Personality Disorders Among Pathological Gamblers

Alex Blaszczynski
Zachary Steel
University of New South Wales, Australia

The objective of this study was to investigate the prevalence of DSM-III-R diagnostic categories of personality disorders in pathological gamblers and to highlight the possible association between such disorders, psychological distress and selected forms of gambling. The Personality Disorders Questionnaire-Revised and a battery of psychometric measures were administered to a sample of 82 consecutive admissions to a behavioral treatment program for gambling problems at an impulse control disorders research unit in Sydney, Australia. Seventy-three percent of subjects were male. The total sample reported having gambled a mean of 15 years of which, on average, the last 6.4 years were associated with problems. Results indicated that the majority of subjects met diagnostic criteria for at least one Personality Disorder (93%), with an average of 4.6 personality disorders per subject. The majority of gamblers evidenced personality disorders from the Cluster B grouping with particularly high rates of borderline, histrionic, and narcissistic personality disorders which were found to be associated with high levels of impulsivity and affective instability. Antisocial personality disorder and narcissistic personality disorder were both found to be possible mediators of the severity of the problem gambling behaviours.

INTRODUCTION

Results of randomised controlled (McConaghy, Armstrong, Blaszczynski & Allcock, 1983; Blaszczynski, 1988; Blaszczynski, McConaghy & Frankova, 1991a, 1991b) and uncontrolled pathological gambling treatment outcome studies (Russo, Taber, McCormick &

Ramirez, 1984; Brown, 1985; Taber, McCormick, Russo, Adkins & Ramirez, 1987) have revealed success rates ranging between 7% and 80% depending upon samples selected and outcome criteria: abstinence, marked improvement or controlled gambling (Blaszczynski, 1994; Blaszczynski & Silove, 1995).

A review of the literature reveals that few studies have attempted to identify variables that predict response to treatment (Blaszczynski, 1994). Most have concentrated on the role and correlates of personality traits (McCormick, Taber, Kruedelbach & Russo, 1987; Zimmerman, Meeland & Krug, 1985; Blaszczynski, Wilson & McConaghy, 1986a) and similarities and co-morbidity of gambling and substance-abuse (Ramirez, McCormick, Russo & Taber, 1983; Blaszczynski, Buhrich & McConaghy, 1985; Lesieur, Blume & Zoppa, 1986). A number have reported on the prevalence of major psychiatric disorders (DSM-III AXIS-I disorders; A.P.A., 1980,1987). These have consistently reported high rates of co-morbid substance abuse and affective disorders, particularly depression and anxiety (Linden, Pope & Jonas, 1986; Lesieur et al., 1986).

Few studies have systematically described the prevalence and role of the Diagnostic and Statistical Manual of Mental Disorders (DSM) (APA, 1980; 1987; 1994) classification of AXIS-II Personality Disorders in samples of pathological gamblers. DSM uses a multiaxial system where Axis-II is used to specify personality traits or the use of habitual defence mechanisms. The investigation of personality disorders in treatment is important to achieve the following goals:

(a) assess the likelihood of compliance with treatment instructions,
(b) guide the modification of individual treatment objectives and expectations accordingly,
(c) alter outcome objectives (abstinence versus controlled gambling) appropriately,
(d) determine when to impose greater structure and limit-setting.

Personality disorders represent the more extreme end of the broad personality dimensional scale which characteristically involve maladaptive traits or patterns of behavior that cause friction or distress to the individual or those with whom they interact (Stone, 1993a). In

DSM-III-R, personality disorders are defined as enduring, inflexible and maladaptive patterns of perceiving, relating to and thinking about the environment and oneself, which cause significant functional impairment or subjective distress. In many cases, the individual's own recognition of dysfunctional traits and efforts to change remain insufficient to modify behaviors.

The presence of a comorbid personality disorder in an Axis I disorder may have a negative effect on prognosis (Reich & Green, 1991). Reich and Green (1991) and Stone (1993b) observed that patients with personality disorders commonly respond poorly to various intervention strategies. Personality-disordered individuals manifest a tendency to resist treatment and to dismiss responsibility for their own behaviors, preferring instead to externalise it by shifting blame onto others. Externalisation is common in the antisocial, narcissistic, borderline, paranoid and passive-aggressive categories. Pathological gamblers often exhibit similar traits: poor motivation for treatment, resistance in therapy, denial of problems and externalisation of blame.

Personality disordered individuals have poorer coping strategies in response to stress, a factor which is associated with an increase in severity of problems and relapse for presenting psychological symptoms. Volbrath, Alnaes, and Torgersen (1994) investigated the relationship between personality disorder and coping strategies in a sample of 240 psychiatric outpatients and found those with personality disorders had greater deficits in problem-focussed strategies and an excess of dysfunctional coping styles. Patients showed an inability to manage stressful situations and a tendency to utilise less active coping methods and had less adequate interpersonal skills and social support systems in resolving difficulties. That the presence of a personality disorder may also have an influential role to play in pathological gambling has been suggested by Kruedelbach, McCormick, Schulz and Grueneich (1993). As part of a study on impulsivity and coping styles in Borderline Personality disordered substance abusers, these authors administered the Personality Interview Questionnaire and the South Oaks Gambling Screen (SOGS) to 123 addicts attending a Veteran Administration facility. In reference to gambling, the 34 diagnosed Borderline Personality disordered subjects obtained significantly higher mean scores on the SOGS, suggesting a more disturbed pattern of gambling behavior as compared to non-Borderline substance abusers. Borderline Personality subjects obtained a mean SOGS score

of 3.18 compared to 1.17 for non-Borderline subjects. Subjects with Borderline Personality also evidenced higher levels of impulsivity across differing psychometric measures.

