

A Comparison of Male and Female Pathological Gamblers

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Abstract

Very little is known how female problem gamblers differ from male problem gamblers. Virtually all of the available empirical research has been conducted on male gamblers. This study systematically explored gender differences on a wide range of psychiatric, psychological social, and gambling-related variables. The sample consisted of 148 females and 112 males recruited from the community. All participants were classified into 3 groups according to DSM-IV criteria. *Pathological* Gamblers endorsed at least 5 out of 10 DSM (n = 125; 52 males, 73 females) symptoms for pathological gambling. *Problem* gamblers endorsed between 1 and 4 DSM symptoms (n = 101; 44 males, 57 females). *Asymptomatic* gamblers endorsed no DSM symptoms (n = 33; 17 females, 16 males). The only consistent pattern of findings was related to gambling severity. Pathological gamblers tended to score in a more dysfunctional direction on all measures compared to problem gamblers who in turn scored worse than the asymptomatic gamblers. There were very few gender differences and even fewer gender-gambling severity interactions. This suggests that male and female gamblers may be more similar than different on common measures of psychiatric and psychosocial functioning. Differences between male and female gamblers would more likely be attributable to differences in the severity of gambling than to gender-specific differences.

Introduction

Despite the increasing prevalence of all forms of gambling within North American society within the past several years and the corresponding increase in the numbers of individuals seeking counseling for problem gambling, our knowledge about the nature of problem gambling in women, compared to men, is scarce (Mark & Lesieur, 1992). The vast majority of empirical studies have either included only male gamblers or an insufficient number of women to permit meaningful comparisons. Mark and Lesieur (1992), who have reviewed this literature, found that only 5 studies had addressed pathological gambling in women. These studies, however, were primarily of women who attended Gamblers Anonymous, hardly a representative source of women problem gamblers. Furthermore, where sizeable of women gamblers have been studied, differences in sampling, methodology and assessment have made comparisons with other studies including women difficult. Consequently, the findings of empirical gambling research cannot be readily generalized to women gamblers.

The lack of knowledge about female problem gamblers is of considerable import as epidemiological studies in the United States and Canada indicate that women and men gamble at fairly similar rates in the general population. Up to a third of problem gamblers may be women (Shaffer, Hall, & Bilt, 1997). With women comprising a substantial proportion of clinical populations, their neglect in research has yielded a strong male bias in the conceptualization of problem gambling and its treatment. Without this critical data, treatment and prevention efforts directed at women will lack sensitivity to the unique clinical issues that may significant to this population. This may result in less effective treatments or prevention efforts, increased drop out from treatment and higher relapse rates. Prior to describing a proposal to increase our knowledge of women problem gamblers, the available knowledge will be briefly reviewed.

Literature Review

The available data suggest that women, compared to men, generally have a later onset of gambling (Lesieur & Rosenthal, 1991), report a shorter duration between non-problem and problem gambling (Rosenthal, 1992; Lesieur, 1988), tend to gamble within a social context, focus on games that are not considered to require skill (e.g., bingo, slot machines) or intended to enhance social functioning or esteem (Lorenz, 1990; Rosenthal, 1992), tend to wager smaller amounts, and adopt gambling as a means to cope with dysphoric emotions (Rosenthal, 1992).

Gambling Patterns

Volberg and Banks (1990), Lesieur (1988), and Hraba and Lee (1996) have suggested that the scope of gambling (i.e., number of gambling forms engaged in by women) is narrower among women, who tend to prefer legal forms of gambling especially bingo or slot machines. Men, however, tend to be broader in their gambling, encompassing both illegal and legal activities and gambling on activities believed to require skill (e.g., cards, race track) but also on activities not normally associated with gambling (e.g., stocks, real estate) (Toneatto et al., 1997). In their study of lottery gamblers, Hraba and Lee (1996) did not find any gender differences in the frequency, wagering, leisure time spent gambling, loss of control or number of gambling-related consequences.

Socioeconomic Variables

The Problem Gambling Service of the Centre for Addiction and Mental Health (CAMH) and the Ontario Gambling Helpline have found that female gamblers seeking treatment have tended to be middle aged (approximately 42 years of age), with a third reporting education beyond high-school, and generally employed. In contrast, a study by Alberta Alcohol and Drug Abuse Commission (1994) found that female problem gamblers tended to be uneducated and living on lower incomes compared to non-gambling females. Boughton (in preparation) has noted that this may be one factor leading to the observation that women develop a gambling more rapidly than men (i.e., less financial resources to cushion losses, greater proportion of income spent gambling). This may consequently explain the greater debt load observed in male problem gamblers compared to females (3-8:1 ratio; Lesieur & Blume, 1991; Brown & Coventry, 1997). The observation that women tend to prefer non-skill games such as lotteries, slot machines and bingo may also be a correlate of the available financial resources they are able to devote towards gambling as these games tend to be relatively inexpensive and often widely available. For example, a study of 52 female compulsive gamblers attending Gamblers Anonymous in Las Vegas found that 90% developed their problem playing video poker. Martin and Kirkcaldy (1998) have noted that men attach more value and importance to money as symbolic of importance, prestige, acceptance, recognition, and power, consistent with the desire for dominance that may characterize male psychology to a greater degree than for women. Thus, the meaning women assign money (and money gambled) may differ.

Social Variables

Social factors, unique to women, appear to be implicated in the development of problem gambling. These variables can act through a variety of pathways. Gambling may not only be a rewarding escape from marital or relational distress but can also take place within a rewarding social context in and of itself. Brown and Coventry (1997) found that boredom, isolation and loneliness were common gambling triggers for women. Dysfunctional family history, encompassing parental alcoholism, problem gambling and psychiatric illness has been reported among problem gambling women (Lesieur & Blume, 1991; Custer & Milt, 1985; Lesieur, 1988). Hraba and Lee (1996) found that childhood exposure to gambling, frequent marriages and residential moves, lack of religious affiliation and armed forces service distinguished problem gambling women from men. Rates of childhood physical and sexual abuse was found to be higher among female problem gamblers than in national samples (32.5% vs 1-2%; Specker et al. 1996) and has been considered a precipitating factor in pathological gambling among women. Abuse has been reported less frequently by male problem gamblers. Dissatisfaction within the marital dyad also appears to be a common correlate among female problem gamblers. Separation, divorce, or never having been married characterized women problem gamblers more than men (Lesieur, 1988; Lesieur & Blume, 1991).

