambling onset	Under 18	218	68.7	62.8–74.0
	Under 16	116	35.1	29.4–41.2
Game played at onset	Scratch cards	147	48.3	42.0–54.5
	Poker	67	19.1	14.8–24.3
	Lottery	33	11.3	8.0–16.3
	Roulette	36	9.1	6.4–16.9
	Betting	14	4.1	2.3–7.4
	Slot machines	12	3.9	2.1–7.3
	Black jack	10	2.9	1.4–6.1
	Other games	3	1.0	0.3–3.7
Gambling frequency	Daily	2	0.6	0.1–2.5
	1–6 times per week	50	13.1	9.7–17.5
	1–3 times per month	72	24.1	19.0–30.0
	6–11 times per year	98	27.4	22.3–33.0
	1–5 times per year	103	31.7	26.3–37.8
Past-year games	Scratch cards	277	81.9	76.6–86.2
	Poker	158	44.4	38.4–50.5
	Lottery	137	39.5	33.7–45.5
	Roulette	137	37.8	32.2–43.8
	Slot machines	103	31.0	25.6–37.0
	Black Jack	78	23.8	18.9–29.4
	Sports betting	68	20.7	16.1–26.2
	Scratch cards on EGMs	37	11.0	7.7–15.5
	Other games	5	1.4	0.5–3.7
Gambling venues	Vending points	262	77.9	72.3–82.5
	Casinos	176	52.1	46.0–58.2
	Private locations	139	40.0	34.2–46.1
	Bars and restaurants	104	32.0	26.6–38.1
	Internet	56	15.9	12.0–20.8
	Back rooms	32	9.4	6.4–13.6
	Other locations	25	6.6	4.3–10.0
Number of different games played	1	54	20.2	15.4–26.1
	2	92	26.1	21.2–31.8
	3 or more	189	53.7	47.5–59.8
Amount of money bet (CHF)	1–100	164	53.0	46.7–59.1
	101–500	105	30.4	25.0–36.3
	501–1,000	31	9.1	6.1–13.2
	More than 1,000	24	7.6	4.9–11.6
Form of payment for online gambling	Credit cards	22	42.8	28.7–58.1
	Prepaid cards	21	34.5	22.0–49.5
	E-Banking	11	18.0	9.3–31.8
	Postal remittance slips	2	4.8	1.0–20.7

Table 3 Problem gambling prevalence for past-year gamblers

Variable	Response category	Unweighted n	%	95 % CI
PGSI scores	Non-problem gambling	211	64.7	58.6–70.3
	Low-level problems	77	23.2	18.4–28.8
	Moderate-level problems	38	10.8	7.6–15.1
	Problem gambling	5	1.4	0.5–3.5

Types of Games and Problem Gambling

The model identified that 88.1 % of the sample were gamblers. Roulette, Poker, Sports Betting and Scratch Cards on EMGs significantly predicted at-risk or problem gambling (see Table 4). According to these results, the odds of finding problem gambling behaviors were more than four times higher for Roulette players (OR 4.12; $p < 0.01$). Furthermore, they were more than three times higher for Poker players (OR 3.46; $p < 0.01$) and sports betters (OR 3.07; $p < 0.01$). Finally, the odds were almost three times higher for gamblers playing scratch cards on EGMs (OR 2.81; $p < 0.01$).

Gambling Location and Problem Gambling

The model achieved an 87.3 % rate of overall correct classification. The results (see Table 5) show that gambling at Casinos is a predictor of problem gambling behaviors. Playing at any other venue did not predict problem gambling. It appears that the odds of detecting problem gambling is four times higher for participants using Casinos, when compared to other locations (OR 4.07; $p < 0.01$). We should note that the Internet just missed significance, as a predictor of at-risk/problem gambling.

Income, Gamblers Known Amongst Family and Friends, and Playing Characteristics

For this analysis, the model correctly classified 86.7 % of the gamblers. The results are displayed in Table 6. These show that the number of games played significantly predicted at risk/problem gambling. Furthermore, each additional game played more than doubled the odds of the participant developing at-risk or problem gambling (OR 2.10; $p < 0.001$).

No other variables, entered into the model, predicted at-risk/problem gambling.

