PATHOLOGICAL GAMBLING AND CRIMINAL BEHAVIOUR

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This research was carried out when Prof. A. Blaszczynski was Senior Clinical Psychologist at the Psychiatric Unit, The Prince of Wales Hospital, Randwick NSW.

FOREWORD

Now more than fifteen years have elapsed since I contacted Nathaniel (Neil) McConaghy and asked his advice about behavioural treatments for gamblers. I made the approach because of my own interest in gambling as a "punter" had led to my psychiatric colleagues mistakenly presuming I knew something about problem gambling and so referring me patients. They were wrong in the presumption and I rapidly realised the need to read further.

Such reading was not difficult. Surprisingly little had been written about what was an emerging problem, becoming more obvious with a proliferation of gambling opportunities world wide. One balance the conclusions of that time were that behaviour therapy offered the most cost - effective option that was able to be followed up - Gamblers Anonymous existing as an established "helpful" entity but not able to be scientifically assessed by nature of its desire for its members to remain anonymous.

The decision to contact Neil was easy - he was an internationally recognised behaviour therapist and while attending one of his clinical courses as I trained in Psychiatry, I had noted a poker machine sitting in the background! A treatment program was established jointly at Cumberland Hospital where I worked and at Neil's hospital of Prince of Wales.

Working with Neil was a Psychologist - Alex Blaszczynski. Alex began to develop an interest in gambling events to the extent of gambling himself for a time - purely for scientific purposes of course! The end result of this collaboration was that a series of publications began to emerge written by Neil, Alex, and others associated with him on the issues related to problem gambling. Simultaneously academic interest was stirring

in other countries, and treatment issues were starting to be addressed.

Now, fifteen years later, much more literature is available for a noviate such as I was in trying to grapple with the problem, and some of the best has emerged from Neil and Alex. This current volume maintains the standard. It does, as the authors note, fill the gaps on our understanding of gambling and crime by providing hard figures from good sized samples culled from the other main sources of troubled souls - Gamblers Anonymous and hospital - treatment patients. But, additionally, it also examines personality variables and helps to lay to rest some myths (eg, the importance, or lack of it of Sensation Seeking) while raising debates on other areas, - the area of impulsivity being one.

The essential finding however, is the high incidence of criminal activity, often undetected, associated with problem gambling. The message to the community, the legislation and the judiciary must be to cognisant of that fact when legalising gambling or dealing with those detected committing crimes and before the courts.

In documenting this clearly this monograph performs a much needed service to all agencies involved with gambling.

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In Australia, it is estimated that per capita expenditure on gambling far outranks that found in any other contemporary Western society. Far more dollars are outlaid on gambling than are directed toward defence spending or education. Results of a survey conducted by Australian Gambling Statistics and reported in the Bulletin of August 6th, 1991 revealed that in 1989-1990 gamblers had lost close to $4,400 million.

Although startling in themselves, these figures fail to convey the significant negative social, familial and personal consequences suffered by the minority of the adult population who engage in excessive gambling behaviour.

In many respects, the focus of previous studies has been on the broad economic and social significance of gambling rather than the cost to the individual. Considerable attention has been directed toward understanding the complex relationship between gambling and organised crime but the question of the nature and extent of crimes committed by pathological gamblers in support of their habitual gambling behaviours has been neglected. As a consequence, there has been a failure on the part of society, and in particular the judicial sector, to recognise and acknowledge the contribution of excessive gambling to the causation of criminal offences and the need to consider appropriate rehabilitation services as an alternative to custodial sentence.

The specific purpose of this publication is to describe the essential features of pathological gambling to increase community awareness of the psychological processes inherent in a psychosocial behavioural disorder that motivates non anti-social individuals to commit criminal offences.

It is argued that:

- the increased availability and active promotion of gambling in Australia has increased the incidence of gambling behaviour in the general adult population;
- the incidence of pathological gambling is related to participation rates;
- the emergence of anti-social personality characteristics is in many subjects secondary to the effects of pathological gambling;
- individuals exhibiting pathological gambling behaviours are at increased risk of committing criminal offences
- only a relatively small proportion of offenders are essentially anti-social personalities or offend for reasons of non gambling-related personal gain;
- the primary motivation underlying such criminal offences in the majority of pathological gamblers is directly related to the need to maintain pathological gambling behaviour.

A psychiatric diagnosis of pathological gambling cannot be validly used to defend any crime committed in the course of furthering its condition, but an enhanced understanding of the processes underlying its development may assist members of the judiciary to identify and differentiate those individuals for whom a psychological and/or psychiatric intervention may be a preferred alternative to custodial sentence.

SUMMARY OF MAIN RESULTS

Three hundred and six pathological gamblers attending a hospital-based treatment programme or Gamblers Anonymous were interviewed to investigate possible causal relationships between pathological gambling and the commission of illegal acts to maintain the habitual patterns of such gambling.

The sample consisted of one hundred and fifty two consecutive patients attending the Prince of Wales Pathological Gambling Treatment Programme, and one hundred and fifty four members of Gamblers Anonymous.

Gambling on horses (including dogs and trotting) and poker machines were listed as their main form of gambling by 90% of the pathological gamblers. Gamblers were twice as likely to report horse racing than poker-machines as their preferred form of gambling. Video draw poker machines accounted for 5.6% of the sample.

The main findings of the study were:

a) Of the total sample of 306 gamblers, 59% admitted to having participated in some form of illegal offence for the specific purpose of gaining funds to gamble. The most common offences reported were non-violent property offences of larceny (31.37%) and embezzlement (21.5%).

b) On average, each offending gambler committed a median of ten offences over a period of ten years of pathological gambling. The estimated monetary value per offence ranged from $2.00 to $250,000. The average

monetary value per offence was $4,264.00 while the median value was $300.