Psychiatric Comorbidity

Problem gamblers have been shown to suffer from considerable concurrent psychiatric symptomatology. Reviews of this literature have shown affective disorders, anxiety disorders, and attention deficit disorder to be particularly common (Lesieur & Blume, 1991; Rosenthal, 1992, McCormick, Russo, Ramirez & Taber, 1984; Linden, Pope and Jonas, 1986). Similar

results have been reported by the Problem Gambling Service of the CAMH in their study of 53 women problem gamblers (unpublished data). Analyses by gender have been few due to insufficient number of women included in such research. An exception is the Specker et al. (1996) study. They found almost all of a sample of 40 problem gamblers (which included 15 women) to have had a lifetime mood disorder and most female (but few male) gamblers to have had a lifetime anxiety disorder diagnosis. Specker et al., (1996) found avoidant personality disorder to occur more frequently among women gamblers and may be associated with a pattern labeled 'female avoidant gambler' to describe women who choose gambling activities that are isolating. Escape gambling has generally been considered to be more common among female problem gamblers whereas men have tended to be described as action gamblers (Custer & Milt, 1985; Lesieur, 1988). Blaszczynski and Steel (1998) found women had higher rates of dependent personality disorder (68% vs. 42%) but lower rates of obsessive-compulsive personality (14% vs. 38%) and passive-aggressive disorder (14% vs. 43%), as measured by questionnaire, in 22 women and 60 men seeking treatment for problem gambling.

Cognitive Distortions

In recent years cognitive distortions among gamblers has been the focus of experimental study (Ladouceur, Gaboury, Dumont & Rochette, 1988; Walker, 1992; Toneatto, 1999). Toneatto et al. (1997) recruited heavy gamblers from the community and interviewed them about specific tactics and strategies used to increase the chance of winning at gambling. Women significantly favored non-skill games (i.e., bingo, lottery playing) while men favoured skill games (outcome (i.e., card-playing, sports lotteries, horse-track betting). There were no significant sex differences in the number of distortions reported. Only one of the 13 types of

cognitive distortions showed a sex difference with more men than women (85% vs. 25%) adopting a Skill Orientation (gambling systems, exaggerated confidence). Similar sex differences in gamblers have been reported by Rosenthal (1992) and Lorenz (1990).

Addictive Disorders

While higher rates of alcoholism and other substance use has been reported among gamblers than in the general population (e.g., Abbott & Volberg, 1991, Ladouceur, Dube, & Bujold, 1994) there is little data regarding the effect of gender on substance use among pathological gamblers.

In a recent study, Toneatto and Skinner (2000) studied the relationship between gender and patterns of licit, illicit and prescribed psychoactive substance use and abuse in a sample of treatment-seeking pathological gamblers. More women reported lifetime use of psychiatric medications, abuse of medications, treatment for abuse of medications, medication use at the time of seeking treatment for gambling, and medication use during the twelve month follow-up period post-treatment. Frequencies for the use of psychiatric medications also showed analogous significant gender differences. Several gender differences in individual substance use were also observed. Women were more likely to report greater lifetime use of anti-depressants, anxiolytics, and sedatives and greater use of these substances during the one-year post-gambling treatment follow-up period. There were no gender differences in proportion of individuals reporting lifetime use of any specific drugs, history of drug problems, drug treatment, or drug use either at pre-treatment or during the one- year follow-up.

Men were more likely than women to be drinking alcohol in the month prior to seeking treatment for gambling (64.3% vs. 26.0%, respectively) and during the 12 month follow-up

period (69.7% vs. 38.7%). Men also consumed significantly more alcohol drinks on any one day in the month prior to treatment than did women. There were no significant differences, however, in the proportion of men (12.9%) and women (9.1%) who reported an alcohol problem at the time of seeking treatment for problem gambling.

Summary

Understanding the phenomenology of problem gambling among women has been hampered by the almost exclusive reliance on men in the research literature. This has limited the generality of these findings and underscored the need to systematically explore the phenomenology of problem gambling among women. Understanding women problem gamblers may have implications for the conceptualization of problem gambling among women and in identifying key variables that may be important in prevention and treatment. Studies that have included women have not had sufficiently large sample sizes to allow meaningful comparisons to be made. The assessment methods have tended to rely on scales and tests of uncertain reliability and validity rendering the results suspect. Based on the studies that are available several variables have been identified, of both theoretical and clinical relevance, which merit further investigation and replication.

Goals and Objectives of Study

The goal of the study was to compare men and women who met criteria for problem gambling on a wide range of theoretically-relevant variables believed, based on the empirical literature and clinical evidence, to be associated with problem gambling. As this is an exploratory study, the emphasis will be placed on collecting the necessary data and expanding

the knowledge base that will allow evaluation of alternative models of gambling rather than testing any specific theory. Consequently, formal hypotheses will not be tested in this study.

The proposed study has several improvements over the existing literature. Firstly, the sample will include both problem gamblers and non-problem gamblers sampled from several populations. Many of the existing studies have assessed non-representative samples of women gamblers (e.g., Gamblers Anonymous attenders). Secondly, efforts were made to recruit comparable numbers of men and women, in numbers that were determined by a power analysis to permit meaningful statistical comparisons. Thirdly, all subjects received the identical assessment protocol.

Research Design

Participants

Subjects were recruited primarily from advertisements placed in major urban newspapers. The primary inclusion criterion was a concern for their gambling behaviour. Few exclusion criteria were used to screen out subjects who called (i.e., lack of permanent address, in crisis) in order to recruit a wide and representative sample of gamblers. Those who agreed to participate in the study were mailed out the questionnaire package. Those who returned completed packages were mailed \$40 in their choice of gift certificates.

Assessment Package

The assessment consisted of two sets of questionnaires, gambling-related and non-gambling-related. Each of these will be briefly described below.

The non-gambling-related questionnaires included:

- The Index of Self-Esteem (ISE; Hudson, 1992), a 25-item scale measuring the degree and severity of self-esteem problems. The ISE yields two scores, a cut-off score suggesting the

presence of a clinically significant problem, and higher cut-off score indicating the individual is experiencing severe stress. Reliability (internal consistency [$\alpha = .93$], test-re-test [$r = .92$]) and validity (known groups, construct, discriminant) of the ISE is strong.

