Crime, Antisocial Personality and Pathological Gambling

Alex Blaszczynski, Neil McConaghy, and Anna Frankova
Psychiatric Unit, The Prince of Wales Hospital, Australia

To investigate the hypothesized causal relationship between pathological gambling and gambling-related illegal behaviors, 77 patients seeking behavioral treatment for excessive gambling and 32 members of Gamblers Anonymous were administered a structured interview schedule. Data on the incidence, nature and extent of both gambling and non-gambling related illegal behaviors was obtained and DSM-III (A.P.A., 1980) criteria for Antisocial personality were used as the measure of sociopathy.

Of the sample, 54.1% admitted to a gambling related offense and 21.1% were charged. Results showed that 14.6% met DSM-III criteria for Antisocial Personality. Four subgroups were subsequently identified; gamblers who committed no offense (36.7%), gambling only offenses (40.4%), non-gambling only offenses (9.2%) or both gambling and non-gambling offenses (13.7%). Significantly more subjects from the gambling plus non-gambling related offenses subgroup were classified as antisocial personalities.

Of pathological gamblers who committed offenses, two thirds reportedly did so as a direct consequence of gambling induced problems. Subjects reporting gambling-only related offenses showed a significant increase in antisocial features after adolescence suggesting that antisocial features emerge as a secondary phenomenon to pathological gambling behavior patterns.

INTRODUCTION

Clinical studies consistently describe high rates of illegal behaviors in samples of pathological gamblers seeking treatment and on the basis

Reprint Requests should be addressed to: A. Blaszczynski, PhD., Psychiatric Unit, Prince of Wales Hospital, Randwick. 2031, N.S.W., Australia.

Acknowledgments: This study was made possible by a grant from the Criminology Research Council, Australian Institute of Criminology.

of this statistical association, have postulated or inferred a direct causal relationship between crime and pathological gambling (Barker & Miller, 1968; Boyd & Bolen, 1970; Seager, 1970; Custer & Custer, 1980; Politzer et al., 1985; Greenberg & Rankin, 1982; Lesieur, 1984; Blaszczynski & McConaghy, 1987; Brown, 1987). Depending on whether criteria used include self-report measures (Custer & Custer, 1980; Lesieur, 1984; Blaszczynski & McConaghy, 1987; Brown, 1987) or objective indices such as actual arrest (Custer & Custer, 1980; Blaszczynski & McConaghy, 1987) or known criminal record (Greenberg & Rankin, 1982), these studies report between 21% to 85% of pathological gamblers become involved in illegal activities and between 4% (Politzer et al., 1981) and 13% (Blaszczynski & McConaghy, 1987) serve prison terms for gambling-related crimes.

However, one study by Brown (1987) in England and Scotland, reported a much higher crime rate amongst members of Gamblers Anonymous. Seventy-seven English and 30 Scottish men completed questionnaires, a response rate of 35%. Of the English sample, 82% admitted having committed an offense and 51%, having been convicted. The number of convictions per offender varied between one and 331. Corresponding figures for the Scottish sample were 77% and 40%. The number of convictions, per offender for the Scottish sample was not given.

The need to maintain the gambling addiction and not the desire for personal economic gain appears the principle motivation for criminal behavior. In his detailed analysis of 50 pathological gamblers, Lesieur (1979; 1984) outlined the sequence of events by which excessive gambling led to criminal offenses. Motivated by the need to chase losses, continued gambling resulted in a rapid exhaustion of legal sources of gambling funds. Consequently, illegal behaviors formed the only possible alternative by which the gambling addiction could be maintained. Often acts were technically illegal but rationalized not to be so, for example borrowing from petty cash without permission but with the intention of later repayment.

As gambling losses increased beyond the gambler's capacity to repay, pressure to further offend grew. Progressively larger bets were required to win amounts large enough to repay debts and avoid detection. Of Lesieur's subjects, 90% of those who offended did so directly as a result of gambling induced problems.

