Brief Communications

Gender Differences in Gambling Progression

Hermano Tavares
Monica L. Zilberman
Fabio J. Beites
Valentim Gentil
University of São Paulo Medical School

The authors compared 39 women and 38 men entering an outpatient treatment program for pathological gambling. They were diagnosed according to DSM-IV and selected by SOGS, followed by a semi-structured interview for demography and progression of the gambling behavior prior to treatment. Women were more often single (59% vs. 26%; $p = .005$) and started gambling significantly later than men (34.2 vs. 20.4 years; $p < .001$). The progression of the disorder was more than 2 times faster in women than in men. There was no difference in the age of seeking treatment (44.7 vs. 42.3 years). Findings from this study resemble gender differences in other addictions—in particular the faster progression among women—challenge pharmacodynamic hypotheses for this phenomenon, and suggest gender into account when devising treatment strategies for pathological gambling.

KEY WORDS: gambling; progression; gender; telescoping.

with males (Sommers, 1988; Volberg & Steadman, 1988, 1989). Prevalence estimates of pathological gambling in the general population range from 1 to 4% depending on the diagnostic criteria and population surveyed (Politzer & Hudak, 1986; APA, 1994).

Available data suggest that female gamblers are underrepresented in treatment settings and in Gamblers Anonymous (G.A.) meetings (Mark & Lesieur, 1992). However, there is evidence that, similarly to alcoholism and drug dependence, gambling problems have increased among women in recent years (Blume, 1986; Sommers, 1988). Mark and Lesieur stressed the need for further research focusing on female gamblers, so that more effective treatment and preventive strategies can be developed. In their review, only one in 11 papers included a separate gender analysis, questioning the generalization of results to all pathological gamblers (Mark & Lesieur, 1992). Strachan and Custer (1993) studied the profile of 52 female gamblers in the Las Vegas G.A. in 1989, but no comparison with males was provided.

The few studies that contemplate issues related to gender differences were unsystematic and produced limited information. Of interest is the study of Perez de Castro and colleagues (1997), in which a more significant genetic association was detected when only female gamblers were considered in a DNA analysis of the D4 receptor gene.

Information on gambling behavior in Brazil is scarce. From 1946 until 1994, gambling was restricted to state lotteries and a popular but illegal "lottery" named "The Animal Game," in which numbers correspond to animals to bet on. In addition, for decades an amateur kind of bingo, called "Tombola," brought by Italian immigrants was used to raise money for charity. Casinos and other traditional types of gambling are currently illegal. In 1994, a new law devised to support sports legalized the commercial exploitation of the Bingo Game. It was soon noticed by entrepreneurs that the cultural environment for social gatherings associated with Bingo was favorable, and publicity was di-

gamblers seeking treatment at the University of São Paulo Medical School Clinic.

METHOD

All patients with pathological gambling according to DSM-IV criteria (APA, 1994) and the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), consecutively admitted between April 1998 and September 2000 to an outpatient treatment program were included in this study. Treatment consisted of individual psychotherapy with or without medication.

Patients were recruited by advertisement, and answered a demographic and a "Gambling Behavior Questionnaire." Demographic data included information on age, marital status, number of children, job status, education, racial/ethnic background, and religion. Gambling behavior data included age at gambling onset, age at gambling increase, age at onset of gambling-related problems, type of gambling, and maximum interval of abstinence. The interval between age at gambling onset and age at gambling increase was called "social gambling"; the interval between age at gambling increase and age at onset of gambling-related problems (as recognized by gamblers themselves) was called "intense gambling"; the interval between age at first problem gambling and the age at seeking specific treatment was called "years of problem gambling."

A two-phase analysis was performed, using SPSS software package. First, a univariate logistic regression was used to contrast variables. Variables with significance level equal to or below 10% were included in a stepwise multivariate logistic regression focusing on gambling behavior.