- The Relationship Assessment Scale (RAS; Hendrick, 1988), a measure of satisfaction in relationships. This 7-item scale is quickly administered and is not limited to romantic relationships. Acceptable internal consistency for this measure exists ($\alpha = .86$). Good concurrent validity (high correlation with other relationship measures) and predictive validity (distinguishing between couples who stay together or break up) is also supportive. Norms for the RAS are available.
- The Problem-Solving Inventory (PSI; Heppner & Petersen, 1982), a 35-item instrument measuring how individuals believe they react to personal problems they encounter in their daily lives. There are three sub-scales: problem-solving confidence, approach-avoidance style, and personal control. The instrument is normed, possesses good internal consistency (alphas range from .72 to .85 on the sub-scales and .90 for the entire test). There is good test-retest reliability. The validity of the PSI has been extensively substantiated as well.
- The Brief Symptom Inventory (BSI; Derogatis, 1993; Derogatis & Melisaratos, 1983) consists of 53 symptoms designed to measure nine dimensions of psychopathology experienced by individuals within the past week. The Global Severity Index (GSI), based on the mean rating for all 53 items, is scored on a 5-point scale ranging from 0, 'not at all' to 4 'extremely' and provides an overall index of current emotional distress. Internal consistency coefficients for the nine sub-scales cluster around .80 with test-retest correlations ranging from .68 to .91 over a two-week period (Derogatis & Melisaratos, 1983). The GSI has a stability coefficient of .90 over a two-week period.

- The Boredom Proneness (BP; Famer & Sundberg, 1986) is a 28-item instrument measuring tendencies to boredom. Good internal consistency has been reported (.79) and good test-retest reliability (.83). The construct validity of the BP scale has been established. Norms for undergraduate samples are available.
- The Belief in Personal Control Scale (BPCS; Berrenberg, 1987) is a 45-item questionnaire that measures three dimensions of personal control: general external control, exaggerated control, and God-mediated control. High internal reliability of the factors (.85-.97) and very good construct validity, have been reported. Norms were established on undergraduate samples.
- The Index of Clinical Stress (ICS; Abell, 1991) is a 25-item instrument measuring degree of personal stress as perceived by the individual but not associated with life event indices. Norms were established on patients and family members attending a family practice situated within a medical center. Internal consistency of the ICS is high (alpha = .96) and fair construct validity has been reported.
- The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) is a 28-item instrument measuring dissociation along a continuum from minor to major psychopathology. Norms have been established on normals and a wide range of psychopathological populations. Split-half reliability has been very good with most coefficients over .90. Test-retest reliability was also quite acceptable ($r = .84$). Predictive and construct validity appears to be quite good.
- The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item test measuring perceived social support from three sources: family, friends and a significant other. Norms are available from an ethnically and socio-

economically diverse normal sample. Alphas for the internal consistency of the sub-scales and the overall scale are excellent, all over .90. Good factorial, construct and concurrent validity has been reported.

- The Magical Ideation Scale (MIS; Eckblad & Chapman, 1983) is a 30-item instrument designed to measure magical thinking and invalid causation (e.g., telepathy, clairvoyance). Psychometric properties of the instrument are reported to be quite adequate and norms for undergraduate samples are available.
- The Self-Control Schedule (SCS; Rosenbaum, 1980) is a 36-item instrument assessing the application of self-control methods to solving behavioural problems. Internal consistency is excellent with alphas ranging between .72 and .91 as is test stability with correlations at four weeks of .86. Construct validity of the SCS is also quite acceptable.

The gambling-related questionnaires include the following:

- The Gambling Behaviour Interview consists of a general overview of the subjects' gambling history including important milestones (e.g., age began to gamble, age gambling first became a problem), frequency of gambling, reasons for gambling, history of treatment for gambling, psychiatric history, and substance use history.
- the Diagnostic and Statistical Manual (DSM; American Psychiatric Association, Fourth Edition, 1995) criteria for pathological gambling, the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1985), and the Gamblers Anonymous Twenty Questions (GA20; Gamblers Anonymous). These questionnaires will provide a measure of the severity of the gambling problem.
- The Gambling Expectancy Questionnaire (GEQ) is a 49-item instrument measuring the gambler's expectations of gambling (e.g., win money, relax, socialize, escape depression,

etc.) and provides information on the function of the gambling behaviour. The psychometric properties of this instrument are currently being established in a large sample of problem gamblers, non-problem gamblers, and non-gamblers.

- The Gambling Cognition Questionnaire (GCQ) is a 60-item instrument measuring maladaptive beliefs and attitudes held by the gambler that may impact on gambling. Internal consistency reliability (alpha's over .85 for 13 sub-scales) and concurrent validity is high (e.g., correlated with measures of gambling severity, negative consequences).
- The Gambling Urge Questionnaire (GUQ) measures situations that elicit urges to gamble and is based on a similar measure used in a recently completed study on untreated recovery from gambling. The psychometric properties of this instrument are currently being established in a large sample of problem gamblers, non-problem gamblers, and non-gamblers.
- The Readiness to Change Gambling Questionnaire (RCG) is a 12-item instrument is based on the Stages of Change (Prochaska & DiClemente, 1984) and evaluates how prepared the individual is to modify their gambling behaviour. The psychometric properties of this instrument are currently being established in a large sample of problem gamblers, non-problem gamblers, and non-gamblers.
- The Inventory of Gambling Situations (IGS) is a 63-item instrument that measures situations in which a gambler is likely to gamble heavily. The IGS has received extensive psychometric evaluation (Turner & Littman-Sharp, unpublished data) and yields scores on several clinically meaningful sub-scales. The psychometric properties of this instrument are currently being further established in a large sample of problem gamblers, non-problem gamblers, and non-gamblers.

Data Analysis

Categorical variables were analyzed using chi-square contingency tables crossing the three levels of Gambling Group (pathological gamblers, problem gamblers, asymptomatic gambler) and the comparison variable. Continuous variables were analyzed using analysis of variance with Gambling Group (pathological gamblers, problem gamblers, asymptomatic gambler) and Gender (male, female) specified as the independent variables. Post-hoc comparisons were conducted using Student-Newman-Keuls test.