It would appear reasonable to argue that the presence of AXIS-II psychopathology is a potential vulnerability factor for impaired control and for the development of patterns of pathological gambling behaviors in the context of ecologically relevant conditions, namely exposure to gambling, early wins, subjective arousal associated with wins, substance abuse and depression. Personality disorders may also impede response to treatment.

DSM-III-R describes three personality disorder clusters;

1) Cluster A—the "Odd Cluster": individuals with these disorders appear odd or eccentric.

- Paranoid
- Schizoid
- Schizotypal

2) Cluster B—the "Dramatic Cluster" describing individuals with these disorders as dramatic, emotional, erratic

- Antisocial
- Borderline
- Histrionic
- Narcissistic

3) Cluster C—the "Anxious Cluster", individuals typified as anxious, fearful and avoidant.

- Avoidant
- Dependent
- Obsessive-Compulsive
- Passive aggressive

Two additional categories, Self-defeating and Sadistic Personality Disorders, are listed within the appendices of DSM-III-R as Proposed Diagnostic Categories Needing Further Study but, given their questionable status as valid disorders, will not be analysed in this paper.

Gender differences are found across the personality disorders

with histrionic and dependent personalities being more likely to be diagnosed in women and compulsive, antisocial and schizoid personalities in males (Stone, 1993a). Gender differences favouring males are found amongst samples of pathological gamblers, particularly with certain forms of gambling. Consequently, it becomes important to consider differences in sex-specific prevalence rates for the personality disorders when interpreting the possible relationship between gambling and personality disorders. A few studies have investigated the role of personality disorders in pathological gambling (see Table 1).

Lesieur and Blume (1990) assessed the presence of AXIS-II disorders in gamblers identified in an inpatient population of 105 psychiatric patients. Of the seven pathological gamblers identified, five received an Axis II diagnosis, with subjects meeting either compulsive, schizotypal, unspecified or mixed borderline and passive aggressive disorders.

Table 1
Reported AXIS-II Disorders in Pathological Gambling

Author	Personality Disorders (PD)	
Lesieur & Blume 1990; N = 7	71%	Any personality disorder
	14%	Compulsive PD
	14%	Passive Agg. / Borderline
	28%	Schizotypal
	14%	Unspecified
Blaszczynski & McConaghy, 1992; N = 306	15%	Antisocial
Bland et al., 1993; N = 30	40%	Antisocial
Bellaire & Caspari, 1992; N = 51	49%	Unspecified
Specker et al., 1996; N = 40	25%	Any personality disorder
	2.5%	Paranoid
	2.5%	Schizoid
	1%	Borderline
	5%	Narcissistic
	12.5%	Avoidant
	5%	Obsessive-compulsive

In an Australian Institute of Criminology-funded study, Blaszczynski and McConaghy (1992) found 60% of a sample of 306 pathological gamblers admitted to the commission of a criminal act. However, only 15% met the criteria for Antisocial Personality Disorder. Results of the study suggested that the presence of an Antisocial Personality Disorder was associated with greater levels of dysfunction across a range of non-gambling related areas of psychosocial functioning.

Bland, Newman, Orn and Stebelsky (1993) identified 30 pathological gamblers in a community survey of 7,214 individuals. They found high rates of general psychiatric co-morbidity with 40% of their sample of pathological gamblers meeting criteria for Antisocial Personality Disorder. High rates of spouse (23.3%) and child abuse (16.7%) were found but the precise relationship between these behaviors, substance abuse and Personality Disorder was not evaluated.

Most recently, Specker, Carlson, Edmonson, Johnson and Marcotte (1996) assessed the level of Axis I and II disorders using the Structured Clinical Interview for DSM-III in a volunteer sample of 40 problem gamblers attending an outpatient treatment program (representing 60% of gamblers receiving treatment at the clinic) in Minnesota. Twenty-five percent were found to meet criteria for an Axis II disorder with 5% in Cluster A, 7% Cluster B, and 17.5% Cluster C. Comparisons with Axis II disorders in a volunteer community sample (n = 62) indicated that pathological gamblers displayed elevated rates of Axis II disorders only with respect to avoidant personality disorder.

This paper aims to describe some findings on the prevalence rate of personality disorders in a cohort of consecutive admissions to a behavioral pathological gambling treatment program in a university-based teaching hospital between July 1993 to June 1995. The essential long-term purpose of the research project is to determine the nature and prevalence of personality disorders in gamblers and the relationship of these factors to treatment outcome.

A second aim of the paper is to investigate the association between manifest personality disorders and measures of the severity of pathological gambling behaviour, type of gambling selected and associated psychological distress in a sample of pathological gamblers.

With respect to this aim, it is hypothesised that the severity of pathological gambling is directly related to the prevalence of personality disorders and that at the extreme end of the gambling severity

spectrum, personality disorders with the Antisocial, Borderline, Narcissistic and Histrionic personality types will be over-represented. It is also hypothesised, in line with the suggestion of Blaszczynski, Winter and McConaghy's (1986b), that gamblers who engage in different types of gambling will exhibit differences in the manifestation of personality disorders.