All the ethical requirements for human subject research were fol-

Table 1
Gambling Characteristics by Gender: Logistic Regression, Univariate Analysis

Characteristics	Women $n = 39$ (51%)	Men $n = 38$ (49%)	Odds Ratio	Confidence Interval	p
Demographics					
Marital status					
• Married	16 (41%)	28 (74%)	4.0	1.5–10.6	.005
• Single, widowed, or divorced	23 (59%)	10 (26%)			
Job status					
• Regular job	17 (44%)	26 (68%)	1.5	.94–2.5	.09
• Irregular job	5 (12%)	0			
• Unemployed	17 (44%)	12 (32%)			
Gambling Progression					
Keystone ages					
• At gambling onset	34.2 ± 13.1	20.4 ± 8.5	1.11	1.06–1.2	<.001
• At gambling increase	40.9 ± 9.6	28.1 ± 9.8	1.13	1.07–1.2	<.001
• At problem gambling	41.9 ± 9.8	32.7 ± 8.6	1.11	1.05–1.2	<.001
• At seeking treatment	44.7 ± 9.8	42.3 ± 9.5	.27	.98–1.1	n.s.
Gambling Behavior					
Maximum abstinence length (in months)	2.6 ± 3.7	10.1 ± 14.0	.90	.82–.98	.015
Type of gambling preference:					
• only Bingo	25 (64%)	16 (42%)	.58	.34–.99	.044
• mainly Bingo	6 (15%)	7 (18%)			
• other (video poker, etc)	8 (21%)	15 (40%)			

Most of the women were white (89%, n = 34), Catholic (67%; n = 26), with 1 up to 2 children (mean 1.3 ± 1.2), single (this category included never-married, separated, divorced, and widowed: 59%, n = 23), and had at least high school education (mean years of formal education 12.0 ± 3.9). In the univariate analysis, there were no gender differences regarding age, racial/ethnic background, religion, number of children, or education. Women were more often single than men (p = .005), and were less likely to be regularly employed (p = .09). These two variables were included in the multivariate analysis.

Table 1 shows that women reached later than men all progression keystone ages, except for age at seeking first specialized treatment for gambling. Women reported shorter periods of abstinence prior to treatment (p = .015), and both women and men preferred bingo, although men showed a wider repertoire of games (p = .044).

The interval between gambling onset and gambling increase, named "social gambling," did not differ for women and men (6.7 ± 10.9 yr. vs. 7.7 ± 7.3 yr.). But next intervals, "intense gambling" and "problem gambling" were both significantly shorter for women (see Table 2). Total time of gambling involvement was more than two times shorter for women (8.5 ± 11.0 yr. vs. 19.7 ± 11.2 yr., p < .001).

The multivariate analysis was performed with "intense gambling" and "problem gambling" intervals accounting for variables of gambling progression, and type of gambling preference and maximum abstinence length as gambling characteristics variables. Marital and job status were included in the model as controlling variables. Only gambling progression variables remained in the model after the stepwise procedure (Table 2). Results show that, independent from differences in demographics and gambling behavior, main differences among women and men in this study were spotted in the last two phases of

Table 2
Gambling Progression by Gender: Logistic Regression, Stepwise Multivariate Analysis

Characteristics	Women n = 39 (51%)	Men n = 38 (49%)	Odds Ratio	Confidence Interval	p
Course Intervals					
"Years of Intense Gambling" from gambling increase until first gambling problem	1.0 ± 0.9	4.6 ± 6.1	.64	.45–.93	.017
"Years of Problem Gambling" from first gambling problem until treatment seeking	1.8 ± 1.6	8.6 ± 8.3	.66	.53–.83	<.001

Figure 1
Gambling Progression Before Treatment

male-to-female ratio of 1:1 is higher than the few previous studies in treatment and G.A. settings (7:1 to 10:1) (Custer & Milt, 1985; Legarda, Babio & Abreu, 1992), and even higher than the general population statistics (2:1 to 3:1) (Sommers, 1988; Volberg & Steadman, 1988, 1989; Ladouceur, 1991; Legarda et al., 1992; Coman, Burrows & Evans, 1997). This may reflect the previously mentioned unique gambling status in Brazil, and is unlikely to represent selection bias, as no recruiting of gender or type of gambling was exercised.