Results

Classification of the Sample

All participants were classified into 3 groups according to DSM-IV criteria. Pathological Gamblers endorsed at least 5 out of 10 DSM (n = 125; 52 males, 73 females) symptoms for pathological gambling. Problem gamblers endorsed between 1 and 4 DSM symptoms (n = 101; 44 males, 57 females). Asymptomatic gamblers endorsed no DSM symptoms (n = 33; 17 females, 16 males). Note that Asymptomatic Gamblers may include individuals who have recovered from a gambling problem as well as individuals who are gambling severely but who may not have reported any DSM symptoms.

Sample Description

A total of 260 men and women participated in the study. Female respondents comprised 56.9% of the sample. Table 1 displays the demographic characteristics of the sample by gender and gambling Group. About three-quarters of the male pathological gamblers were non-partnered compared to half of the female pathological gamblers. The rates did not differ greatly across the three samples. Rates of post-secondary education were similar across all three types of gambler

A Comparison of Male and Female Pathological Gamblers

and across gender. Unemployment rates were higher for the pathological gamblers than for the problem gamblers.

Table 1. Demographic variables, by Gender and Gambling Group.

	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males n/%	Females n/%	Males n/%	Females n/%	Males n/%	Females n/%
	n=16	n=17	n=44	n=57	n=52	n=73
M (SD) Age (years)	44.9 (13.7)	47.9 (14.3)	43.0 (10.4)	41.7 (12.8)	42.2 (11.7)	45.2 (11.4)
Marital Group:¹						
Married/Partnered	6 (37.5)	10 (58.8)	15 (34.1)	24 (42.1)	14 (26.9)	34 (46.6)
Not married/partnered	10 (62.5)	7 (41.2)	29 (65.9)	33 (57.9)	38 (73.1)	39 (53.4)
Education Level:¹						
Secondary or less	6 (37.5)	9 (52.9)	21 (47.7)	31 (54.4)	23 (44.2)	38 (52.1)
Post-secondary	10 (62.5)	8 (47.1)	23 (52.3)	26 (45.6)	29 (55.8)	35 (47.9)
Employment Group:¹						
Employed	5 (33.3)	8 (47.1)	29 (65.9)	35 (61.4)	25 (49.0)	33 (45.2)
Not employed	10 (66.7)	9 (52.9)	15 (34.1)	22 (38.6)	26 (51.0)	40 (54.8)

¹Chi-square analyses significant at $p < .05$.

Gambling Behaviour

Table 2 describes the gambling habits for the sample. Lottery, scratch tickets, casino games, and bingo were the most popular gaming activities. Men participated primarily in lotteries, scratch tickets, sport lotteries, and slot machines. Women participated most frequently in lotteries, scratch tickets, bingo, slot machines, and pull tabs.

A Comparison of Male and Female Pathological Gamblers

Table 2. Description of gambling behaviour in previous year, by gender.

	Number Engaging in Activity		M (SD) Frequency per year		Yes, it's a problem N (%)	
	n=112 Males	n=148 Females	Males	Females	Males	Females
Gambling activity:						
Lottery	97	129	97.6 (69.4)	126.3 (131.4)	27 (27.6)	28 (21.5)
Scratch tickets	64	101	104.2 (108.8)	130.6 (147.3)	18 (28.1)	32 (31.1)
Pull tabs	25	50	106.5 (129.2)	76.6 (116.0)	8 (30.8)	13 (25.5)
Card games (private)	34	28	54.9 (62.7)	45.0 (72.7)	12 (35.3)	2 (7.1)
Casino card games	37	22	56.9 (87.3)	31.1 (48.6)	19 (51.4)	10 (45.5)
Casino table games	19	8	58.2 (74.5)	40.3 (69.1)	12 (60.0)	2 (25.0)
Casino slot machines	42	79	54.6 (77.6)	61.7 (89.4)	21 (50.0)	43 (54.4)
Casino video gambling	11	16	55.3 (112.0)	37.2 (53.1)	6 (50.0)	5 (31.3)
Stock market	10	11	45.3 (33.8)	23.5 (53.1)	6 (54.5)	7 (63.6)
Race track	39	29	50.7 (84.8)	59.8 (123.0)	25 (61.0)	12 (41.4)
Real Estate	2	2	3.0 (1.4)	53.0 (72.1)	1 (50.0)	1 (50.0)
Sports lotteries	53	16	148.4 (125.0)	91.4 (123.0)	31 (56.4)	6 (37.5)
Sports betting	25	5	92.6 (116.3)	56.1 (61.3)	17 (63.0)	2 (40.0)
VLTs	9	12	129.7 (145.1)	44 (50.2)	5 (55.6)	8 (66.7)
Bingo	25	98	41.2 (64.3)	96.3 (85.2)	10 (38.5)	46 (44.2)

Table 3 shows the gaming activities reported to be the most problematic for this sample.

The gambling activities that were identified as the greatest concern to the male pathological gamblers were casino card games, track betting and sports lotteries. The gambling activities that were identified as the greatest concern to the female pathological gamblers were casino card games followed by bingo. Among the male problem gamblers, casino card games was most

A Comparison of Male and Female Pathological Gamblers

frequently reported to be a problem; for the female problem gamblers, bingo was the most frequently reported to be a problem.

Table 3. Most problematic gambling activity by Gender and Gambling Group.

	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males N/%	Females N/%	Males N/%	Females N/%	Males N/%	Females N/%
Most problematic gambling activity:	n=16	n=17	n=44	n=57	n=52	n=73
Casino card games	0	0	9 (22.5)	13 (27.7)	13 (27.1)	22 (32.4)
Bingo	0	2 (20.0)	2 (5.0)	19 (40.4)	2 (2.1)	21 (30.9)
Lottery	0	0	6 (15.0)	2 (4.3)	1 (2.1)	2 (2.9)
Scratch tickets	0	2 (20.0)	1 (2.5)	5 (10.6)	5 (10.4)	3 (4.4)
Race track	0	0	3 (7.3)	2 (4.3)	9 (18.8)	2 (2.9)
Sports lotteries	1 (14.3)	0	4 (10.0)	0	8 (16.7)	0
Slot machines	0	0	1 (2.5)	1 (2.1)	3 (6.3)	5 (7.4)
VLTs	0	0	1 (2.5)	1 (2.1)	2 (4.2)	2 (2.9)
Sports betting	0	0	4 (10.0)	0	1 (2.1)	0
Pull tabs	0	1 (10.0)	1 (2.5)	2 (4.3)	0	0
Card games (private)	1 (14.3)	0	1 (2.5)	0	1 (2.1)	1 (1.5)
Stock market	0	0	1 (2.5)	0	2 (4.2)	0
Casino video gambling	1 (14.3)	0	0	0	0	1 (1.5)