METHOD

Subjects

Eighty-two of 100 consecutive pathological gamblers seeking treatment at the Impulse Disorders Research Unit to control their excessive gambling urges and behaviours were included in the study. An imaginal desensitisation procedure (McConaghy et al., 1983) formed the major component of behavioural treatment received. Study inclusion criteria included completion of the Personality Disorder Questionnaire-Revised (see procedure). All subjects met DSM-III-R diagnostic criteria for pathological gambling as determined by the first author at initial assessment. The DSM-IV (A.P.A., 1994) was introduced after commencement of the study. For consistency, therefore, the use of DSM-III-R in assessment was continued.

The mean age of the sample was 38 years (SD = 11.60 years; range = 19 to 64 years). Seventy-three per cent were male and 27% were female. Thirty-four (41%) were married or in a partnership, 21 (26%) were separated or divorced, and 27 (33%) were single. Subjects gambled an average of 15.4 years (SD = 10.9 years; range = 1 to 43 years) of which, on average, the last 6.4 years (SD = 5.5 years; range = 6 months to 25 years) were associated with problems. Fifty-eight percent of subjects reported slot-machines as the main form of problematic gambling, 25% horse-racing, and 17% both (other forms of gambling such as casino betting were not readily available at the time of the study). Participants gambled a mean of 3.5 days per week (SD = 1.5 days), incurring an estimated median weekly out-of-pocket loss of Aus$250 (range = Aus$0 to Aus$4,000). At presentation, the gambling-related debt was a median Aus$2,000 (range Aus$0 to Aus$400,000).

The relative strength of their urge to gamble and their estimated

degree of self-control over such urges was rated on a ten-point visual-analogue scale. The mean strength of urge was rated as 8.71 (SD = 1.84) and the degree of self-control was rated at a mean of 2.45 (SD = 2.03) where the anchor point of one represented 'not at all' and 10 represented 'very strong' for both scales.

Measures

1. *Personality Disorder Questionnaire-Revised (PDQ-R modified)* (Dowson, 1992). The modified version of Hyler's (Hyler, Reider, Williams, Spitzer, Hendler & Lyons, 1988; Hyler, Skodol, Oldham, Kellman, & Doidge, 1992) PDQ-R self-report true/false instrument, which allows for the categorical measurement of DSM-III-R AXIS-II personality disorders as either present or absent, was used in this study.

Several studies have compared the PDQ-R with other diagnostic instruments measuring personality disorders and have found the instrument to be an efficient screening measure with high sensitivity and a moderate specificity (Hyler, Skodol, Kellman, Oldham & Rosnick, 1990). While the PDQ-R identifies more false positive cases of personality disorders, it does have a lower rate of false negatives for diagnosing these. The PDQ-R shows a tendency to diagnose more concurrent overlapping personality disorders as compared to other comparable clinical measures, for example the SCID-II and the Personality Disorder Examination. The PDQ-R diagnoses an average of 5.6 (SD = 6) concurrent personality disorders per subject (Hyler et al., 1988; Hyler et al., 1992). However, consensus suggests the main benefit of the instrument to be its cost-benefit and ease of administration in outpatient settings.

2. *The South Oaks Gambling Screen (SOGS)* (Lesieur & Blume, 1987). The SOGS is a 20-item questionnaire based on DSM-III criteria for pathological gambling. The scale has been widely used in pathological gambling research and has evidence to support its reliability and validity in clinical populations. Although the SOGS has been primarily employed as a screening device to identify pathological gamblers, the present study uses the SOGS as an index of pathological gambling severity amongst already diagnosed pathological gamblers.

3. *Eysenck Impulsivity Scale* (Eysenck & Eysenck, 1977). This 43-item self-report measure assesses a broad construct of impulsivity, consid-

ered to be composed of four factors; impulsiveness (Imp), non-planning (Np), risk-taking (Rt) and liveliness (Liv). The impulsivity subscale is regarded a measure of 'narrow impulsivity'. Attesting to the primacy of the narrow measure of impulsivity, Eysenck, Pearson, Easting and Allsopp (1985) removed the other three subscales from the most recent version of the impulsiveness questionnaire. Narrow impulsiveness is regarded as the more pathological of the traits correlating with the Psychoticism and Neuroticism scales of the Eysenck Personality Questionnaire, and the Dysfunctional Impulsivity scale of Dickman (1990). This measure was chosen because the narrow impulsivity sub-scale has increasingly become the gold standard that is used to validate other measures (Gerbing, Ahadi & Patton, 1987; Barratt, 1985) and because it shows good inter-correlations with other measures of impulsivity (Dickman, 1990).

4. *Beck Depression Inventory (BDI)* (Beck, Ward, Mendelson, Mock & Erlbaugh, 1961; Beck & Steer, 1987). The BDI is a 21-item clinically derived self-assessment scale measuring the degree of state depression conceptualised as "an abnormal state of the organism manifested by signs and symptoms such as low subjective mood, pessimism and nihilistic attitudes, loss of spontaneity and specific negative signs " (Beck, 1967, p. 202).

5. *Beck Anxiety Inventory (BAI)* (Beck & Steer, 1990) The BAI is a 21-item clinically derived self-assessment scale measuring the degree of state anxiety. The scale has been constructed to maximally discriminate between symptoms of anxiety and depression (Beck, Epstein, Brown, & Steer, 1988).