Brown (1987) observed a significant reduction in the frequency of offending following cessation of gambling in his patients. Also in

support of a causal connection, and consistent with Lesieur's (1984) American data, the pattern of offending characteristics of pathological gamblers differed markedly from that found in the general population (Brown, 1987). Gambler's offenses were primarily nonviolent offenses against property. Most frequently committed offenses included forgery, fraud, larceny, tax fraud and in a minority, robbery, pimping and prostitution (Brown, 1987; Lesieur, 1987). Forty-seven percent of Lesieur and Puig's (1987) sample of 241 members of Gamblers Anonymous perpetrated at least one form of insurance related offense such as faking auto accidents or home burglaries, or submitting excessive claims.

However, the tacit assumption that all offenses committed by pathological gamblers are directly gambling-related is not convincingly supported by existing empirical data. Although some note the distinction (Lesieur, 1984), most studies investigating the prevalence of illegal behaviors in samples of pathological gamblers (Brown, 1987; Lesieur, 1987) fail to differentiate between, or report both, gambling and non-gambling related offenses. It could be argued, on the basis of elevated M.M.P.I. Psychopathic Deviate scale scores (Moravec & Munley, 1982), that pathological gamblers are more sociopathic and consequently have an increased predisposition to commit offenses independently of their gambling behavior.

In support of such an interpretation, Moran (1970) classified 25% of his sample of 50 gamblers as psychopathic while Custer and Custer (1980) suggested that 5% to 7% of a group of Gamblers Anonymous were criminal first and gamblers second. Others (Roebuck, 1967; Sewell, 1969) have noted a high proportion of concomitant gambling problems in populations of prison inmates. Bellringer (1986) found 60% of 500 inmates of an open category prison had gambling problems while 20%–30% were serving time as a direct or indirect consequence of their gambling.

Using a validated questionnaire measure, Lesieur and Klein (1985) found 85% of 118 female and 78% of 230 male inmates of a New Jersey jail had gambled in the previous twelve months with 30.5% of the females and 29.6% of the males exhibiting clear signs of pathological gambling. Only 10% of both groups admitted having a gambling problem. These authors noted an association between the degree of sociopathy in prisoners and a higher incidence and greater severity of gambling-related problems. Lesieur (1987) concluded that a considerably greater relationship between gambling and sociopathy existed than was previously considered and argued that presence of

sociopathy in a gambler should not, as in the DSM-III (A.P.A., 1980), preclude a diagnosis of pathological gambling.

In 1980, pathological gambling was classified as a psychiatric disorder of impulse control. As a consequence, a number of cases appeared before American state and federal appellate courts in which a plea of diminished criminal responsibility was advanced in defense of pathological gamblers charged with offenses (Rachlin et al., 1984; 1986). Based on the questionable assertion that pathological gambling was a mental disease, the argument in its extreme form suggested that the presence of such a disorder should "be exculpatory *per se* for any offense committed to acquire money for gambling" (Rachlin et al., 1984, p. 145).

Although successful in some state cases, the plea of diminished responsibility has been rejected in all federal case decisions (Rachlin et al., 1986). The reasons for rejection have been reviewed elsewhere by Rachlin et al. (1986) but, briefly, have included the consideration that pathological gambling is not a mental disease but a disorder of impulse control, and that the impulse is to gamble and not to commit crime. In the case of the United States versus Lewellyn (Rachlin et al., 1986) the fact that the decision was based on the current lack of empirical evidence "of a demonstrable direct causal connection between this disorder (pathological gambling) and the crime [was] emphasized" (Rachlin et al., 1986, p. 237).

The purpose of this present study was to obtain data on the nature, type and extent of gambling and non-gambling related offenses and the presence of antisocial personality traits in a sample of diagnosed pathological gamblers.

METHOD

Subjects

Subjects were 77 consecutive pathological gamblers attending a behavioral one week hospital based treatment program (McConaghy et al., 1983) and 32 Gamblers Anonymous members from five different chapters. There were 96 males and 13 females. All met DSM-III (A.P.A., 1980) criteria for the diagnosis of pathological gambling. For the hospital sample the only criterion for exclusion from treatment was overt psychosis. None of the members attending Gamblers Anonymous refused to participate. The hospital and Gamblers Anonymous samples did not differ significantly on relevant demographic variables. Therefore it was considered justified to report on the combined group data only in this study. Statistical comparisons between hospital and Gamblers Anonymous subjects will be reported elsewhere.

The mean age of the total group was 39.21 years (SD = 10.57 years). Female subjects were non-significantly older (M age = 44.00 years; SD = 11.49 years) than males (M age = 38.56 years; SD = 10.33 years) ($t = 1.759$, $p = .081$). Statistical contrasts by sex were not carried out in this study given the small number of females.