Gambling Severity

As Table 4 shows, the Pathological Gamblers endorsed about 7 out of 10 DSM symptoms. The problem gamblers endorsed approximately 2.5 symptoms. Table 4 also shows the means for two other common screening measures: the South Oaks Gambling Screen (current and lifetime) and Gamblers Anonymous Twenty Questions. There were no gender differences for any of the

A Comparison of Male and Female Pathological Gamblers

groups. A Gambling Group effect was found for all of the gambling severity measures. In each case, the Asymptomatic Gamblers scored significantly lower than the Problem Gamblers who in turn scored significantly lower than the Pathological Gamblers. A Gender effect was observed for both age of onset of gambling and of problem gambling. Women generally reported beginning gambling and developing a problem with gambling at a later age than men. Women tended to begin gambling in their early 20s and to develop a problem in their mid-30s; men tended to begin gambling in their mid-teens and to develop a problem in their late 20s.

Table 4. Gambling severity measures by Gender and Gambling Group.

	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
DSM symptoms ¹	0	0	2.3 (1.1)	2.5 (1.2)	7.0 (1.4)	6.8 (1.4)
SOGS-lifetime ¹	3.0 (2.7)	2.7 (4.4)	7.3 (4.6)	7.0 (4.2)	12.3 (4.8)	10.5 (4.5)
SOGS-current ¹	1.1 (1.3)	1.6 (1.8)	5.2 (3.0)	5.3 (3.5)	12.7 (3.4)	11.0 (3.4)
GA Twenty Questions ¹	4.3 (4.8)	3.4 (4.8)	8.0 (4.6)	8.0 (4.0)	15.0 (3.6)	13.1 (3.7)
Age first reported gambling ²	16.5 (6.1)	24.8 (13.4)	17.3 (5.8)	20.9 (8.7)	18.3 (9.6)	24.9 (13.7)
Age gambling a problem ²	17.4 (5.1)	32.0 (15.3)	28.6 (12.7)	30.8 (12.8)	26.9 (11.4)	35.8 (13.3)

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

Psychiatric Treatment History

Psychiatric treatment history for male and female participants and their family members is found in Table 5. A large proportion of the participants had received some form of mental health counselling in their lives (with over half of the Pathological Gamblers reporting contact

A Comparison of Male and Female Pathological Gamblers

with a psychiatrist) and about one-third had been prescribed medication for depression or anxiety (with elevated rates for the pathological gamblers). One-quarter of the sample had a family member who had been treated for an addiction problem and who had been hospitalized for an emotional problem. There were no gender differences on these variables.

Table 5. Psychiatric and Gambling Treatment History, by Gender and Gambling Group.

	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males n/%	Females n/%	Males n/%	Females n/%	Males n/%	Females n/%
Participant ever...	n=16	n=17	n=44	n=57	n=52	n=73
Hospitalized for emotional problems	1 (6.3)	0	6 (13.6)	9 (15.8)	11 (21.2)	19 (26.0)
Treated by a psychiatrist	4 (25.0)	3 (18.8)	13 (29.5)	18 (31.6)	27 (51.9)	38 (52.1)
Treated by a psychologist /counselor	7 (43.8)	6 (37.5)	12 (27.3)	20 (35.1)	32 (61.5)	40 (54.8)
Prescribed anti-anxiety medication	5 (31.3)	3 (18.8)	13 (29.5)	16 (28.1)	23 (44.2)	33 (45.2)
Prescribed anti-depressant medication	6 (37.5)	5 (31.3)	14 (31.8)	21 (36.8)	24 (46.2)	40 (54.8)
Prescribed anti-psychotic medication	1 (6.3)	0	3 (6.8)	5 (8.8)	4 (7.7)	6 (8.2)
Attended GA (% yes)	0	12	14	4	37	16
Attended other gambling treatment (% yes)	6.3	0	4.9	3.6	28	25
Immediate family member....						
Hospitalized for emotional problems	4 (25.0)	2 (12.5)	6 (13.6)	13 (22.8)	14 (26.9)	26 (35.6)
Treated by a psychiatrist	5 (31.3)	6 (37.5)	9 (20.5)	20 (35.1)	18 (34.6)	29 (39.7)
Had an addiction problem	5 (31.3)	7 (43.8)	15 (34.1)	25 (43.9)	27 (51.9)	46 (63.0)
Treated for an addiction problem	2 (12.5)	2 (12.5)	6 (13.6)	12 (21.1)	16 (30.8)	21 (28.8)
With a gambling problem	1 (6.3)	5 (31.3)	10 (22.7)	20 (35.7)	21 (40.4)	37 (50.7)

Rates of counselling, treatment for addictions and gambling problems in the participants family were also elevated with the rates for the families of Pathological Gamblers tending to be elevated.

Table 5 also shows the gambling treatment history for male and female participants. The majority of the participants had never attended any treatment for gambling. However, men were more likely to report having attended Gamblers Anonymous (GA) in comparison to women. A small proportion of the sample had attended non-GA treatments for gambling.

Social Environment Variables

Table 6 shows that Pathological Gamblers were significantly less satisfied with their relationships than were Problem Gamblers, as measured by the *Relationship Assessment Scale*. There were no significant gender differences on this measure. On the *Multidimensional Perceived Social Support Scale*, social support from friends and significant others were found to show main effects of Gender and Gambling Group. Thus, women felt more supported by friends and by significant others than did the men. Pathological Gamblers reported less support from friends and significant others compared to either Problem Gamblers or Asymptomatic Gamblers. There were no significant differences in the perceived support of family.

A Comparison of Male and Female Pathological Gamblers

Table 6. Social environment variables, by Gender and Gambling Group.