Procedure

At the initial interview each subject was administered a semi-structured schedule designed to obtain demographic information, a detailed history of gambling, and a battery of self-report psychological measures including the Personality Disorders Questionnaire (PDQ-R), the South Oaks Gambling Screen, the Beck Depression Inventory, the Beck Anxiety Inventory and the Eysenck Impulsivity Scale. To reduce the length of the initial assessment, participants were requested to complete some of the self-report psychological measures at home and return them to the clinic by mail.

RESULTS

Of the sample, 76 (93%) of the 82 subjects met diagnostic criteria for one of the personality disorders with multiple overlapping personality disorders per subject more the rule than the exception. The average number of diagnosed personality disorders for each subject was 4.73 (SD = 2.84). This figure is comparable to the range of the mean number of diagnosed personality disorders of between 3.8 to 5.6 per person reported for psychiatric populations by Hyler et al. (1992) and Dowson (1992). The number of subjects meeting each specific personality disorder for each of the three clusters is shown in Table 2.

A series of 2 by 2 chi square contrasts were carried out to determine differences between the number of pathological gamblers within each of the personality disorder clusters. As predicted, there was a higher proportion of pathological gamblers to be found within the so-called 'dramatic' Cluster B category than either Cluster A (X^2 = 10.85,

Table 2
PDQ-R Derived Personality Disorders Found in 82
Pathological Gamblers

Cluster	Personality Disorder	Number (%) of Gamblers with PD	
Cluster A:			
	Paranoid	33	(40.2)
	Schizoid	17	(20.7)
	Schizotypal	31	(37.8)
Cluster B:			
	Antisocial	24	(29.3)
	Borderline	57	(69.5)
	Histrionic	54	(65.9)
	Narcissistic	47	(57.3)
Cluster C:			
	Avoidant	30	(36.6)
	Dependent	40	(48.8)
	Obsessive-Compulsive	26	(31.7)
	Passive-Aggressive	29	(35.4)

df = 1, p < .001) or Cluster C (X^2 = 9.76, df = 1, p = .002) categories. This category is typified by characteristics of impulsivity, disinhibition, affective instability manifested by marked shifts in mood in response to environmental stimuli, personal rejection, criticisms and ego-threat and intolerance for frustration. There was also a greater proportion of pathological gamblers meeting any one of the Cluster C personality disorders than Cluster A (X^2 = 8.17, df = 1, p = .004).

Gender difference in the distribution of personality disorders were found with respect to Cluster C. Specifically, males had higher rates of obsessive-compulsive personality disorder (38% vs 14%, X^2 = 4.5, df = 1, p = .03) and passive-aggressive disorder (43% vs 14%, X^2 = 6.2, df = 1, p = .012) and females had higher rates of dependent personality disorder (68% vs 42%, X^2 = 4.5, df = 1, p = .03). Post-hoc power analysis showed a 77% chance of detecting a moderate gender effect [w = .3] and a 99% chance of detecting a large gender effect [w = .5] (Cohen, 1988) indicating that the absence of Cluster A and B gender differences was not due to inadequate power.

The difference in the proportion of subjects meeting criteria for each personality disorder between subjects who participated exclusively in either horse-race and slot-machine play was also explored. Subjects who engaged in both forms of gambling (n = 14) were excluded. Slot-machine gamblers had a significantly higher rate of paranoid personality disorder (46%) than horse-race gamblers (15%) (X^2 = 5.77, df = 1, p = .02). Because of the large discrepancy in sex ratios between the two forms of gambling (90% of female pathological gamblers engaged solely in slot-machine gambling) this analysis was recalculated excluding female pathological gamblers[1] (X^2 = 5.68, df = 1, p = .051) which marginally failed to reach statistical significance. It should be noted that this result might reflect the drop in statistical power from not including females rather than providing evidence of a true sex confound.

As hypothesised, there was a significant correlation between the number of personality disorders and the SOGS score as a measure of the severity of problem gambling behaviors (r = .31, F = 8.2, p = .005). In Table 3, the mean SOGS score for those pathological gamblers meeting criteria for each of the personality disorders and those

Table 3
Mean and Standard Deviation of SOGS Scores for Personality
Disorder Categories in 82 Pathological Gamblers

Cluster	Personality Disorder	Mean SOGS: PD Absent	Mean SOGS: PD Present
Cluster A:			
	Paranoid	12.12 (3.57)	12.88 (3.35)
	Schizoid	12.48 (3.52)	12.24 (3.44)
	Schizotypal	11.88 (3.55)	13.42 (3.27)
Cluster B:			
	Antisocial	11.72 (3.47)	14.13 (2.92)**
	Borderline	11.33 (3.58)	12.81 (3.35)
	Histrionic	11.71 (3.29)	12.80 (3.55)
	Narcissistic	11.34 (3.23)	13.23 (3.48)**
Cluster C:			
	Avoidant	11.98 (3.56)	13.20 (3.33)
	Dependent	11.83 (3.61)	13.05 (3.27)
	Obsessive-Compulsive	12.20 (3.51)	12.92 (3.44)
	Passive-Aggressive	12.04 (3.37)	13.14 (3.63)

**Significant at .05.

who did not is displayed. Pathological gamblers receiving a diagnosis of two of the Cluster B disorders, namely antisocial personality disorder ($F = 8.85$, df = 1,80, $p = .004$) and narcissistic personality disorder ($F = 6.3$, df = 1,80, $p = .014$) displayed a greater severity of problem gambling. This was reflected in a higher SOGS score for Cluster B personality disorders in general ($F = 4.91$, df = 1,80, $p = .029$), but not for either Cluster A ($F = 1.2$, df = 1,80, $p = > .05$) or Cluster C ($F = 2.3$, df = 1,80, $p > .05$) spectrum personality disorders. There were no differences between male and female SOG scores ($F = 0.14$, df = 1,80, $p > .05$) or between horse-race and slot-machine players ($F = 2.07$, df = 1,66. $p > .05$).