Table 4 Types of games as predictors of at-risk/problem gambling

Variable	B	SE	T	*df*	*p*<	Exp(B)	95 % CI
Scratch cards	−0.33	0.56	−0.59	330	0.56	0.72	0.25–2.13
Poker	1.24	0.46	2.72	330	0.01	3.46	1.41–8.48
Lottery	0.81	0.43	1.90	330	0.06	2.25	0.97–5.23
Roulette	1.42	0.48	2.93	330	0.01	4.12	1.59–10.63
Slot machines	0.52	0.43	1.20	330	0.25	1.68	0.72–3.90
Black jack	−0.40	0.45	−0.88	330	0.39	0.67	0.27–1.63
Sports betting	1.12	0.41	2.77	330	0.01	3.07	1.38–6.83
Scratch cards on EGMs	1.03	0.52	2.00	330	0.05	2.81	1.02–7.77

Exp(B) = Odds ratio (OR)

Table 5 Gambling locations as predictors of at-risk/problem gambling

Variable	B	SE	T	*df*	*p*<	Exp(B)	95 % CI
Vending points	0.31	0.51	0.62	330	0.54	1.37	0.50–3.71
Casinos	1.40	0.44	3.18	330	0.01	4.07	1.71–9.71
Private locations	0.31	0.39	0.81	330	0.42	1.37	0.64–2.94
Bars and restaurants	0.37	0.40	0.92	330	0.36	1.44	0.66–3.16
Internet	0.89	0.46	1.94	330	0.06	2.43	0.99–5.97
Back rooms	0.60	0.62	0.97	330	0.33	1.82	0.54–6.15

Table 6 Income, age at onset, known gamblers and variety of games played as predictors of at-risk/problem gambling

Variable	B	SE	T	*df*	*p*<	Exp(B)	95 % CI
Income	−0.15	0.42	−0.36	292	0.72	0.86	0.37–1.98
Age at onset	−0.06	0.06	−1.09	292	0.28	0.94	0.83–1.05
No. gamblers known	0.02	0.02	1.09	292	0.28	1.02	0.98–1.06
Variety of games played	0.74	0.12	6.30	292	0.001	2.10	1.67–2.65

Discussion

The analyses conducted on the population of emerging adult males yield several pieces of information. Just over 56 % of 18–22 year-olds from French-speaking Switzerland were involved in gambling during the past 12 months. This rate appears to be higher than that observed for Swiss 15–24 year-olds (48.3 %) (Luder et al. 2010). It is also higher than that of males, from the canton of Neuchatel, in high-school and vocational training. However, the observed rate is equivalent to that observed in the general French-speaking population (56.8 %) (Inglin and Gmel 2011). Our findings support Luder et al. (2010), who report that frequent gambling is highly prevalent in French-speaking Switzerland.

Gambling appears to be a popular but risky activity in French-speaking Switzerland. Particularly, the majority of the respondents knew someone amongst their close relationships who gambled. Moreover, almost half of the sample knew at least one young person facing gambling problems. The majority of participants overestimated the prevalence of problem gambling and felt it necessary to inform young people about gambling-related risks. This suggests that, in general, the sample were quite sensitive to problem gambling. These trends are in line with Inglin and Gmel (2011) findings on the Swiss French-speaking population, who perceived gambling as being the third most serious addictive behavior (after drugs and alcohol, and before tobacco). Moreover, the majority (70 %) of their sample felt that information about the risks of gambling was needed. Inglin and Gmel (2011) also found that gamblers were perceived as being weak and impulsive (although not lazy, or weak-willed). The present study further investigates this area by looking at attributed responsibility for gambling addiction. The findings show that the majority of young people considered problem gamblers to be responsible for their gambling addiction.

From a prevention perspective, we investigated how well-informed young, French-speaking Swiss males were about the risks of gambling. We also looked at their awareness

of existing local care-centers for problem gambling. It appears that about two-thirds of this population received no information about the risks of gambling. Furthermore, three out of every four were unaware of any regional care centers. This result is concerning as lack of knowledge about treatment options is one of the major barriers to treatment (Suurvali et al. 2010).

The questions aimed specifically at past-year gamblers, provided several important insights. The first concerns the age at gambling onset. Particularly, two-thirds started gambling under the legal age of 18 years. Furthermore, one-third started gambling when aged under 16 years. The games attracting higher proportions of under 16 year-old, first-time gamblers were Scratch Cards, the Lottery and Poker. Under age gambling is easier for these three games. Particularly, Scratch Cards and Lottery tickets may be purchased by a third-party and Poker can be played in uncontrolled private locations. It is no surprise that these games are the most popular since Scratch games and Lottery tickets are easily available at vending points on the street and cafés. Furthermore, Poker is a highly publicized game, in which skills are important (Turner and Fritz 2001) and this develops abilities useful in other areas of life (Parke et al. 2005). Secondly, we found that the proportion of young male online gamblers is still limited (16 %). Since there are no recent findings on online gambling in the general Swiss population, we are unable to compare this rate. However, the trend needs to be monitored in the coming years. A further variable that enables an understanding of online gambling habits is the form of payment used. Within our sample, credit cards were, understandably, the main form of payment. However, the use of prepaid cards should also be monitored. Thirdly, daily gambling is very infrequent among emerging adult males. This finding is in keeping with findings for younger French-speaking Swiss people (Luder et al. 2010). The trend may be due to the vast majority of emerging adults attending training programs or paid employment. Such engagements occupy their time and keep them away from frequent gambling.