Scale	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
Relationship Assessment Scale^{1*}	25.3 (8.5)	28.9 (4.5)	25.1 (6.4)	25.4 (7.1)	22.4 (6.8)	22.5 (8.7)
Perceived Social Support by:						
Family	18.9 (5.4)	20.9 (6.9)	16.4 (6.6)	19.1 (6.8)	17.6 (5.5)	17.6 (6.2)
Friends ^{1,2}	19.8 (4.1)	22.4 (4.4)	18.3 (5.1)	20.7 (5.1)	16.3 (6.0)	18.4 (6.1)
Significant Other ^{1,2}	19.2 (4.9)	22.5 (4.7)	19.4 (6.4)	22.0 (3.6)	16.9 (6.6)	20.7 (6.6)

*n=145

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

³Statistically significant interaction effect of Gambling Group X Gender

Personality and Psychiatric Variables

On all measures, a significant effect of Gambling Group was found. On the *Brief Symptom Inventory*, a measure of recent psychiatric distress, Pathological Gamblers scored higher than both the Problem Gamblers and Asymptomatic Gamblers on all of 9 sub-scales and the Global Severity Index.

Similarly, on the *Inventory of Clinical Stress*, the Pathological Gamblers scored higher than both the Problem Gamblers and Asymptomatic Gamblers. Similar findings were obtained on the *Index of Self-Esteem*. On the *Boredom Proneness Scale*, Pathological Gamblers were more likely to experience boredom than Problem Gamblers who in turn were more likely to experience boredom than Asymptomatic Gamblers.

A Comparison of Male and Female Pathological Gamblers

Table 7. Personality and psychiatric variables, by Gender and Gambling Group.

Scale	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
Inventory of Clinical Stress¹	63.2 (20.3)	65.3 (34.3)	71.3 (24.5)	75.5 (24.2)	93.6 (24.1)	101.2 (30.0)
Dissociative Experiences Scale^{1,2}	11.4 (10.1)	5.3 (4.5)	14.9 (16.6)	10.8 (9.3)	17.7 (15.4)	13.8 (13.3)
Index of Self-Esteem¹	38.1 (11.6)	40.7 (15.2)	42.5 (12.1)	43.1 (12.4)	53.3 (13.0)	53.4 (17.0)
Boredom Proneness¹	10.5 (5.0)	9.0 (5.7)	12.3 (5.0)	12.2 (6.0)	16.8 (5.9)	15.6 (5.9)
Magical Ideation Scale¹	6.1 (5.0)	5.6 (4.5)	6.2 (4.4)	5.3 (4.1)	9.3 (7.1)	7.1 (4.9)
Brief Symptom Inventory: ¹						
Global Severity Index ¹	1.7 (.6)	1.4 (.6)	1.6 (.5)	1.8 (.6)	2.3 (.8)	2.4 (.8)
Interpersonal Sensitivity ¹	1.8 (.8)	1.6 (.9)	1.8 (.8)	1.9 (.8)	2.4 (1.0)	2.9 (1.2)
Somatization ¹	1.7 (.7)	1.4 (.6)	1.4 (.5)	1.7 (.8)	1.9 (.8)	2.1 (1.0)
Depression ¹	1.7 (.7)	1.5 (.9)	1.9 (.7)	2.0 (.8)	2.6 (1.0)	2.7 (1.1)
Phobic Anxiety ¹	1.3 (.4)	1.2 (.4)	1.4 (.6)	1.4 (.6)	1.9 (.9)	2.0 (.9)
Obsessive-Compulsive ¹	2.0 (1.0)	1.5 (.7)	1.8 (.7)	2.0 (.9)	2.4 (.9)	2.6 (1.0)
Anxiety ¹	1.7 (.6)	1.5 (.9)	1.6 (.5)	1.7 (.6)	2.3 (.9)	2.4 (1.0)
Paranoid Ideation ¹	1.9 (.8)	1.3 (.5)	1.9 (.8)	1.9 (.8)	2.3 (.9)	2.5 (1.0)
Hostility ¹	1.5 (.5)	1.4 (.5)	1.5 (.5)	1.6 (.6)	2.0 (.8)	2.2 (.9)
Psychoticism ¹	1.5 (.6)	1.3 (.7)	1.7 (.7)	1.6 (.6)	2.4 (.9)	2.3 (1.0)

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

³Statistically significant interaction effect of Gambling Group X Gender

On the *Magical Ideation Scale*, a significant effects of Gambling Group was found with Pathological Gamblers reporting greater likelihood of experiencing magical thinking than both the Problem Gamblers and Asymptomatic Gamblers.

A Comparison of Male and Female Pathological Gamblers

Scores on the *Dissociative Experiences Scale* was characterized by both a Gender and Gambling Group effect with males scoring higher on dissociative experiences and Pathological Gamblers scoring higher than the Asymptomatic Gamblers.

Coping Variables

Table 8 shows a significant effect of Gambling Group on the *Self-Control Schedule* scores with Pathological Gamblers experiencing greater difficulty than either the Problem Gamblers or the Asymptomatic Gamblers.

Table 8. Coping Skill Variables, by Gender and Gambling Group.

Scale	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
Self-Control Schedule¹	145.3 (17.8)	135.1 (20.4)	135.1 (16.7)	135.3 (19.7)	128.1 (18.0)	123.0 (21.6)
Problem-Solving Inventory:						
Total Score ¹	86.7 (16.0)	89.8 (14.2)	96.4 (14.9)	94.7 (18.3)	105.9 (16.9)	108.0 (22.3)
Approach-Avoidance Style ¹	45.9 (10.1)	49.1 (8.1)	49.8 (7.6)	50.0 (10.5)	53.3 (8.9)	54.0 (10.7)
Problem-Solving Confidence ¹	25.1 (6.3)	26.3 (7.4)	29.3 (6.5)	27.7 (6.8)	33.2 (7.6)	34.1 (9.8)
Personal Control ¹	15.7 (3.0)	14.4 (4.7)	17.2 (3.7)	17.0 (3.9)	19.3 (3.0)	19.9 (4.3)
Belief in Personal Control Scale:						
General External Control ¹	64.3 (9.0)	65.7 (12.2)	61.9 (10.0)	62.9 (7.2)	58.5 (10.6)	58.7 (11.2)
Exaggerated Personal Control ²	57.6 (9.2)	49.9 (9.3)	51.8 (10.1)	50.6 (9.2)	52.6 (9.9)	52.9 (10.0)
God-Mediated Control ³	30.7 (12.1)	27.1 (9.4)	32.0 (10.2)	26.8 (9.7)	28.4 (10.5)	30.7 (10.7)

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

³Statistically significant interaction effect of Gambling Group X Gender

On the *Problem-Solving Inventory* a significant effect of Gambling Group was found on the total score and on each sub-scale. Pathological Gamblers reported less *Personal Control* and *Problem-Solving Confidence*, and a more *Avoidant* problem-solving style than both the Problem Gamblers and the Asymptomatic Gamblers.