Socioeconomic status was determined using Congalton's (1969) four-point occupational ranking scale for the Australian population. The distribution of subjects in social classes A (professional; medical practitioners, architects, engineers), B (managerial; officer managers, school teachers, accountants), C (skilled; electricians, carpenters, salesmen) and D (unskilled; laborers, cleaners, waiters/waitresses) were 3 (2.8%), 21 (19.3%), 46 (42.2%) and 17 (15.6%) respectively. Of the remainder, 10 (9.2%) were unemployed for a mean 28.23 months, 8 (7.3%) were housewives and 4 (3.7%) were pensioners. Of the sample, 30 (27.5%) were tertiary (university or technical college) educated.

The average income for 44.1% of the sample was less than $A20,000 per annum, between $A20,000 and $A40,000 for 45.8% and more than $A40,000 for 10.1%. The average annual income for the Australian general population was $A25,000 (Australian Bureau of Statistics, 1988). From the grouped data, the estimated median income for the sample was calculated to be $A21,625 (Lutz, 1983).

Procedure

Each subject was interviewed using a semi-structured schedule. The interview schedule obtained general demographic data and specific information on gambling behavior and extent of both gambling and non-gambling related criminal behaviors, whether charged for these or not.

The schedule also contained DSM-III criteria for antisocial personality. DSM-III (A.P.A., 1980) describes a history of continuous and chronic antisocial behaviors beginning prior to age 15 years and persisting into adulthood as the essential features of an Antisocial Personality Disorder. Criteria include positive responses to at least three of ten clinical features that are present before 15 years of age, and to four of eight features after that age with no intervening anti-social free period of at least five years. Items dealing with sexual behaviors before age 15 years were excluded on the grounds of the potentially sensitive issue of eliciting such information from members of Gamblers Anonymous.

For the hospital sample, interviews were conducted two to four weeks prior to treatment commencing. For the members of Gamblers Anonymous, subjects were interviewed individually and privately during the course of a regular meeting.

Subjects were fully informed of the anonymous and confidential nature of the study.

RESULTS

Table 1 lists the proportion of subjects participating in each form of gambling.

Ninety percent of subjects preferred horse-race betting and poker machines as their main, but not exclusive, form of gambling. Horse

Table 1
Preferred Form of Gambling Participated in by 109 Pathological Gamblers*

Form of Gambling:	*%*
Horses	57.8
Poker Machines	32.1
Video Machines	5.5
Cards/Dice	2.8
Casinos	.9
Illegal Casinos	.9

* Main, but not exclusive, form of gambling preferred by gamblers in the sample.

racing, which includes greyhound and harness racing, and poker machines (slot-machines) represent the two most popular forms of gambling in the state of New South Wales where this study was conducted. New South Wales, the most populated state in Australia, permits many forms of legalized gambling; horses, greyhounds and harness racing, poker machines, lotto (numbers), lotteries, keno, bingo, certain types of card games, football and soccer pools, and betting on selected motor car races. Casinos, however, remain illegal in New South Wales although they exist legally in four other states and one territory. In total, Australia has six states and two territories. In contrast to the United States, sports betting is not popular in Australia.

Subjects began gambling at a mean age of 18.76 years (SD = 8.0 years) and had gambled an average of 20.21 years (SD = 10.31), the last 10.44 years (SD = 7.76) of which was at a problematic level in terms of pathology. At the peak of their career, subjects gambled on an average of 21.76 days (SD = 7.3 days) per month.

Given the large range of data, means and standard deviations did not appear the appropriate statistics to use in reporting typical bet-size per session or maximum debt incurred by subjects. Debts were defined as money borrowed for the specific purpose of gambling or personal loans to cover shortfalls in financial commitments caused through gambling. Excluded were mortgages and personal loans for goods or services. Bets per session varied between $A10 to $A50,000 while maximum debts ranged between $A150 to $A240,000. The median bet was $A200.00 and the median maximum debt was $A9,000. Twenty five percent of the subjects had debts in excess of $A20,000.