A minority of offenders, fourteen percent, reported maximum amounts in excess of $13,000.

c) The typical profile of a pathological gambler was a 35 year old married male from a broad socio-economic educational background who has gambled for an average 17 years, the last nine of which has been at problematic levels.

d) In the overwhelming majority of cases, gambling had led to financial difficulties. In excess of 80% report gambling five or more days per week, losing a median weekly amount of $200.

Ten percent reported losses in excess of $1,000 per week. The median per capita debt was $8,000 with 20% reporting debts in excess of $40,000. Only sixteen percent of the sample claimed never to have had a gambling-related debt.

e) Earnings formed the major source of gambling revenue in 95% of cases. Supplementary sources included credit cards, borrowing and loans from financial institutions. Twenty-nine percent reported illegal acts as one of their important means of obtaining funds.

f) Forty percent of those pathological gamblers who reported committing offences were subsequently prosecuted. Of these, 42% received custodial sentences and served an average of 1 to 2 years in prison.

g) Of those who offend, a significant proportion (60%) committed offences which remain undetected.

h) Only a small proportion of pathological gamblers (17%) committed non-gambling related offences. Where such offences did occur, they tended to be fewer in number and mainly consisted of break and enter, car theft or non-property offences of assault and driving over prescribed blood alcohol limits.

i) The median monetary value per non-gambling related offences was found to be $130. Sixty percent of offenders were charged for non gambling-related offences, 15% receiving custodial sentences.

j) Fifteen percent of the total sample of pathological gamblers and twenty five percent f the 180 who committed gambling-related offences met diagnostic criteria for antisocial personality disorder.

There was therefore a significant increase in the risk of offending in the presence of an antisocial personality disorder. Three quarters of antisocial personality disordered gamblers reported offending.

k) Symptoms of psychiatric morbidity appeared to emerge as secondary consequences of gambling-induced problems. Pathological gamblers are at increased risk for depression. One quarter of the total sample acknowledged suicidal ideation with 10% reporting actual attempts.

The risk of suicide increased relative to the severity of gambling-induced problems. Seventeen percent of gamblers with gambling-induced problems made suicidal attempts.

l) Patterns of habitual pathological gambling behaviour emerged slowly over time. There was a time lag of five years after the commencement of regular gambling before problem levels of gambling were reached. This highlights the necessity to monitor the social impact of new forms of gambling such as video draw poker machines and casinos over an extended period of time to identify possible adverse consequences.

m) Approximately a quarter of the pathological gamblers reported a coexisting alcohol dependency problem, but the direction of causality was not able to be ascertained. This has important implication given the location of gambling outlets, PubTAB/ClubTAB and video draw poker machines in hotels. Alcohol may impair behavioural constraints and judgment thereby increasing the risk for loss of control over gambling and offending.

n) Pathological gambling is a hidden disorder within the community. Only 15% of spouses were fully aware of the extent of their partners gambling habits prior to crisis precipitated revelations of debts and offences.

o) Pathological gambling contributes to marital discord. Only six percent of respondents denied that gambling-related problems were instrumental in causing marital difficulties. Problems led to separation in 27%, and to divorce in 12%, of cases.

Conclusions

Empirical evidence indicates that a causal link exists between pathological gambling and the commission of criminal offences to support such gambling. The majority of pathological gamblers do not display features of antisocial personality or criminality before the onset of gambling-induced problems.

State governments actively promote gambling, deriving substantial revenue benefits. The greater the promotion and availability of gambling, the greater the number of participants and, therefore, the greater the number of individuals placed at risk for developing gambling related problems. It is therefore imperative that a small percentage of gambling-derived revenue be re-allocated specifically for further research into the impact and treatment of those who experience pathological gambling problems.

Given the availability, although currently limited, of effective psychological behavioural treatments for pathological gambling, the judicial system may consider referral to appropriate treatment agencies as an option in sentencing.

CHAPTER ONE

INTRODUCTION

INTRODUCTION

1.1 Background

Since the establishment of the Tasmanian casino in 1973, there has been a rapid proliferation and expansion of gambling activity in Australia. Between 1979 and 1986, seven casinos were introduced into the Northern Territory, Queensland, South Australia and Western Australia. In 1991, initiatives were taken to develop casinos in the Australian Capital Territory and New South Wales. Queensland and Victoria have enacted legislation permitting the introduction of poker machines into those States within the near future.

Although currently without a casino, New South Wales is acknowledged as having the greatest number of legal forms of gambling and being the State which derives the greatest financial return from gambling. Adults over the age of eighteen years may gamble on lotto, lotteries, instant scratch lotteries, bingo, football and soccer pools, poker-machines, video draw-poker machines, horse racing, trotting, greyhounds and, more recently, on specific motor and yacht racing events. With the introduction of PubTab and ClubTab and telephone betting services, individuals may gamble on horse-race, trotting or greyhound events from midday to 10.30pm at local or interstate metropolitan, provincial or country meetings.

As noted by Jan McMillen (1987), at the time a Teaching Fellow in the School of Humanities, Griffith University, the growth of gambling has been significantly influenced by two opposing forces;

1) the active promotion of state governments which perceive gambling as a lucrative and politically non-threatening source of revenue, and

2) community reaction to perceived adverse social and welfare consequences of excessive gambling behaviour including personal distress, marital and familial disharmony, financial hardships and involvement in individual and/or organized criminal activities.