Table 4 presents the mean Eysenck narrow Impulsivity Scale scores for PDQ-R personality disorder categories. Heightened impulsivity scores were characteristic of the majority of personality disorders including paranoid ($F = 9.29$, df = 1,80, $p = .0031$) and schizotypal

Table 4

Mean and Standard Deviation Eysenck Impulsivity Scale Narrow Impulsivity Scale Scores for Personality Disorder Categories in 82 Pathological Gamblers

Cluster	Personality Disorder	Mean EIS Imp: PD Absent		Mean EIS Imp: PD Present	
Cluster A:					
	Paranoid	7.43	3.48	9.73	3.15**
	Schizoid	7.98	3.45	9.76	3.49
	Schizotypal	7.59	3.17	9.52	3.78**
Cluster B:					
	Antisocial	7.52	3.51	10.38	2.65**
	Borderline	5.96	3.06	9.28	3.21**
	Histrionic	6.54	3.45	9.30	3.19**
	Narcissistic	7.03	3.41	9.34	3.29**
Cluster C:					
	Avoidant	7.37	3.65	9.90	2.62**
	Dependent	7.62	3.53	9.13	3.37
	Obsessive-Compulsive	8.07	3.43	8.96	3.69
	Passive-Aggressive	7.28	3.31	10.31	3.05**

**Significant at .05.

($F=6.02$, $df=1,80$, $p=.0164$) personality disorders in Cluster A; antisocial ($F=12.86$, $df=1,80$, $p=.0006$), borderline ($F=18.58$, $df=1,80$, $p<.0001$), histrionic ($F=13.07$, $df=1,80$, $p=.0005$) and narcissistic ($F=9.60$, $df=1,80$, $p=.0027$) personality disorders from Cluster B; and avoidant ($F=11.00$, $df=1,80$, $p=.0014$) and passive-aggressive ($F=16.59$, $df=1,80$, $p<.0001$) personality disorders form Cluster C.

Data were also analysed for mean depression and anxiety scores from the BDI and BAI respectively for PDQ-R personality disorders (see Table 5). Schizotypal personality disorder from Cluster A was characterised by both heightened depression ($F=17.12$, $df=1,80$, $p<.0001$) and anxiety ($F=8.01$, $df=1,80$, $p=.0061$). In Cluster B borderline (BDI, $F=16.56$, $df=1,80$, $p<.0001$; BAI, $F=10.53$, $df=1,80$, $p=.0018$) and histrionic (BDI, $F=4.78$, $df=1,80$, $p=.0322$; BAI, 4.27,

Table 5

**Mean and Standard Deviation of Beck Depression and
Anxiety Inventories for Personality Disorder Categories
in 82 Pathological Gamblers**

Personality Disorder	Mean BDI: PD Absent		Mean BDI: PD Present		Mean BAI: PD Absent		Mean BAI: PD Present	
Cluster A:								
Paranoid	20.00	9.66	22.90	7.81	18.33	12.77	22.83	16.43
Schizoid	20.27	8.97	24.24	8.65	20.00	15.14	20.88	12.47
Schizotypal	17.78	7.41	25.90	9.11*	16.39	12.24	25.80	15.78*
Cluster B:								
Antisocial	20.06	9.41	23.65	7.65	19.73	15.29	21.22	12.82
Borderline	14.68	6.94	23.55	8.53*	11.53	7.61	23.32	15.12*
Histrionic	17.91	9.78	22.76	8.26*	15.17	14.53	22.57	13.97*
Narcissistic	18.78	9.55	22.67	8.42	15.30	13.58	23.16	14.34*
Cluster C:								
Avoidant	20.61	9.79	22.14	7.65	17.89	13.53	23.86	15.39
Dependent	17.00	7.97	24.97	8.23*	13.50	9.81	26.21	15.42*
Obsessive-Compulsive	21.18	9.62	21.27	7.58	20.36	14.59	19.86	14.55
Passive-Aggressive	22.56	7.49	22.56	7.49	18.72	14.14	23.00	14.97

*Significant at .05.

df = 1,80,p = .0423) personality disorders were characterised by heightened depression and anxiety while narcissistic personality disorder was characterised by heightened anxiety (F = 5.27, df = 1,80, p = .0246). In Cluster C dependent personality disorder was characterised by heightened depression (F = 17.35, df = 1,80, P < .0001) and anxiety (F = 16.35, df = 1,80, p < .0001).

Finally, the high rate of personality disorders did not appear to be accounted for by the presence of substance abuse. Thirteen (16%) pathological gamblers self-reported alcohol to be a problem with six having sought treatment. With respect to illicit drugs, four (5%) reported regular, and 18 (22%) occasional use. Four subjects admitted having sought treatment for drug-related problems.