Wages and earnings formed the main source of gambling funds for 102 (93.6%) of subjects. This was supplemented by criminal offenses in 32 (29.4%) cases, by major borrowings from either finance companies in 41 (37.6%), friends in 40 (36.7%), and/or credit cards in 31 (28.4%) cases, respectively.

Subjects were asked to describe the frequency and nature of any illegal offenses, whether they were directly or indirectly related or completely unrelated to gambling and whether they were detected or not. 'Directly related' was defined as the motive underlying the offense being the desire to obtain money specifically for gambling purposes. 'Indirectly related' referred to the need to cover shortfalls in commitments caused by losses through gambling.

Fifty-nine (54.1%) admitted having committed gambling-related offenses with 23 (21.1%) charged, and 25 (22.9%) admitted to non-gambling related offenses with 11 (10.1%) charged.

The most frequent types of gambling related offenses reported were embezzlement and larceny (excluding shoplifting) (see Table 2). Several subjects reported committing two or more types of offenses.

Seventeen (53.1%) of those convicted received a jail sentence, serving a mean term of 48.18 months (SD = 23.45 months) in jail.

The more frequently reported non-gambling related offenses were larceny, armed robbery and burglary. Of the 6 convicted, 3 (50%) served a mean jail sentence of 50.0 months (SD = 38.10 months). Two subjects, one convicted of armed robbery and the other burglary, served 72 months each while the third, charged for embezzlement, served 6 months.

Subjects estimated the financial value per offense. The unreliability of retrospective self-report measures was acknowledged but nevertheless, such estimates were considered a guideline index of the severity of committed offenses.

Descriptive statistics for the estimated value for each gambling and non-gambling related offense is given in Table 3.

The median gambling related offense was $A200 with the mode at $A100 compared to a median of $A25 and mode of $A5 for non-gambling related offenses.

Of the total sample, 16 (14.6%) met DSM-III criteria for a diagnosis of Antisocial Personality. To investigate the relationship between sociopathy, crime and gambling, subjects were classified into four subgroups based on the relationship of gambling to the offense. Forty subjects (36.7%) reported no offense (No Offense), 44 (40.4%)

Table 2
Type of Offense, Frequency, Sentence and Length of Sentence for Offenses Committed by Pathological Gamblers

	N	*Freq range*	*N Charged*	*Counts*	*Sentence*	*Length (mths)*
Gambling Related						
Armed Robbery	4	1–17	3	1–7	Jail	48 54 84
Burglary	7	1–250	5	1–8	Bond Jail	18 18 42 48 60
Drugs	2	20–50	2	4–6	Jail Remand	96
Shoplifting	4	1–10	1	10	Jail	9
Larceny	28	1–1,000	5	1–89	Bond Jail Fine	3 24 24 48
Misapprop.	2	37–200	1	1	Jail	18
Embezzle.	32	1–500	15	1–78	Bond Jail Fine Remand	12 18 24 24–72
Non-Gambling Related						
Armed Robbery	3	1–2	1	2	Jail	72
Burglary	2	2–30	1	2	Jail	72
Shoplifting	1	(estimated) 1,000				
Larceny	8	1–24	3		Bond	12 60 72
Misappr.	1	12				
Embezzle.	1	1	1	1	Jail	6

Table 3
Descriptive Statistics for the Amounts of Money Involved in Gambling and Non-Gambling Related Crimes

Gambling Related N = 59	*Mean $A*	*Standard Deviation $A*	*Range $A*
Estimated Mean per Offense	4,097	16,3437	20–120,000
Mean Estimated Minimum Amount Involved in Offenses	886	3,003	10–20,000
Mean Estimated Maximum Amount Involved in Offenses	8,109	19,862	30–120,000
Non-Gambling Related N = 16	*Mean $A*	*Standard Deviation $A*	*Range $A*
Estimated Mean per Offense	325	986	2–5,000
Mean Estimated Minimum Amount Involved in Offenses	311	1023	1–4,000
Mean Estimated Maximum Amount Involved in Offenses	704	1515	5–5,000

9 subjects were involved in non-monetary crimes, eg, damage to property, motor vehicle theft.

that their offenses were exclusively gambling-related (Gambling Only), 10 (9.2%) that they were exclusively non-gambling related (Non-Gambling Only) and 15 (13.7%) that they were both gambling and non-gambling related (Gambling plus Non-Gambling). Table 4 shows the number of subjects within each subgroup meeting DSM-III Anti-social Personality criteria.