However the Report of The Government Gaming Inquiry Committee *(Gaming in Western Australia*, (Mossenson, 1984)) noted that the repeated claims made by vested interest groups that moral, social and economic costs were directly caused by excessive gambling have not been adequately validated by reliable and objective data. The Casino Development for Canberra: Social Impact Report of 1988 similarly concluded:

> *"No Australian data can be identified that points to a widespread social problem resulting from excessive individual gambling at Australian casinos. ..... Nonetheless, the Study Team* ***believes*** *at the present time there already exists a small but significant problem of excessive gambling in the ACT community. .... this is primarily associated with poker-machine and TAB betting facilities (p.163-164)"*

Given the contemporary paucity of basic empirical data describing the prevalence, type and intensity of gambling and pathological gambling in the community, the implications of the above statements that gambling does not cause widespread social problems cannot be accepted. It is acknowledged within the second report that gambling is causally related to the development of significant detrimental consequences in a minority of gamblers. Exactly how large is this minority and what is the extent of the problems generated remains unknown.

In Australia, no studies have investigated the prevalence of criminal activity committed by gamblers themselves in pursuit of their excessive habits. To state that the problem is minimal because there is no available substantiating evidence is naive.

The purpose of this project was to obtain data to attempt to demonstrate a causal relationship between crime and pathological gambling.

1.2 Gambling in Australia

Gambling is a ubiquitous phenomenon found in almost every race and culture throughout history (Arnold, 1978). Cross cultural studies reveal gambling to play an integral part not only in the more developed societies of China, Greece, Rome, England, France, Russia, Italy, Spain and Japan, but also in the cultures of the American Indians, Asians, South Americans, Africans and Icelanders (France, 1902; Devereaux, 1950; Jones, 1973). For the more avid afficiando of the history of gambling, the comprehensive accounts of Steinmetz (1870), Ashton (1898) and France (1902) describe its development in the pre-twentieth century period, while those of Scarne (1961), Jones (1973) and Arnold (1978) elucidate subsequent developments.

Although not unique to its social system, Australians are generally acknowledged as having a gross affinity for gambling, often priding themselves as willing to bet on "two flies crawling up a wall". As noted in the 1988 Casino Development for Canberra: Social Impact Report, this reputation is actively and widely promoted through mass media, literature, and academic writings.

The penchant for gambling was transported to Australia from gambling obsessed Georgian England. Soldiers and convicts gambled prodigiously as an escape from the hardships imposed by isolated colonial life. Although gaming and betting were not issues of overwhelming importance in early colonial times, chronic gambling, heavy drinking and whoring were, nevertheless, common activities engaged at all levels of social class (Charlton, 1987). In respect of gambling, the upper social echelon displayed a marked preference for card games, roulette, dice, horse-racing and cock fighting while for the vulgar rural class, blood sports such as goosing and pugilism were popular.

Moral indignation and religious reaction to the pernicious influence of gambling, although fervent, was ineffective in impact and essentially ignored. That gambling was associated with criminal behaviours, notably either through alleged theft to cover gambling debts, disorderly conduct, cheating or winning more than the legally prescribed limits, was acknowledged by magistrates but considered not sufficiently excessive to necessitate legislation to restrict gambling activity (O'Hara, 1988).

Table 1 lists the primary forms of gambling and their date of introduction to Australian society.

TABLE 1

Forms of Gambling in Australian History.

1788 - Dice, coin and card games similar to those played in Georgian England.

1797 - Pugilism; popular amongst early colonialists.
First fighting match in 1814 at Hyde Park race-horse.
Cock fighting.
Drinking skills.

1810 - First official race at Hyde Park.
Racing and trotting at Parramatta.
Betting on cricket, athletics and rowing.
Bear baiting.

1814 - Pedestrianism (walking and running races) particularly popular in Tasmania.

1827 - First Australian regatta in Sydney Harbour by the Royal Navy. Annual event from 1834.

1840 - Gambling dens common.

1917 - Tote installed at Randwick race-horse.

1931 - Lotteries.

1956 - Poker Machines.

1964 - Totalizator Agency Board (TAB).

1973 - Casinos.

1975 - Lotto.

1982 - Instant Scratch Lotteries.

1983 - Football Pools.

1985 - Motor racing (Bathurst 1000 throughout TAB outlets).

1990 - Sydney to Hobart Yacht race (through TAB outlets).

The rapid escalation of gambling evident in post-war Australia mimics that of other countries and is perhaps linked to derived economic, political and government revenue benefits (Tuckwell, 1984; Haig, 1985; Casino Development for Canberra: Social Impact Report, 1988). In 1931 gambling was legalised in America while in the United Kingdom, the Betting and Gaming Act 1960 ended 400 years of public condemnation and restriction of gaming outside the boundaries of on-course racing.

Until the early 1970's, legal gambling in Australia was relatively restricted to specific forms of racing, including horses, greyhound and trotting, poker machines (limited to New South Wales), lotteries and bingo. Over the last twenty years a significant shift in prevailing political and community attitudes has led to a rapid increase in the availability and expansion of both gambling forms and outlets, and intense intra-industry competition to gain larger market shares of the gambling dollar. As a result there has been a steady rise in the per capita expenditure on gambling in all States.

Figures based on statistics compiled by the Tasmanian Gaming Commission (1987) and reported in the Casino Development for Canberra Report (1988), indicated that in 1986/87 Australia had an average per capita expenditure on gambling of $257. The level of expenditure was highest in New South Wales with a per capita expenditure of $372 and lowest in Queensland with a figure of $186.

Evidence suggests that two effects follow the introduction of new forms of gambling:

1. a redistribution of expenditure from one form to another, and
2. expenditure rises as existing participants increase their amount of gambling and/or as new participants are enticed to gamble.