DISCUSSION

A number of studies have alluded to the presence of Antisocial Personality and other personality disorders in clinical and community

samples of pathological gamblers (Blaszczynski & McConaghy, 1992; Bland et al., 1993) but their relevance to treatment outcome or other clinical demographic features have generally been ignored. Essentially, DSM-III is a multiaxial classificatory system in which AXIS I evaluates the presence of Clinical Syndromes, and AXIS-II, that of the Developmental and Personality Disorders. Multiple diagnosis is possible both within and between axes. In its earlier version, DSM-III (A.P.A., 1980), a diagnosis of pathological gambling was excluded where gambling was considered to be secondary to an AXIS-I disorder such as schizophrenia or mania, or in presence of an AXIS-II, Antisocial Personality Disorder. No reference was made to the issue of categories of personality disorders and their relevance to gambling although a number of references have been made to narcissistic features as characteristic of a cohort of gamblers.

Subsequently, in DSM-III-R (A.P.A., 1987), the exclusion criteria were modified such that the antisocial personality disorder restriction was removed. The differential diagnosis from mania and hypomanic episodes remained as it does essentially in its latest edition in DSM-IV (A.P.A., 1994). Lesieur (1993) argued logically and validly that where an individual exhibited the co-occurrence of pathological gambling and another disorder, be it substance abuse, an affective illness or personality disorder, both disorders should be diagnosed.

In DSM-IV (1994) increased rates of antisocial, narcissistic and borderline disorders are offered as possible associated features and disorders of pathological gambling.

There is a growing body of evidence to suggest that the presence of AXIS-II personality disorders predict response to therapeutic interventions (Reich & Green, 1991). In pathological gambling, limited research effort has been invested in determining the prevalence and nature of personality disorders or the impact of such disorders on propensity to impaired control, substance abuse or as a predictor variable for long term response to treatment.

The results of this study indicate that pathological gamblers as a group exhibit rates of personality disorders that are comparable to those found in general psychiatric patient populations. Subjects in the study were found to meet, on average, criteria for 4.6 DSM-III personality disorders, with 92% receiving a diagnosis of at least one disorder. Although rates for the presence of every personality disorder exceeded 20% in the current sample, the main personality disorders

found were those within the Cluster B spectrum, namely borderline (70%) histrionic (66%) and narcissistic (57%) personality disorders. The rate of antisocial personality disorder amongst this sample was 29%, a finding which is consistent with earlier research (Bland et al., 1993; Blaszczynski & McConaghy, 1992).

The high levels of personality disorders obtained in the current study stand in contrast to the findings of Specker et al. (1996). They reported substantially lower levels of personality disorder with only 25% of a sample of 40 volunteer problem gamblers (representing 60% of gamblers receiving treatment at an outpatient treatment program) meeting criteria for an Axis II disorder. Unlike the current study, Specker et al. (1996) also did not find evidence of high levels of Cluster B spectrum personality disorders. A number of factors may have contributed to the differences between the two studies. Firstly, the two studies used different assessment procedures to identify Axis II disorders, with the self report PDQ-R employed in the current being associated with a higher level of case identification compared to structured interviews (Hyler et al., 1990) such as the SCID, which was employed in the Specker et al. (1996) study. A second factor which may account for the difference between the two studies is that the problem gamblers included in Specker et al. (1996) study had developed problem gambling behaviours within the two years prior to the study. With a mean age of 41 years these gamblers may be considered as late-onset problem gamblers. In contrast, the current sample was younger (mean = 38 years) and reported problematic levels of gambling for a mean of 6.4 years with a range of 6 months to 25 years. High rates of comorbid personality disorder may well be associated with early onset of problem gambling behaviours. Finally, the Specker et al. (1996) study included a volunteer sample, with 40% of problem gamblers not participating in the study. It is possible that rates of Axis II disorders may have differed between the volunteer and non-volunteer samples.

Despite continuing ambiguities about the prevalence of personality disorders amongst pathological gamblers, the present paper clearly demonstrates that problem gambling severity and associated psychopathology is related to the presence of personality disorder features. Pathological gamblers diagnosed with any of the Cluster B personality disorders were found to have heightened levels of Eysenck impulsivity scores, while gamblers with borderline and histrionic personality disorders had heightened levels of anxiety and depression,

placing them in the moderate-severe range as measured by the Beck anxiety and depression inventories. Gamblers with narcissistic personality disorder displayed heightened anxiety. These results support the hypothesis that Cluster B personality disorders, which show a high level of prevalence amongst pathological gamblers, are characterised by high levels of impulsivity and affective instability (Blaszczynski, Steel & McConaghy, 1997).

Those gamblers with a higher number of personality disorders displayed higher scores on the South Oaks Gambling Screen. This relationship was displayed by Cluster B personality disorders but not by Cluster A or C disorders. Specifically, gamblers receiving a diagnosis of antisocial personality disorder or narcissistic personality disorder were found to have a greater severity of gambling-related problems as assessed by the South Oaks Gambling Screen. Consequently, while antisocial personality disorder was not one of the most prevalent personality disorders it was nevertheless a salient predictor of disturbed gambling behaviours, supporting the findings of previous research (Blaszczynski & McConaghy, 1992; Blaszczynski et al., 1997). Although not previously the subject of systematic research, the higher levels of problem gambling displayed by those gamblers with narcissistic personality disorder suggests that narcissistic personality traits are also an important mediator of pathological gambling behaviours, a finding that warrants further investigation, particularly with respect to possible clinical implications.