This study supports Lesieur and colleagues (1991) suggestions

The faster progression in women (also called "telescoping effect") was observed in previous gender comparisons in chemical dependencies, particularly in alcohol and opiate addictions (Piazza, Vrbka & Yeager, 1989; Quinby & Graham, 1993; Hochgraf, Zilberman & Andrade, 1995). "Telescoping effect" has been explained in terms of female biological vulnerability to these substances. Findings from this study point to the need of searching for further explanations beyond the pharmacodynamic hypothesis.

The demographic profile of this sample is compatible with that of medium social stratum in Brazil (IBGE, 1998). The treatment is offered on a public hospital, and no payment is required, hence it is unlikely that low income social stratum is underrepresented by a selection bias. Most probably access to gambling requires some previous money availability (Sommers, 1988).

In addition, the gender differences are unlikely to reflect different social backgrounds, as women in this sample did not differ from men in most of the demography investigated. Further studies should search for gender differences in Axis I and II comorbidity that could be associated with faster gambling progression.

This small sample derived from a treatment setting obviously precludes generalization to the whole population of gambling addicts. However, in a field where the paucity of work is a rule (Mark & Lesieur, 1992), it stresses the need of taking gender into account when treating gamblers. Future gender studies in pathological gamblers may help spotting factors of vulnerability to addiction, aside from effects of psychoactive substances.

REFERENCES

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders (DSM-*

Legarda, J. J., Babio, R., & Abreu, J. M. (1992). Prevalence estimates of pathological gambling in Seville (Spain). *British Journal of Addiction, 87,* 767–770.

Lesieur, H. R. (1988). The female pathological gambler. In W. R. Eadington (Ed.) *Gambling Studies: Proceedings of the 7th International Conference on Gambling and Risk Taking* (pp. 230–258). Reno, NV: University of Nevada.

Lesieur, H. R., & Blume, S. B. (1987). The South Oaks Gambling Screen (SOGS): a new instrument for the identification of pathological gamblers. *American Journal of Psychiatry, 144,* 1184–1188.

Lesieur, H. R., Cross, J., Frank, M., et al. (1991). Gambling and pathological gambling among university students. *Addictive Behaviors, 16,* 517–527.

Mark, M. E., & Lesieur, H. R. (1992). A feminist critique of problem gambling research. *British Journal of Addiction, 87,* 549–565.

Perez de Castro, I., Ibanez, A., Torres, P., et al. (1997). Genetic association study between pathological gambling and a functional DNA polymorphism at the D4 receptor gene. *Pharmacogenetics, 7,* 345–8.

Piazza, N. J., Vrbka, J. L., & Yeager, R. D. (1989). Telescoping of alcoholism in women alcoholics. *The International Journal of the Addictions, 24,* 19–28.

Politzer , R. M., & Hudak, C. J. (1986). Gambling Disorders. In M. F. Fleming, & K. L. Barry (Eds.), *Addictive Disorders* (pp. 352–365). St. Louis, MO: Mosby Year Book.

Quinby, P. M., & Graham, A. V. (1993). Substance abuse among women. *Primary Care, 20,* 131–140.

Sommers, I. (1988). Pathological gambling: estimating prevalence and group characteristics. *The International Journal of the Addictions, 23,* 477–490.

Strachan, M. L., & Custer, R. L. (1993). Female compulsive gamblers in Las Vegas. In W. R. Eadington, & J. A. Cornelius (Eds.), *Gambling Behavior & Problem Gambling,* (pp. 235–238). Reno, NV: Institute for the Study of Gambling and Commercial Gaming.

Volberg, R. A., & Steadman, H. J. (1988). Refining prevalence estimates of pathological gambling. *American Journal of Psychiatry, 145,* 502–505.

Volberg, R. A., & Steadman, H. J. (1989). Prevalence estimates of pathological gambling in New Jersey and Maryland. *American Journal of Psychiatry, 146,* 1618–1619.