For example, between 1984/85 and 1986/87, the average increase in total gambling expenditure in non-casino states was 22% as compared to 59% in casino states. Between 1972 and 1989-90 the percentage of household disposable income directed toward gambling increased from 0.5% to 1.9% in the Australian Capital Territory, from 0.6% to 1.6% in South Australia, from 0.9% to 1.6% in Queensland and 0.8% to 2.0% in Tasmania, while in non-casino States the percentage figure remained relatively constant at 2.6% in New South Wales and marginally increased from 1.0% to 1.4% in Victoria (Australian Gambling Statistics, cited in The Bulletin, August 6th, 1991).

1.3 The Clinical Experience

Clinical and anecdotal reports suggest that many pathological gamblers commit crimes in the course of their pathological gambling career. This link became clear to the present authors during their interaction with pathological gamblers seeking behavioural treatment for uncontrollable gambling urges.

In 1977 the first formal hospital-based pathological gambling treatment programme was established at the Psychiatric Unit, Prince of Wales Hospital, Randwick. It originated from a series of studies evaluating the effectiveness of behavioural techniques in the treatment of compulsive sexual anomalous behaviours (paraphilias; homosexuality, pedophilia, voyeurism, exhibitionism). On the basis of these studies, Neil McConaghy, Associate Professor in Psychiatry at the University of New South Wales, advanced a theoretical model to explain habitual impulse driven behaviours (McConaghy, 1980). From this model, a behavioural technique termed Imaginal Desensitization was developed, refined and successfully applied to the

management of compulsive sexual behaviours.

To further test the model and Imaginal Desensitization technique, it was decided to replicate the studies on a non-biologically based or substance-related impulse driven behaviour. Following discussion with Dr Clive Allcock, a psychiatrist with professional interests in gambling, it was decided to compare the effectiveness of Imaginal Desensitization against the widely used aversive therapy on a sample of twenty pathological gamblers (McConaghy, Armstrong, Blaszczynski and Allcock, 1983).

Although initially twenty pathological gamblers were treated within a period of two years, from 1980 to 1987 the referral rate steadily increased. By 1987, in excess of 200 patients were treated and a significantly greater number had attended for assessment but elected not to proceed with treatment or alternatively were referred to Gamblers Anonymous. For example, in one three month period in 1984, 64 pathological gamblers were assessed on an outpatient basis.

One striking characteristic of these patients were the high incidence of reported offences against property motivated by the urge to gamble. Serious offences were perpetrated by individuals exhibiting no prior criminal history or tendencies.

Case Study 1.

> George S, a single 27 year old male of Greek descent had commenced gambling shortly after emigrating to Australia at age 18 years. Introduced to on-course race betting by his peers, he initially restricted his betting to Saturday races to an average expenditure of $100.00. He was a part-owner with his brother of a take-away milk-bar business in the Kings Cross area.
>
> He maintained controlled gambling for a period of five years until, inexplicably, his gambling escalated to average losses of $500.00 with infrequent binges of up to $1,000.00. Once his capital savings were depleted, George began misappropriating

money from the partnership business to a total of $56,000 over a two year period. Following numerous arguments, he agreed to sell the business to his brother with the misappropriated monies deducted from the purchase price.

Continued gambling resulted in further debts to a number of individuals from whom he borrowed amounts totalling $27,000. His financial vulnerability exposed him to coercion to deliver heroin from individuals involved in drug trafficking. He did not use drugs but agreed to two deliveries for which he was paid in excess of his debts. This pattern was repeated on two other occasions prior to his being apprehended and sentenced to nine years imprisonment.

Case Study 2.

Herbert H., a highly reliable 48 year old hardware delivery man was married with three children aged 7, 9 and 15 years. He regularly gambled on Friday and Saturday nights at metropolitan trotting meetings consistently betting no more than $50.00 per weekend, an amount well within his means. He had no gambling-induced debts.

As a hardware delivery man, he was accustomed to collecting cash receipts for which he had responsibility of banking each day or two. Often on Fridays, however, work commitments prevented his banking the money in time. He then retained the cash in his possession until the following Monday. When given a tip on a 'sure thing', he succumbed to temptation and gambled the company's takings with the genuine intention of replacing the money out of winnings. He stated that he consistently failed to resist his strong urge to gamble in this way despite the worry generated by his repeatedly taking company money and risking detection. He continued this behaviour for a six month period until he finally lost $400.00, an amount he was unable to repay. Recognizing the pressure to escalate his activity in order to chase losses and avoid detection, he confessed to his employer who immediately supported his seeking assistance for his gambling behaviour.

Case Study 3.

The Sydney Morning Herald of Thursday, July 25th, 1991 reported the case of Paul S, actor and star of the television comedy series who was sentenced to 18 months weekend detention for gambling-related offences. He admitted to 18 charges of fraud and embezzlement totalling $57,000.00 including obtaining finance company loans under an alias, purchasing three cars fraudulently and then selling them knowing they were encumbered, and establishing banks accounts in false names and issuing 'dud' cheques.

Case Study 4

In August the Herald also described the case of Gary M, a 31 year old former first grade Rugby Union player who was placed on a five year good behaviour bond and week end detention for embezzlement of amounts in excess of $20,000.00 (The Sydney Morning Herald, August 17th, 1989). He had pleaded guilty to 13 counts of embezzlement and seven counts of obtaining a financial advantage by deception, to supplement his gambling addiction over a twelve month period.

Case Study 5.

Criminal offences are not only the province of male gamblers. Many female excessive gamblers seeking treatment admit to criminal offences of varying magnitudes. Helen M. a 38 year old single legal secretary, utilized her firm's petty cash and clients fees to misappropriate an estimated $180,000 over a two year period to play poker-machines. Depressed and lonely, Helen frequented her local registered club on the way home, playing the poker-machines for up to four hours. Gradually this behaviour intruded into working hours when she would invariably return from lunch a half to one hour late. Despite warnings by her employers, she continued this course of behaviour until she received counselling. Her employment was not terminated in view of her otherwise excellent work record. On termination of counselling, she continued gambling excessively but ceased her misappropriation and restricted her behaviour to out of work hours.