On the *Belief in Personal Control Scale*, a measure of locus of control, Pathological Gamblers were found to score lower on a measure of *External Locus of Control* than either Problem Gamblers or Asymptomatic Gamblers. On a measure of *Internal Locus of Control* (i.e., exaggerated personal control) a gender effect was obtained with men scoring higher than women. On the *God-mediated Control* sub-scale, an interaction between Gender and Gambling Group was discovered with men scoring higher on this scale than women except for the Pathological Gamblers where the reverse pattern was obtained.

High-Risk Situations for Gambling

Table 9 contains the results of the *Inventory of Gambling Situations* (IGS) by gender and gambling Group. Due to the large number of individual contrasts on this instrument, the total score and sub-scale score comparisons were evaluated against a $p \leq .01$ level of significance. There was a significant main effect of Gambling Group on the total IGS score as well as on all twelve sub-scale scores. Problem gamblers were more likely to gamble heavily than were non-problem gamblers in a variety of situations including *Positive Affect* (e.g. confident, relaxed), *Negative Affect* (e.g. depressed), *Interpersonal Conflict*, *Need for Control*, *Need for Excitement*, and *Interpersonal Situations* (e.g. challenged to a bet).

A Comparison of Male and Female Pathological Gamblers

Table 9. Inventory of Gambling Situations sub-scales and total score, by Gender and Gambling Group.

Sub-Scale	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
Total Score ¹	12.4 (14.9)	11.9 (12.2)	28.1 (16.5)	28.6 (14.0)	54.3 (13.5)	52.4 (16.6)
Winning and chasing ¹	11.3 (13.7)	11.8 (14.6)	28.7 (19.5)	32.7 (19.3)	66.4 (16.3)	62.7 (22.7)
Conflict with others ¹	4.2 (9.7)	4.9 (9.9)	10.7 (16.7)	12.6 (13.2)	39.2 (24.9)	42.2 (28.5)
Need to be in control ¹	6.9 (12.0)	6.5 (13.5)	20.6 (21.8)	15.9 (17.6)	50.9 (20.5)	44.3 (27.0)
Need for excitement ¹	22.5 (21.9)	18.8 (20.1)	43.7 (24.8)	42.8 (22.4)	63.5 (15.6)	67.7 (21.1)
Negative emotions ¹	5.6 (13.1)	7.5 (14.2)	23.1 (19.8)	27.0 (19.9)	53.6 (21.0)	65.0 (26.1)
Pleasant emotions ¹	21.8 (22.9)	27.9 (29.9)	46.9 (25.0)	45.7 (22.2)	57.8 (16.7)	57.3 (22.8)
Social pressure to use ¹	11.9 (14.3)	10.1 (11.8)	23.6 (15.5)	26.1 (13.6)	48.9 (17.6)	45.7 (16.2)
Confidence in skill ^{1,2}	18.3 (20.3)	13.0 (15.9)	41.0 (25.3)	31.6 (20.0)	61.4 (15.9)	49.3 (23.8)
Pleasant social situation ¹	16.7 (18.8)	14.5 (17.0)	27.3 (22.7)	30.3 (21.4)	43.3 (22.5)	41.1 (24.7)
Testing personal control ¹	6.7 (13.8)	6.2 (12.3)	22.6 (19.7)	21.3 (17.4)	49.4 (17.6)	42.5 (23.0)
Urges and temptations ¹	13.4 (17.0)	14.6 (17.3)	33.8 (20.5)	36.4 (18.1)	63.7 (15.7)	67.9 (18.7)
Worried about debts ^{1,2,3}	8.9 (20.6)	4.4 (8.8)	12.4 (17.2)	14.1 (16.3)	52.4 (26.9)	32.5 (27.9)

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

³Statistically significant interaction effect of Gambling Group X Gender

In addition to a main effect of Gambling Group, there was also a significant effect of Gender on the *Confidence in Gambling Skill* sub-scale with men gambling more heavily than women in situations that required confidence in gambling skills (e.g. felt I could profit from careful gambling). On the *Worry about Debts* sub-scale (e.g. about to get caught unless I came up with some money fast), there were significant effects of Gambling Group and Gender and a

A Comparison of Male and Female Pathological Gamblers

significant interaction effect. The interaction effect revealed that when worried about debts, male problem gamblers gambled more heavily than female problem gamblers.

Gambling Cognition Variables

Table 10 contains results of three questionnaires related to gambling urges, expectancies, and cognitive distortions by gender and gambling Group. There was a significant effect of gambling Group on the *Gambling Urge Questionnaire* scores but no gender or interaction effects. On average, problem gamblers endorsed 4-5 more situations that triggered strong urges to gamble (e.g. stress, insomnia) than did non-problem gamblers.

Table 10. Gambling Cognitive Variables, by Gender and Gambling Group.