Table 5 describes the mean age of the subgroups, the age they began gambling and the age they committed their first offense.

There were no significant age differences between groups ($F = 0.252$, $df = 3, 105$, N.S.). Subjects in the No Offense subgroup

Table 4
Number of Pathological Gamblers from Each Group meeting DSM-III Criteria of Antisocial Personality

	Type of Offenses Committed									
	No Offense		*Gambling Only*		*Non Gambling Only*		*Gambling Plus Non Gambling*			
	N	*(%)*	*N*	*(%)*	*N*	*(%)*	*N*	*(%)*	*N*	*(%)*
Non Anti-Social	38	(40.8)	39	(41.9)	8	(8.6)	8	(8.6)	93	100%
Anti-Social	2	(12.5)	5	(31.2)	2	(12.5)	7	(43.8)	16	100%
Total	40	(36.7)	44	(40.3)	10	(9.2)	15	(13.8)	109	100

Table 5
Age, Age Commenced Gambling and Age at First Offense for Pathological Gamblers

	Type of Offenses Committed			
	No Offense N = 40	*Gambling N = 44*	*Non-Gambling N = 10*	*Gambling & Non-Gambling N = 15*
Age:				
Mean	41.22	39.55	37.00	35.00
S.D.	12.58	9.88	9.85	7.22
Age Began Gambling				
Mean	21.54	18.16	18.3	15.0
S.D.	9.73	7.40	7.45	2.75
Age of First Gambling Related Illegal Act				
Mean		26.77		24.60
S.D.		15.12		8.72
Age of First Non-Gambling Related Illegal Act				
Mean			22.10	14.67
S.D.			7.48	11.11

commenced gambling at a significantly older age as compared to subjects in the remaining three subgroups ($F = 0.047$, $df = 3, 105$, $p < .05$). The remaining three subgroups did not differ significantly from each other.

Oneway analysis of variance revealed that, as compared to subjects in the Gambling Only subgroup, Gambling plus Non-Gambling subjects did not differ significantly on the age at which they committed their first gambling related offense ($F = 0.525$, $df = 1, 57$, N.S.). There was a nonsignificant trend for the Gambling plus Non-Gambling subjects to report having commenced their non-gambling offenses at a younger age than Non-Gambling related subjects ($F = 1.825$, $df = 1, 23$, N.S.).

Compared to No Offense and Gambling Only subgroups, significantly more subjects in the Gambling plus Non-Gambling subgroup were classified as antisocial personalities ($X^2 = 10.961$, $df = 1$, $p < .005$, and $X^2 = 6.565$, $df = 1$, $p = .01$, respectively) using DSM-III criteria (see Table 4). The Non-Gambling Only subgroup did not differ significantly from any group.

To investigate the hypothesis that pathological gambling leads to the development of antisocial behaviors in adulthood, changes in the proportion of subjects in each subgroup meeting DSM-III clinical features of antisocial personality both before and after the age of 15 years were compared (see Table 6).

More Gambling plus Non-Gambling related offense subjects reported three or more features of sociopathy prior to age 15 years to a significant extent compared to No Offense ($X^2 = 15.595$, $df = 1$, $p < .001$) or Gambling Only ($X^2 = 10.222$, $df = 1$, $p < .001$) subjects, and to a near significant extent compared to Non-Gambling related offense subjects ($X^2 = 3.532$, $df = 1$, $p = .06$ N.S.). Subjects in the other three groups did not differ significantly.

There was a trend for subjects in all groups to report more antisocial features after compared to before the age of 15 years. However, only in the Gambling Only subgroup did this trend reach significance ($X^2 = 8.5471$, $df = 1$, $p < .005$). The relationship between socioeconomic status and subgroups is listed in Table 7.