Case Study 6. *(Report appearing in The Sydney Morning Herald, Saturday February 22nd, 1992).*

A woman who poured more than $500,000 of her employer's money into poker machines was sentenced to two years' jail in the Downing Centre District Court yesterday.

Mrs. H.G.M., 55, of Liverpool, embezzled the money to fund her compulsive gambling habit, which on one occasion saw her spend $3,000 in a single night.

Mrs. H.G.M. had pleaded guilty to 159 charges of forgery. Over a four-year period to October 1990, she had been forging cheques at 'XX' Laboratories, a chemical company where she worked as a bookkeeper and export clerk. She regularly drew cheques for amounts ranging from $2,000 to $5,000 and would enter in the company's book that the money had been paid to suppliers.

Judge Moore said yesterday that it was an "extraordinarily lax system" which enabled Mrs. H.G.M. to get away with her deception. Mrs. H.G.M. gambled at many clubs around her area, including the Revesby Workers, Fairfield RSL, Cabramatta Diggers and the Marconi Club. She played the

> $1 poker machines until the late 1980's when machines which could take $10 in one go, were introduced.
>
> In sentencing Mrs. H.G.M., Judge Moore said it was an "extraordinary comment on our community" that someone could spend $10 on a single pull of a poker machine handle and that "working wages can be lost in a matter of minutes". He said Mrs. H.G.M. found "oblivion" in the poker machines, regarding them as a tremendous relaxation. Mrs. H.G.M. has not gambled since she joined Gamblers Anonymous and began to see clinical psychologists and psychiatrists last October.
>
> He sentenced Mrs. H.G.M. to two years' jail, directing that she be released after six months and placed in a three year good behaviour bond. He also ordered her to continue to seek treatment for her gambling.

In 1980, Pathological Gambling was classified as a psychiatric disorder of impulse control in the American Psychiatric Association's Diagnostic and Statistical Manual III (A.P.A., 1980). This had important ramifications for the management by the judiciary of pathological gamblers presenting before the courts on criminal charges. The American National Council on Compulsive Gambling made the assertion that "*the APA* (American Psychiatric Association) *diagnostic criteria had taken compulsive gambling out of the criminal, antisocial department and re-defined this behaviour as a neurosis, as are all compulsions*" (Rachlin, Halpern, and Portnow, 1986). It was the National Council's intention and endeavour, vehemently opposed by Rachlin and his colleagues, to convince the courts that pathological gamblers should not necessarily be viewed as criminals. In at least two cases in which acquittals were achieved for defendants on the basis that the diagnosis of pathological gambling should be exculpatory per se for any offences committed to acquire money for gambling purposes.

Given this attitude on the part of health workers, it was not surprising that in the period following the acceptance of pathological gambling as a psychiatric disorder, escalation occurred in the number of offenders appearing before district courts in America charged with alleged gambling-related offences, who entered pleas of not

guilty on grounds of insanity or diminished responsibility. Defence lawyers argued that pathological gambling was a mental disease for the purposes of the insanity defence, and that by definition, it involved "an ***inability*** to resist the urge to gamble..." (Rachlin, Halpern and Portnow, 1986).

Rachlin, Abraham and Portnow (1984) and Rachlin, Halpern and Portnow (1986) rejected the contention that an impulse disorder such as pathological gambling can form the basis for a valid plea of lack of criminal responsibility. They claimed, quite justifiably, that society has rejected the claim of alcoholism or drug addiction as valid defences for crimes committed in support of those habits, and pointed to the dangers of the argument being expanded to include virtually any behaviour suggestive of a loss of impulse control.

Although few cases in America have successfully utilized the defence of insanity, there is an indication that a diagnosis of pathological gambling may influence judicial decision to accept this as a mitigating factor leading to the imposition of more lenient sentences or offering attendance at a rehabilitation centre as an alternative to other punitive sanctions. This trend has been observed in our personal experience amongst a number of magistrates in their dealing with pathological gamblers presenting before the courts on criminal matters. However, empirical evidence of this change in attitude by magistrates toward pathological gamblers is lacking. In considering any form of punishment for pathological gamblers, a full understanding of their condition and its relationship to criminal behaviours needs to be gained. The present study addresses this need.

CHAPTER TWO

PATHOLOGICAL GAMBLING. DEFINITION, DIAGNOSIS AND ASSESSMENT.

2.1 Gambling:- Definition

> *"I was fascinated by the punters, who came back week after week to renew their struggle against bookmakers, despite the fact that most of them acknowledged readily that they were on the losing side in a mug's game."* **John O'Hara, A Mugs's Game, New South Wales University Press, 1988.**

Johnson's Dictionary (1736) first defined *'gambling'* as "*..play extravagantly for money*" thereby distinguishing it from the concept implied in the Saxon term '*gamen*' meaning "*..joy, pleasure, sports or gaming.*" In subsequent broad definitions offered by psychiatrists and psychologists gambling was described as "*..the wager of any type of item or possession of value upon a game or event of uncertain outcome in which chance, of variable degree, determine such outcome*" (Bolen and Boyd, 1968; p. 619). Accordingly, gambling required the presence of at least two parties to specifically exclude notions implied in popular usage as, for example, the gambling against nature inherent in such risk-taking activities as sky-diving, racing cars or crossing roads (Bolen and Boyd, 1968; Royal Commission on Gambling, 1978).