Questionnaire	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
	n=16	n=17	n=44	n=57	n=52	n=73
Gambling Urge¹	4.3 (3.2)	4.0 (5.1)	7.5 (3.1)	8.4 (3.7)	11.6 (3.4)	11.5 (3.2)
Gambling Expectancy:						
Negative expectancies ^{1,2}	2.0 (.9)	1.8 (.8)	2.7 (.8)	2.5 (.9)	3.7 (.7)	3.2 (1.1)
Positive expectancies ¹	3.5 (1.0)	3.3 (1.2)	3.9 (.8)	3.8 (.8)	4.0 (.8)	4.3 (1.0)
Fun ³	4.4 (.8)	4.4 (.6)	4.5 (.6)	4.4 (.8)	4.4 (.7)	4.9 (.8)
Social ¹	3.3 (1.0)	3.3 (1.0)	3.7 (1.0)	3.5 (.9)	3.9 (.7)	3.8 (1.1)

A Comparison of Male and Female Pathological Gamblers

Table 10. Gambling Cognitive Variables, by Gender and Gambling Group continued

Questionnaire	Asymptomatic Gambler		Problem Gambler		Pathological Gambler	
	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)	Males M (SD)	Females M (SD)
Gambling Cognition:						
Attitude	3.4 (1.2)	3.2 (1.0)	3.7 (.9)	3.5 (1.0)	3.8 (.7)	3.6 (.9)
Favorites ¹	2.4 (.8)	2.6 (1.1)	3.1 (.9)	3.1 (.8)	3.2 (.8)	3.3 (.9)
Interoceptive ²	3.3 (1.1)	2.9 (1.0)	3.5 (.9)	3.1 (.9)	3.7 (.8)	3.3 (.9)
Numbers	2.3 (.6)	2.4 (.7)	2.6 (.9)	2.6 (.8)	2.8 (.9)	2.6 (.9)
Persist ¹	2.3 (1.0)	2.0 (.9)	2.9 (.8)	2.8 (.9)	3.7 (.6)	3.5 (.8)
Imagined Rewards ¹	2.8 (1.1)	2.8 (1.1)	3.5 (1.0)	3.4 (1.0)	4.0 (.8)	3.9 (1.0)
Rituals ¹	1.9 (.7)	1.9 (1.0)	2.1 (.8)	2.2 (.7)	2.5 (.9)	2.1 (.7)
Systems ^{1,2}	2.6 (.8)	1.9 (.8)	3.0 (1.0)	2.3 (.9)	3.1 (.8)	2.6 (1.0)

¹Statistically significant effect of Gambling Group

²Statistically significant effect of Gender

³Statistically significant interaction effect of Gambling Group X Gender

On the *Gambling Expectancy Questionnaire*, pathological and problem gamblers were found to be significantly more likely to expect *Negative Consequences* (e.g. get irritable, get involved in arguments/confrontations), *Positive Consequences* (e.g. friendlier, less anxious), and more *Socially Favourable Consequences* (e.g. more outgoing, able to impress friends) than were non-problem gamblers. As a group, men tended to expect more negative expectancies when gambling than did women in the study. Women also tended to expect more fun while gambling. In addition, there was a significant interaction effect which showed that female problem gamblers expected more fun than male problem gamblers while male and female non-problem gamblers were comparable in the fun they expected. There was also a significant interaction

effect of positive expectancies of gambling where female problem gamblers tended to report more positive expectancies than male problem gamblers while male and female non-problem gamblers showed similar levels of positive expectancies.

Table 10 also shows the analysis of the *Gambling Cognition Questionnaire* which revealed a significant effect of gambling Group on 4 of the 8 sub-scales: *Superstitious Behaviour* (e.g., favourite places or people), *Persistence* (e.g. tell myself not to give up even if losing), *Imagined Rewards of Gambling*, and *Systems*. There was also a significant effect of Gender on *Systems* and *Interoceptive Cues* (e.g. rely on intuition, gut feeling) sub-scales. Generally, men were more likely to believe that these strategies would increase their chance of winning when compared to women.

Discussion

The goal of this study was to compare male and female gamblers on a wide array of relevant psychological, psychiatric and social variables. To this end, a sample of 260 subjects were recruited, of whom approximately half of whom met diagnostic criteria for pathological gambling and an additional large proportion met diagnostic criteria for sub-clinical or problem gambling. The sample could be described as early middle-aged, low-to-moderate income, with the majority achieving at least a secondary school education. About half of the sample were employed at least part-time. Almost half of the women were in relationships while the majority of men were not. Lotteries (including scratch tickets) were the most common forms of gambling reported by men and women. Men, in addition, preferred sports lotteries and casino slot machines. Women, in addition, preferred bingo and casino slot machines. The women self-identified bingo and casino card games as the most problematic type of gambling. Analogously,

men self-identified casino card games, sports lotteries and the race-track betting as the most problematic type of gambling.

Elevated rates of psychopathology and psychiatric treatment were observed for the gamblers (and their families) in this study. Rates of psychiatric hospitalization, medication usage and counselling did not differ between the sexes but were consistent with other research in this area indicating that pathological gamblers are struggling with other difficulties as well. Attendance at gambling self-help groups or other gambling-specific treatment was very low.

In a series of analyses of variance, specifying Gambling Group (pathological gamblers, problem gamblers, asymptomatic gambler) and Gender (male, female) as the independent variables, very few interactions emerged between gender and gambling severity. The most consistent finding that emerged was a strong Gambling Group effect. That is, individuals who were classified as pathological gamblers tended to score worse on the psychometric measures. For example, gamblers had less satisfying relationships, less social support, great levels of stress, more dissociative experiences, less self-esteem, more prone to boredom and magical thinking, more psychiatric symptoms, poorer problem-solving skills, and a greater tendency towards external locus of control. There were sex differences on a few measures, such as on measures of dissociation, social support and magical thinking, with men always scoring in the more psychopathological direction. However, there were no interaction effects on measures of personality, coping and psychiatric symptoms, suggesting that male and female pathological gamblers do not differ greatly on measures of psychiatric, psychological or social functioning. Instead, gamblers always score in a more disturbed direction on these measures. This suggests that gender is not a critical variable in understanding the psychosocial environment of the pathological gambler.

On various measures of gambling behaviour, a similar pattern emerged with pathological gamblers scoring higher on measures of high-risk situations, gambling urges, distorted cognitions and gambling expectancies than non-pathological gamblers. In addition, there were several sex differences on specific sub-scales. For example, females were less likely to gamble heavily if they were highly confident or worried about debts, relied less on gambling systems or internal cues (e.g., hunches, gut feelings) when they gambled, and had fewer negative expectancies than did men. There were very few interaction effects and these should not be over-interpreted as chance would determine that a few significant interactions would emerge.

The weight of the results strongly suggest that male and female pathological gamblers resemble each other more than they differ. In general, pathological gamblers display a wide range of interpersonal, psychiatric, social and psychological difficulties which may be functionally associated with their gambling pathology and require clinical intervention. The role of gender seems to be much less critical. However, the findings of this study cannot be extended to gamblers who are seeking treatment, for whom the effect of gender may be an important variable.

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