The relationship between offending and social class was investigated by reducing data to form a 2 x 2 contingency table for Chi-square analysis. The two upper classes, classes A and B, were combined as were the two lower classes, classes C and D. To determine if subjects who committed non-gambling related offenses differed from other

Table 6
Proportion of Gamblers Displaying Selected Features of DSM-III Antisocial Personality

	Prior to age 15 years			
	No Crime %	*Gambling* %	*Non-Gambling* %	*Gambling & Non-Gambling* %
Truancy	16.2	22.7	20.0	46.7
Misbehavior at school	16.2	20.5	30.0	60.0
Running away from home	8.1	13.6	0	40.0
Delinquency	2.7	11.4	0	40.0
Lying	13.5	20.5	30.0	73.3
Stealing	5.4	22.7	10.0	46.7
Vandalism	0	6.8	0	13.3
Starting fights	2.7	9.1	10.0	33.3
Drink/drugs	2.7	4.5	10.0	33.3
Misbehaving at home	13.5	13.6	10.0	46.7
	Post age 15 years			
Frequent job changes	13.5	34.1	30.0	73.0
Not caring for children	2.7	2.3	10.0	20.0
Not staying with partner	16.2	13.6	30.0	26.7
Irritability	45.9	59.1	60.0	86.7
Impulsive	64.9	81.8	80.0	73.3
Lying	56.8	75.0	60.0	80.0
Not meeting financial obligations	18.9	52.3	30.0	60.0
Reckless Driving	16.2	15.9	30.0	26.7

Table 7
Relationship Between Socioeconomic Status and Gambling/Non-Gambling Motivated Crimes

Socio-Economic Status	*No Crime*	*Gambling*	*Non-Gambling*	*Gambling & Non-Gambling*
Class A	3	0	0	0
B	8	11	1	1
C	16	16	5	8
D	5	4	2	4

gamblers, subjects from the Non-gambling Only and Gambling plus Non-gambling subgroups were combined and compared to the Gambling Only and No Offense subgroups combined. Significantly more subjects committing non-gambling related offenses came from low socioeconomic classes ($X^2 = 3.811$, $df = 1$, $p = .005$).

DISCUSSION

That demographic characteristics of the pathological gamblers found in this study are consistent with those reported in other studies (Lesieur, 1984; Dickerson, 1984; Brown, 1987) supports the contention that this is not an atypical or biased sample. Results of this study suggest that a high proportion of pathological gamblers commit crimes and that of those who so do, slightly over half report their offenses to be specifically gambling-related. Consistent with expectations and the data reported by Lesieur (1987), pathological gamblers commit mostly non-violent crimes against property. In addition, gambling related offenses are committed with a higher frequency and involve larger sums of money than non-gambling related offenses.

Only 14% of pathological gamblers of the sample were found to meet the criteria for antisocial personalities. Psychometric studies using the M.M.P.I. have consistently shown elevated Psychopathic Deviate scores in samples of pathological gamblers (Moravec & Munley, 1982) although the direction of causality has not been clearly established (Blaszczynski, 1988). In this study, subjects committing

gambling-only related offenses showed a significant increase in antisocial features after the age of 15 years. The trend, although present in the other subgroups, did not reach significance. It was concluded that, although a small group could be classified within the DSM-III diagnostic category of Antisocial Personality, antisocial features in the majority of cases emerge as a consequence of pathological gambling behavior.

For gamblers exhibiting high levels of antisocial features in preadolescence, gambling behavior may increase the risk of committing gambling related offenses. The presence of non-gambling offenses, however, does not necessarily indicate the presence of an antisocial personality or an increased risk of committing gambling related offenses.

Given the development of effective treatment programs (McConaghy et al., 1983; Blaszczynski, 1988) it may well be that pathological gamblers with a history of gambling-only related offenses presenting before the courts may be directed to treatment programs as an alternative or adjunct to penal sanctions. Clearly further research is needed to support Brown's (1987) finding of a reduction in recidivist rates in treated pathological gamblers and to compare this with untreated groups.

Pathological gamblers who engage in both gambling and non-gambling related offenses come predominantly from lower socioeconomic classes and also exhibit more sociopathic features both before and after the age of 15 years compared to gamblers who committed gambling only related offenses. It is predicted that these individuals would have higher recidivist rates and be less responsive to treatment. The need to differentiate the criminal who gambles from the sociopathic gambler who is also a pathological gambler is more pertinent for this group. Nevertheless, in support of Lesieur's (1987) conclusion, it is suggested that sociopathy should not be an exclusion criterion from a diagnosis of pathological gambling. The disorder of pathological gambling may be treatable in this subgroup and if so, may be associated with a decline in the probability of committing non-gambling related offenses.