The British Royal Commission on Gambling (1978) recognized the limitations imposed by definitions, particularly those relying primarily on concepts of '*risk*', in offering its succinct but useless statement that "*almost everybody knows intuitively what gambling is*". However, in its appendix, the Commission listed essential components described earlier in 1958 by Perkins, namely:

1. that two or more parties are involved.
2. that the outcome of an event is uncertain.
3. that there is a redistribution of value (not necessarily pecuniary in nature) dependent upon that outcome.
4. that participation is voluntary.

Using these criteria, Perkins (1958) identified four categories of activity legitimately subsumed under the generic label of gambling;

1. **gaming**: exchange of money dependent upon the outcome of a game.
2. **betting**: staking money on the likely outcome of a future event.
3. **lotteries**: distribution of money by lot.
4. **speculation**: gambling on business, insurance or stock markets.

2.2 Pathological Gambling:- Definition

Several terms, including compulsive (Bergler, 1957), excessive (Cornish, 1978), neurotic (Greenson, 1947) and addictive (Jacobs, 1988), have variously been applied to describe repetitive gambling behaviour leading to adverse consequences. These, criticized for being relative terms, biased by ethical and moral values, religious beliefs and personal experience have in the scientific literature been supplanted by the more theoretically and morally neutral label of '*pathological gambling*'.

Following the report titled "A Preliminary Study on Compulsive Gambling in New Jersey" (Greene, 1979) issued by the Alcohol and Drug Abuse Unit of the New Jersey Department of Health, the American Psychiatric Association in 1980 formally recognized pathological gambling as a psychiatric disorder in its Diagnostic and Statistical Manual III (Lesieur, 1988).

Although continuing to be categorized as a Disorder of Impulse Control (Not Elsewhere Classified), its initial diagnostic criteria was subsequently modified in the American Psychiatric Association's later edition, Diagnostic and Statistical Manual III -

Revised (1987) (DSM-III-R), in response to the increasing trend toward conceptualizing gambling as an addictive disorder (Moran, 1970; Jacobs, 1986; Lesieur, 1988). These criteria were modelled on those for substance dependence and include components of tolerance and withdrawal.

DSM-III-R's category of Disorders of Impulse Control (Not Elsewhere Classified) encompassed, in addition to pathological gambling, such behaviours as kleptomania (compulsive shop-lifting), pyromania (compulsive fire-setting), intermittent and explosive personalities, and trichotillomania (compulsive hair-pulling behaviour). These impulse dyscontrol behaviours have as their central characteristic, four main components;

1. A repeated failure to resist impulses, drives, or temptations to perform a particular discrete, and intentional act; the individual may or may not attempt to resist the impulse.
2. The recurrent acts are harmful to the individual or others.
3. An increasing sense of tension experienced immediately before committing the act.
4. An experience of either pleasure, gratification, or relief at the time of committing the act. Immediately following the act there may or may not be genuine regret, self-reproach, or guilt.

As with alcohol, heroin and other forms of substance abuse behaviours, individuals become exposed to an approach-avoidance conflict with the offered choice of short term reinforcement at the expense of longer term negative outcome.

The essential features of Pathological Gambling (DSM-III-R category 312.31) are a chronic and progressive failure to resist impulses to gamble, and gambling behaviour that compromises, disrupts, or damages personal, family, or vocational pursuits. The

gambling preoccupation, urge, and activity increase during periods of stress. Problems that arise as a result of the gambling lead to an intensification of the gambling behaviour. Characteristic problems include extensive indebtness with consequent default on debts and other financial responsibilities, disrupted family relationships, inattention to work, and financially motivated illegal activities to pay for gambling.

To meet diagnostic criteria, individuals need to exhibit at least four of the following maladaptive gambling characteristics:

1. Frequent preoccupation with gambling or obtaining money to gamble.
2. Often gambling larger amounts or over longer periods than intended.
3. Need to increase the size or frequency of bets to generate the desired outcome.
4. Restlessness or irritability if unable to gamble.
5. Repeatedly losing money gambling and returning another day to recoup or win back losses (chasing).
6. Repeated efforts to cut down or cease gambling.
7. Often gambling when expected to meet social or occupational obligations.
8. Has given up important social, occupational or recreational activity in order to gamble.
9. Continuation of gambling despite inability to pay mounting debts or other significant social, occupational, or legal problems that the individual knows to be exacerbated by gambling.

2.3 Diagnostic Difficulties

Inherent difficulties exist in identifying 'cases' of pathological gambling. In contrast to alcoholism or drug addiction where physical signs, symptoms, overt behavioural

disturbances and medical procedures may be effectively used in screening substance abuse disorders, no single pathognonomic feature is diagnostic of pathological gambling. Cornish (1978) argued that its identification was dependent upon degree of impairment exhibited and its impact on others and society in general. Impairment, however, was relative and dependent upon income level, available leisure time and '*visibility*' of gambling within the social subculture of the individual.

DSM-III-R criteria themselves are inadequate being imprecise, subjective and lacking specificity in distinguishing heavy from pathological levels of involvement. The essence of pathological gambling, loss of control experienced as an urge, drive, impulse, craving or temptation leading to excessive indulgence, is a subjective phenomenon difficult to measure. As Dickerson (1985) noted, loss of control was associated with increasing levels of involvement in gambling but was not a unique feature of pathological gamblers. Results of his studies revealed that 95% of both high frequency gamblers and Gamblers Anonymous members chased losses, 75% and 65% respectively regularly spent more than intended, and 45% and 75% regularly gambled all their available cash.

2.4 Assessment Instruments.

A number of self-report screening instruments have been devised for use in epidemiological surveys (Kallick et al., 1979; Culleton, 1985), addiction centres (Blume and Lesieur, 1987) or for personal identification (Gamblers Anonymous, Twenty Questions).