The results of the current study were unable to confirm or disconfirm Blaszczynski et al.'s (1986b) suggestion that gamblers select specific forms of gambling subject to their emotional needs. The hypothesis developed by Blaszczynski et al. (1986b) indicated that the drive to escape emotional stresses in individuals with anxiety and/or poor interpersonal skills will lead them to gravitate toward isolated activities such as slot-machine play, whereas impulsive, ego-centric and dramatic personalities unable to tolerate boredom boost their mood and self-esteem through horse-race activities. In partial support of this hypothesis, slot machine gamblers displayed a higher rate of paranoid personality disorder compared to those gamblers engaging in horse race gambling, a finding however, which marginally failed to reach statistical significance when excluding female gamblers from the analysis. No differences were detected between slot machine gamblers and horse race gamblers with respect to the severity of the problem gambling behaviour.

The current study is not without limitations. The sample consisted of pathological gamblers seeking treatment and results may not necessarily be applicable to other subgroups of pathological gamblers. The low rate of substance abuse compared to other studies in the literature may reflect a bias in type of patients seeking treatment from a hospital-based university research clinic. In addition, results were limited to 82 out of an initial pool of 100 subjects. Nevertheless, even assuming that the 18 non-responders were without personality disorders, the findings of this study still indicate an exceptionally high rate of personality disorders among this group.

Consequently, the results of the current study indicate that pathological gamblers exhibit rates of personality disorders that are comparable to those found in general psychiatric patient populations with a average number of 4.6 DSM-III personality disorders per subject. The majority of gamblers evidenced personality disorders from the Cluster B grouping, with particularly high rates of borderline, histrionic, and narcissistic, personality disorders. These were found to be associated with high levels of impulsivity and affective instability. Antisocial personality disorder and narcissistic personality disorder were both found to be possible mediators in the severity of the problem gambling behaviours displayed by pathological gamblers.

Further research needs to be conducted to determine the influence of personality disorders in populations of pathological gambling. For example, does the presence of impulsivity and affective instability associated with some personality disorders reduce compliance with treatment as manifested by higher rates of refusal to enter a program, attrition during the course of treatment or failure to attend follow-up interviews? Are those with histrionic and narcissistic traits more likely to engage in manipulative strategies to have others bail them out and thus become less motivated to continue therapy over the longer timeframe? Do pathological gamblers manifesting narcissistic and antisocial personality disorders hold unrealistic expectations over their ability to pursue and maintain patterns of controlled gambling? Are these pathological gamblers at more risk of terminating therapy in response to ego threatening episodes of impaired control? In respect of borderline personality disorders characterised by affective instability and impulsivity, it could be argued that greater attention needs to be directed toward setting stringent behavioral limits and expectations,

greater tolerance for poor compliance and longer term supportive therapy.

It is argued that the results of the present study support the need for more attention to be paid to the unravelling of the role of personality disorders in the management of pathological gambling.

REFERENCES

American Psychiatric Association (1980). *Diagnostic and statistical manual of mental disorders, Third edition*, Washington, D.C., (pp.291–293).

American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders, Third edition (Revised)*, Washington, D.C., (pp.324–325).

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders, Fourth edition*, Washington, D.C., (pp. 615–618).

Barratt, E.S. (1985). Impulsiveness subtraits: Arousal and information processing. In J.T. Spence & C.E. Itard (Eds.) *Motivation, emotions and personality*. (pp.137–146). Amsterdam: Elsevier.

Beck, A., Ward, C. Mendelson, M., Mock, J. & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561–571.

Beck, A.T. (1967). *Depression: Causes and treatment*. Philadelphia: University of Pennsylvania Press.

Beck, A.T. & Steer, R.A. (1987). *Beck depression inventory manual*. New York: Harcourt Brace Jovanovich.

Beck, A.T. & Steer, R.A. (1990) *Beck anxiety inventory manual*. New York: Harcourt Brace Jovanovich.

Beck, A.T., Epstein, N., Brown, G. & Steer, R.A. (1988) An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology*, 56, 893–897.

Bellaire, W. & Caspari, D. (1992). Diagnosis and therapy of male gamblers in a university psychiatric hospital. *Journal of Gambling Studies*, 8, 143–150.

Bland, R., Newman, S., Orn, H. & Stebelsky, G. (1993). Epidemiology of pathological gambling in Edmonton. *Canadian Journal of Psychiatry*, 38, 108–112.

Blaszczynski, A. (1988). Clinical studies in pathological gambling. Unpublished doctoral dissertation, University of New South Wales, Australia.

Blaszczynski, A. (1994). Juego patologico: Una revision de los tratamientos. *Psicologia Conductual*, 1, 409–440.

Blaszczynski, A. & McConaghy, N. (1992). Pathological gambling and criminal behaviours. *Report to the Australian Institute of Criminology*, Canberra: Criminology Research Council.

Blaszczynski, A. & Silove, D. (1995). Cognitive behavioral therapies for pathological gambling. *Journal of Gambling Studies*, 11, 195–220.

Blaszczynski, A., Winter, S. & McConaghy, N. (1986b). Plasma endorphin levels in pathological gamblers. *Journal of Gambling Behavior*, 2, 3–14.

Blaszczynski, A., McConaghy, N. & Frankova, A. (1991a). Control versus abstinence in the treatment of pathological gambling: A two to nine year follow-up. *British Journal of Addictions*, 86, 299–306.

Blaszczynski, A., McConaghy, N. & Frankova, A. (1991b). A comparison of relapse and non-relapsed abstinent pathological gamblers following behavioural treatment. *British Journal of Addictions*, 86, 1485–1489.