Those who commit non-gambling related offenses only also come mainly from lower socioeconomic classes but tend to be less sociopathic. One possible interpretation is that these individuals are not sociopathic in personality but engage in illegal behaviors as a conse-

quence of environmental factors. That is, they may come from relatively deprived backgrounds in which illegal acts are subculturally acceptable forms of behavior. Treatment for pathological gambling only would be expected to be effective in reducing some gambling-related problems but to have little impact on their re-offending.

REFERENCES

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders.* (Third Edition). Washington, D.C.

Barker, J., & Miller, M. (1968). Aversion therapy for compulsive gambling. *Journal of Nervous and Mental Disorders, 146,* 285–302.

Bellringer, P. (1986). Gambling and crime: a prison perspective. *The Society for the Study of Gambling Newsletter, 8,* 9–12.

Blaszczynski, A. (1988). *Clinical studies in pathological gambling: Is controlled gambling an acceptable treatment outcome?* Unpublished Doctoral Thesis, University of New South Wales.

Blaszczynski, A. & McConaghy, N. (1987). Demographic and clinical data on compulsive gambling. In M. Walker (Ed.), *Faces of Gambling* (pp. 263–272). Sydney: National Association of Gambling Studies.

Boyd, W.H. & Bolen, D. (1970). The compulsive gambler and spouse in group psychotherapy. *International Journal of Group Psychotherapy, 20,* 77–90.

Brown, R.I.F. (1987). Pathological gambling and associated patterns of Crime: comparison with alcohol and other drug addictions. *Journal of Gambling Behavior,* 3, 98–114.

Congalton, A.A. (1969). *Status and prestige in Australia.* Melbourne: Cheshire Publications.

Custer, R. & Custer, L. (1980). *Characteristics of the recovering compulsive gambler: a survey of 150 members of Gamblers Anonymous.* Paper presented at the Fourth National Conference on Gambling and Risk Taking, Reno, Nevada.

Greenberg, D. & Rankin, H. (1982). Compulsive gamblers in treatment. *British Journal of Psychiatry, 140,* 364–366.

Lesieur, H.R. (1979). The compulsive gambler's spiral of options and involvement. *Psychiatry, 42,* 79–87.

Lesieur, H.R. (1984). *The Chase: Career of the compulsive gambler.* Cambridge: Schenkman Publishing.

Lesieur, H.R. (1987). Gambling, pathological gambling and crime. In T. Galski (Ed.), *The Handbook of Pathological Gambling* (pp. 89–110). Illinois: Charles C. Thomas.

Lesieur H.R. & Klein R. (1985, April), *Prisoners, gambling and crime.* Paper presented at Academy of Criminal Justice Sciences Annual Meetings, Las Vegas, Nevada.

Lesieur H.R. & Puig, K. (1987). Insurance problems and pathological gambling. *Journal of Gambling Behavior, 3,* 123–137.

Lutz, G. (1983). *Understanding social statistics.* New York: Macmillan Publishing.

McConaghy, N., Armstrong, M., Blaszczynski, A. & Allcock, C. (1983). Controlled comparison of aversion therapy and imaginal desensitization in compulsive gambling. *British Journal of Psychiatry, 142,* 366–372.

Moran. E. (1970). Varieties of pathological gambling. *British Journal of Psychiatry, 116,* 593–597.

Moravec, J. & Munley, P. (1982). Psychological test findings on pathological gamblers in treatment. In W.R. Eadington (Ed.), *Proceedings of the Fifth National Conference on Risk Taking.* Bureau of Business and Economic Research, University of Nevada.