Historically, the first empirical attempt at identifying cases of pathological gambling was a study included as part of a wider epidemiological study conducted for the

Commission on the Review of the National Policy Toward gambling in America (1976). Kallick et al. (1979) surveyed 300 Nevada residents and 1,736 randomly selected persons from the general population of the United States of America. An 18 item questionnaire was include in the structured interview as the criterion measure to identify pathological gambling cases. This questionnaire was derived from an initial pool of 119 items which measured personality features, risk-taking and betting behaviours described in the literature as typical of pathological gamblers. In a subsequent separate study, these authors found that a discriminant function analysis was able to significantly differentiate between a group of 274 acknowledged gamblers and 239 church members.

Nadler (1982, 1985) pointed out that no defined operational criteria were used to assign individuals into categories and, on the basis of other methodological inadequacies and the fact that since the completion of the survey many social and clinical changes have occurred, concluded that the need for the development of a more refined instrument still existed.

In 1982, Custer, Meeland and Krug compiled the Inventory of Gambling Behaviour scale (Meeland et al., 1982), a measure derived from the DSM-III criteria and the Gamblers Anonymous items which yielded eight factor clusters and successfully discriminated between gamblers and non-gamblers. Culleton (1985) however, in noting the predominance of male subjects used and the small sample sizes involved, suggested that further work in validating the measure was warranted.

Lesieur and Blume (1987) developed a well validated and reliable 20 item self-administered inventory for the identification of pathological gamblers. The South Oaks Gambling Screen, similar to its predecessors, was also based on DSM-III and

Gamblers Anonymous items in addition to clinically derived observations. The measure has been validated on large samples and reputedly offers a convenient means to screen clinical populations of alcoholics and drug abusers as well as general populations of pathological gamblers (Lesieur and Blume, 1987).

The Cumulative Clinical Signs Test for the identification of pathological gamblers (Culleton, 1985) was composed of 29 items selected from the pool of Gamblers Anonymous questions, DSM-III criteria, and Custer and Custer's (1978) 'hard' (eg: financial difficulties, frequency of gambling) and 'soft' (eg: personality traits, family background) signs for gambling. Five areas of functioning are assessed; personal, inter-personal, vocational, financial and the diagnostic criteria. A positive score on any item in a given area consitutes a positive response, and the number of positively scored areas are summed to given a total possible score of five. Volberg and Banks (1990) criticized the odds ratio method employed by the instrument and suggested that the measure was dependant upon base rates of gamblers in the populaton contrary to Culleton (1985) assertion.

Virtually all the above measures have been based on or have included DSM-III (1980) criteria and have had their validation studies criticized on various methodological grounds (Culleton, 1989). As Lesieur and Blume (1987) points out, the DSM-III criteria are overly restrictive and reflect the signs and symptoms characteristic of the later aspects in the development of pathological gambling process, while the 20 items of the Gamblers Anonymous self-report questionnaire are useful but suffer due to the excessive number of false negative cases generated. Consequently, it appears that there exists an immense difficulty in identifying 'cases' of pathological gamblers especially given the continuing uncertainty as to whether or not pathological gambling forms a distinct categorical disorder or holds a place on a blurred extreme of

a continuum of gambling activity. Nevertheless, it appears that DSM-III's revised criteria as contained in DSM-III-R (APA, 1987) remain the most useful guide for the identification of pathological gamblers.

2.5 Forms of Gambling Associated with Pathological Gambling

Pathological gambling is associated with easily accessible forms of gambling that permit high frequency continuous play and/or unlimited bet sizes. These include, but are not limited to, the categories of gaming and betting (Dickerson, 1985; Blaszczynski and McConaghy, 1989):

1. Gaming

Poker Machines - allow multiple 20^{c} or $1.00 coins per play with a potential 20 second average interval between play. Poker machines are located within registered clubs in New South Wales and the Australian Capital Territory.

Video Draw Poker Machines - these machines, electronically simulating draw-poker card playing, are located at hotels and are limited by legislation to a maximum cash payout per game. However, players may terminate one game and immediately recommence playing thereby effectively allowing continuous play. Multiple insertion of 20^{c} coins to establish credit points with which to play is permitted.

Casinos (legal and illegal) - bets, governed by house limits, may be placed on high frequency events as in roulette and card games. Currently, only the Australian Capital Territory, New South Wales and Victoria do not have legally operating casinos although their introduction is actively sought and appears imminent.

2. Betting

On and Off Course Betting - Virtually unlimited bet sizes may be placed on horse, greyhound and trotting race meetings either on-course with bookmakers and the Tote, or off-course at Totalizator Agency Board (TAB) outlets located in shopping areas, clubs or pubs. Facilities exist to place telephone bets through the TAB PhoneTAB network.

'Soft" forms of gambling less frequently or directly associated with pathological gambling include Lotto, lotteries, instant scratch lotteries and bingo. Although easily

accessible, frequency of play is limited as in the case of Lotto and lotteries because of the prolonged delay imposed between purchase of ticket and publication of results.

Stock market and future commodities trading may justifiably be considered to fall within the ambit of gambling. However, the prevailing consensus views such activities as outside the boundary of gambling and within the realm of economic business enterprise. Few individuals seek treatment complaining of urges leading to excessive and high frequency stock market *'play'* (Blaszczynski, 1988).

Legislation designed to restrict gambling activity has been motivated primarily by the need to eliminate ancillary effects of excessive gambling.

CHAPTER THREE

THE PREVALENCE OF PATHOLOGICAL GAMBLING IN AUSTRALIA

3.1 The Availability of Gambling and Participation Rates

Surveys (Kallick et al., 1979) and clinical reports demonstrate that a positive relationship exists between participation rates and the number of gambling outlets. The increased social availability of gambling outlets has been considered to be the primary variable responsible for precipitating at-risk individuals into pathological gambling (Cornish, 1978; Moran, 1979; Dickerson, 1984). As opportunities to gamble are expanded and become more accessible, more people will indulge. The higher the proportion of the community that gambles, the more likely it is that the number who develop problems will increase. In the case of alcoholism, evidence indicates that indices of problem drinking rise in line with increases in alcohol consumption (McLean, 1983) such that small changes in per capita consumption result in large changes in the number of alcoholics.