Concerning problem gambling rates, the PGSI revealed several findings. Over 10 % of young male gamblers presented with moderate-level gambling problems, leading to some negative consequences. Moreover, 1.4 % of young male gamblers in French-speaking Switzerland may suffer from pathological gambling. This latter rate appears to be almost three times higher than that recently observed in the Swiss general population (0.5 %) (Bondolfi et al. 2008). Furthermore, it is in-keeping with international evidence that young males are a particularly vulnerable population with regards to problem gambling. Problem gambling rates have decreased in Switzerland, and this reflects a general trend in the western countries (Williams et al. 2012). However, the general pattern of higher rates among young people, when compared to the overall population, appears to continue.

Certain analyses were conducted to evaluate the predictive power of the following variables: Types of games played; gambling locations; age of gambling onset; number of known gamblers; variety of games played; and income. The analyses identified whether these variables predicted the extent of problem gambling, according to the individual's score on the PGSI. In order to identify predictive power, we conducted complex samples logistic regression analyses which provided several results. Firstly, a higher proportion of problem gamblers participated in Casino games such as the Roulette, Poker and sports betting, when compared to other locations (bars, restaurants, selling points etc.). It has been argued that the structural characteristics of any game are more likely to influence to the development of gambling addiction, than the type of game itself (Griffiths and Auer 2012). However, for prevention purposes it is also useful to identify the locations and the types of gambling that are more likely to involve higher rates of problem gamblers.

The results show that only the number of different games played predicted problem gambling, the higher the variety of games the higher the score on the PGSI. The relationship between the variety of games played and problem gambling has been shown in previous studies (Holtgraves 2009; Kessler et al. 2008). In contrast, quite surprisingly, the number of gamblers in participants' immediate social environment did not predict the level of problem gambling. This finding differs from recent work on risk factors for problem gambling (Shead et al. 2011). Our results could be due to the use of a broader category, including family and friends. Particularly, we wished to determine the relationship between problem gambling and gambling within the individual's close social environment. Therefore, we did not make a distinction between family, parents, step-parent, peers and friends. Similarly, we did not explore the attitudes of these people, which could have different effects upon the young person's gambling behavior (Wickwire et al. 2007).

From a prevention perspective, the present research yields findings that may be useful when implementing prevention programs specifically for emerging adult males. Firstly, it appears that this population needs (and considers it necessary) to be informed about gambling and gambling issues. Furthermore, they need to be informed about the existence of specialized treatment centers within their region that can be easily contacted through Internet websites or a freephone number. Secondly, we observed that the majority of the emerging adult males considered gamblers to be responsible for their addiction, which may indirectly relate to feeling of guilt on the part of the gambler. This is an interesting starting point for a prevention program which could aim to change representations of self-responsibility. Such an approach could weaken the sense of guilt and shame that may build up in the young gambler, which usually creates a barrier to help-seeking (Suurvali et al. 2009). Thirdly, our findings on underage gambling and the considerable use of private gambling locations (away from supervision), should also be used as part of a well targeted prevention program. Finally, most of the young participants who gambled on the Internet used credit cards or prepaid cards. Such habits should be monitored, over time and, if necessary, targeted to help control the use of these forms of payment.

The main limitation of the present research is that foreign residents and legal offenders were excluded from the sample. These two subpopulations both present with higher rates of problem gambling than those within the general population. With respect to Swiss residents, it has been shown that young foreign males have higher problem gambling rates than their Swiss counterparts (Suris et al. 2011; Volberg et al. 2001). Concerning legal offenders, this specific population also presents with higher problem-gambling prevalence rates than the general population (Williams et al. 2005). Therefore, it is highly likely that a sample including these subpopulations would have yielded a higher problem-gambling rate.

Although this research has contributed to knowledge about gambling behaviors of Swiss emerging adults, further research is needed to confirm our initial findings and to extent the investigation to a larger, national prevalence sample including females. Furthermore, the quality of the sample should be improved by including other subpopulations of young people, such as offenders and individuals considered unfit for military service. Finally, it becomes essential to include in the survey material questions concerning social network gambling.

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