Blaszczynski, A., Buhrich, N. & McConaghy, N. (1985). Pathological gamblers, heroin addicts and controls compared on the EPQ 'Addictions Scale'. *British Journal of Addictions*, 80, 315–319.

Blaszczynski, A., Wilson, A. & McConaghy, N. (1986a). Sensation seeking and pathological gambling. *British Journal of Addictions*, 81, 113–117.

Blaszczynski, A.P., Steel, Z.P. and McConaghy, N. (1997). Impulsivity in pathological gambling: The antisocial impulsivist. *Addictions*, 92, 75–87.

Brown, R.I.F. (1985). The effectiveness of Gamblers Anonymous. In W.E. Eadington (Ed.) *Proceedings of the Sixth National Conference on Gambling and Risk Taking*, Reno: University of Nevada.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences (2nd edition)*. New York: Lawrence Erlbaum.

Dickman, S.J. (1990). Functional and dysfunctional impulsivity: Personality and cognitive correlates. *Journal of Personality and Social Psychology*, 58, 95–102.

Dowson, J. (1992). Assessment of DSM-III personality disorder by self-report questionnaire: The role of informants and screening test for co-morbid personality disorders. *Journal of Psychiatry*, 161, 344–352.

Eysenck, H. & Eysenck, S. (1977). The place of impulsiveness in a dimensional system of personality description. *British Journal of Clinical Psychology*, 16, 57–68.

Eysenck, S.B., Pearson, P.R., Easting, G. & Allsopp, J.F. (1985). Age norms for impulsiveness, venturesomeness and empathy in adults. *Personality and Individual Differences*, 6, 613–619.

Gerbing, D.W., Ahadi, S.A.& Patton, J.H. (1987). Toward a conceptualisation of impulsivity: Components across the behavioral and self-report domains. *Multivariate Behavioral Research*, 22, 357–397.

Hyler, S., Rieder, R., Williams, J., Spitzer, R., Hendler, J. & Lyons, M. (1988). The personality diagnostic questionnaire: Development and preliminary results. *Journal of Personality Disorders*, 2, 229–237.

Hyler, S., Skodol, A., Kellman, H., Oldham, J. & Rosnick, L. (1990). Validity of the Personality Diagnostic Questionnaire—Revised: A comparison of two structured interviews. *American Journal of Psychiatry*, 147, 1043–1048.

Hyler, S., Skodol, A., Oldham, J., Kellman, H. & Doidge, N. (1992). Validity of the Personality Diagnostic Questionnaire—Revised: A replication in an outpatient sample. *Comprehensive Psychiatry*, 33, 73–77.

Kruedelbach, N., McCormick, R., Schulz, S. & Grueneich, C. (1993). Impulsivity, coping styles and triggers for craving in substance abusers with borderline personality disorders. *Journal of Personality Disorders*, 7, 214–223.

Lesieur, H. (1993). Prevalencia, caracteristicas y tratmientos de los jugadores patologicos en Estados Unidos. *Psicologia Conductual*, 1, 339–407.

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

Lesieur, H. & Blume, S. (1990). Characteristics of pathological gamblers identified among patients on a psychiatric admission service. *Hospital and Community Psychiatry*, 41, 1009–1012.

Lesieur, H., Blume, S. & Zoppa, R. (1986). Alcoholism, drug abuse and gambling. *Alcoholism: Clinical and Experimental Research*, 10, 33–38.

Linden, R., Pope, H. & Jonas, J. (1986). Pathological gambling and major affective disorder: preliminary findings. *Journal of Clinical Psychiatry*, 47, 201–203.

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

McCormick, R., Taber, J., Kruedelbach, N. & Russo, A. (1987). Personality profiles in hospitalised pathological gamblers: The California Personality Inventory. *Journal of Clinical Psychology*, 43, 521–527.

Ramirez, L., McCormick, R., Russo, A. & Taber, J. (1983). Patterns of substance abuse in pathological gamblers undergoing treatment. *Addictive Behaviors*, 8, 425–428.

Reich, J. & Green, A. (1991). Effects of personality disorders on outcome of treatment. *Journal of Nervous and Mental Disease*, 179, 74–82.

Russo, A., Taber, J., McCormick, R. & Ramirez, L. (1984). An outcome study of an inpatient treatment program for pathological gamblers. *Hospital and Community Psychiatry*, 35, 823–827.

Specker, S.M., Carlson, G.A., Edmonson, K.M., Johnson, P.E. & Marcotte, M. (1996). Psychopathology in pathological gamblers seeking treatment. *Journal of Gambling Studies*, 12, 67–82.

Stone, M. (1993a). *Abnormalities of personality*. New York: W.W. Norton & Co.

Stone, M. (1993b). Long term outcome in personality disorders. *British Journal of Psychiatry*, 162, 299–313.

Taber, J., McCormick, R., Russo, A., Adkins, B. & Ramirez, L. (1987). Follow-up of pathological gamblers after treatment. *American Journal of Psychiatry*, 144, 757–761.

Volbrath, M., Alneas, R. & Torgersen, S. (1994). Coping and MCMI-II personality disorders. *Journal of Personality Disorders*, 8, 53–62.

Zimmerman, M., Meeland, T. & Krug, S. (1985). Measurement and structure of pathological gambling behavior. *Journal of Personality Assessment*, 49, 76–81.