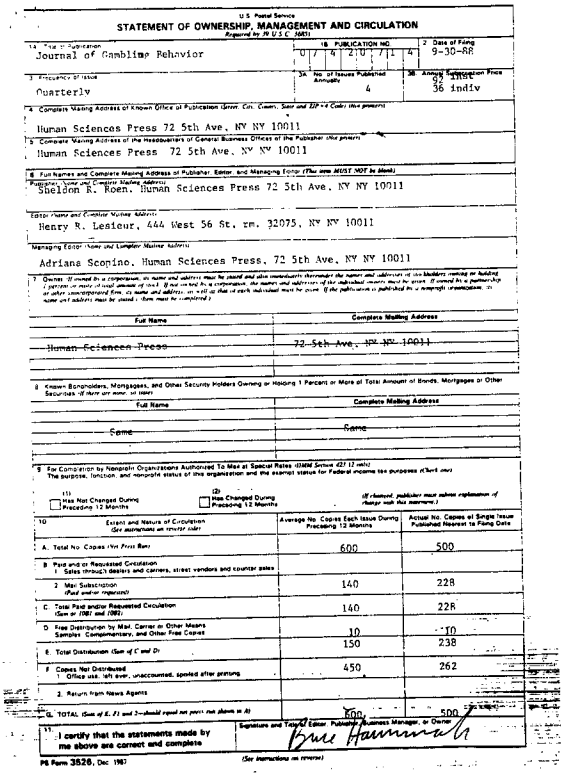
Politzer, R.M., Morrow, J.S. & Leavey, S.B. (1985). Report on the cost-benefit/effectiveness of treatment at the Johns Hopkins Center for pathological gambling. *Journal of Gambling Behavior. 1,* 131–142.

Rachlin, S., Halpern, A.L. & Portnow, S.L. (1986). Pathological gambling and criminal responsibility, *Journal of Forensic Sciences, 31,* 235-240.

Roebuck, J. (1967). *Criminal typology.* Thomas: Springfield, Illinois.

Seager, C. (1979). Treatment of compulsive gamblers using electrical aversion. *British Journal of Psychiatry, 117,* 545-553.

Sewell, R. (1969). Survey of gambling habits of a short-term recidivist prison population. In G.E. Moody (Ed.), *the Facts About the 'Money Factories,' Appendix B.* The Churches' Council on Gambling: London.



U.S. Postal Service
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Required by 39 U.S.C. 3685)

1A. Title of Publication: Journal of Gambling Behavior
1B. PUBLICATION NO: 0 7 4 2 1 0 7 1 4
2. Date of Filing: 9-30-88
3. Frequency of Issue: Quarterly
3A. No. of Issues Published Annually: 4
3B. Annual Subscription Price: $72 inst $36 indiv
4. Complete Mailing Address of Known Office of Publication (Street, City, County, State and ZIP+4 Code) (Not printers): Human Sciences Press 72 5th Ave, NY NY 10011
5. Complete Mailing Address of the Headquarters or General Business Offices of the Publisher (Not printer): Human Sciences Press 72 5th Ave, NY NY 10011
6. Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor (This item MUST NOT be blank)
Publisher (Name and Complete Mailing Address): Sheldon R. Roen, Human Sciences Press 72 5th Ave, NY NY 10011
Editor (Name and Complete Mailing Address): Henry R. Lesieur, 444 West 56 St, rm. 32075, NY NY 10011
Managing Editor (Name and Complete Mailing Address): Adriana Scopino, Human Sciences Press, 72 5th Ave, NY NY 10011
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.) (Item must be completed.)

Full Name	Complete Mailing Address
~~Human Sciences Press~~	~~72 5th Ave, NY NY 10011~~

8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities (If there are none, so state)

Full Name	Complete Mailing Address
~~Same~~	~~Same~~

9. For Completion by Nonprofit Organizations Authorized To Mail at Special Rates (DMM Section 424.12 only)
The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one)
(1) ☐ Has Not Changed During Preceding 12 Months (2) ☐ Has Changed During Preceding 12 Months (If changed, publisher must submit explanation of change with this statement.)

10. Extent and Nature of Circulation (See instructions on reverse side)	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies (Net Press Run)	600	500
B. Paid and/or Requested Circulation 1. Sales through dealers and carriers, street vendors and counter sales		
2. Mail Subscription (Paid and/or requested)	140	228
C. Total Paid and/or Requested Circulation (Sum of 10B1 and 10B2)	140	228
D. Free Distribution by Mail, Carrier or Other Means Samples, Complimentary, and Other Free Copies	10	10
E. Total Distribution (Sum of C and D)	150	238
F. Copies Not Distributed 1. Office use, left over, unaccounted, spoiled after printing	450	262
2. Return from News Agents		
G. TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	600	500

11. I certify that the statements made by me above are correct and complete
Signature and Title of Editor, Publisher, Business Manager, or Owner: Brue Hammond

PS Form 3526, Dec 1987 (See instructions on reverse)