3.2 Gambling Prevalence Rates

Despite the variety and availability of gambling, the active promotion of gambling activities by state governments and commercial organizations, and the acknowledged cultural image of Australians as heavy gamblers, few detailed studies of the prevalence and distribution of gambling in Australia have actually been carried out.

Estimates based on overseas survey data consistently show a high proportion of the adult population has gambled at least once in their lifetime; 80% to 94% in the United Kingdom (Cornish, 1978) and 24% to 68% in America (Kallick et al., 1979; Culleton, 1985; Culleton and Lang, 1985).

In Australia, Dr Wolfgang Grichting, a lecturer from the Department of Behavioural

Sciences at James Cook University, Queensland found 92% of a randomly selected sample of 318 respondents to a survey in Townsville had gambled, a figure similar to that of 80% reported earlier in a McMillan Poll (McMillan, 1985).

While the evidence supports the contention that the majority of Australians gamble, a proper perspective on the extent of gambling in Australia should be maintained. The reported high prevalence rate for gambling describes a broad spectrum of participation ranging from several dollars infrequently staked over a year to daily gambling of excessive amounts, with the distribution of involvement heavily skewed toward minimal participation. For example, a McNair Marketing Monitor report in 1983 (cited in Dickerson et al., 1985), found 6% of a sample placed less than one bet on the TAB (off-course betting) per year, 43% less than one a month, 4% more than once per month but less than once weekly, and 5% once per wek or more. The remainder of the sample did not gamble at TAB's.

Using money staked as an index of involvement, Dickerson et al. (1985) interviewed 172 TAB bettors in Canberra and found the median amount brought to bet with on the survey date was $20.00. Of the sample, 18.3% brought less than $5.00, 40.3% between $6.00 and $20.00, 13.6% between $22.00 and $45.00, while 27.8% brought in excess of $50.00.

Similarly, annual per capita expenditure on gambling has been estimated to be relatively minimal, being in the vicinity of $248 in South Australia and $477 in New South Wales (Sydney Morning Herald, Wednesday, January 2nd, 1991, p5.). The Australian Bureau of Statistics in 1981 calculated the weekly expenditure on gambling to be $3.50 per week, while its 1984 Household Expenditure Survey reported a regional distribution of weekly expenditure in New South Wales varying between $1.10 to $6.10.

Data, therefore, indicates that although many Australians gamble, most do so to a relatively limited degree in terms of frequency and expenditure. This has been noted by the 1988 Casino Development for Canberra: Social Impact Report in concluding that "*Generally, regardless of the form or type of gambling, the majority of people gamble infrequently. About 10% or less of the population gamble regularly once a week or more often on continuous forms.*"

3.3 Pathological Gambling Prevalence Rates

Within the Australian gambling population, a subgroup exists of individuals whose level of participation may be regarded as excessive and directly responsible for the creation of severe emotional and financial problems for themselves, their families and society in general.

However, determining the prevalence of this subgroup of pathological gamblers is difficult given the lack of accepted operational diagnostic criteria, the reluctance on the part of many sufferers to admit to loss of control, and the secretiveness with which the behaviour is often carried out.

Debate within the psychological literature continues as to whether or not pathological gamblers can be validly considered as categorically distinct from regular heavy gamblers, or differing only in terms of their position along a continuum of varying participation (Blaszczynski and McConaghy, 1987). This has important implications in determining the appropriate cut-off point, and hence the prevalence rate, for diagnosing 'cases' of pathological gambling. Liberal criteria will result in an over-estimate, and rigid criteria, an under-estimate of the true rate.

Given these constraints, a number of studies in the United Kingdom and the United States of America have attempted to establish point-prevalence rates for gamblers in the general community. As shown in Table 2, depending on the population samples surveyed and operational criteria employed, these rates varied between 0.2% and 3.4%. The more recent and systematic surveys conducted in Ohio, Delaware Valley and New York regions using validated screening instruments have reported rates of between 1.4% to 3.4% '*probable*' and 2.8% to 4.1% '*potential*' pathological gambling (Culleton, 1985; Volberg and Stedman, 1986) and may be accepted as the more accurate estimates.

As can be seen from Table 2, minimal data is available upon which to base an adequate estimate of the prevalence rate for pathological gambling in Australia.

In a Canberra study of regular TAB gamblers and Poker Machine players, Dickerson and Hinchy (1988) reported that 2.9% and 5.1% respectively, had lost more than they could afford or planned, usually chased losses, had gambling related debts, expressed a desire to reduce and/or had unsuccessfully attempted to cease gambling. These authors noted that although items relating to excessive gambling were endorsed, such endorsement should not be taken to mean necessarily that they represented actual '*cases*' of pathological gamblers.

Dickerson and Hinchy's figures were derived from a biased sample, that is a sample of regular gamblers in which it would be predicted that a higher prevalence of pathological gamblers would be found. Therefore, it is not surprising that a much higher figure in comparison to overseas findings was reported. Their '*corrected*' figure of 0.44% is more consistent with other data and probably more accurate.

Table 2

Point-Prevalence Rates for Pathological Gambling

Author/s	Country	Prevalence Rate		Validated Assessment Instrument
			Potential	Probable*
Moody (1972)	UK	1.80		No
Dickerson (1974)	UK	0.20		No
National Policy Toward Gambling In America Report (1976)	USA	0.77	2.22	No
Abrahamson & Wright (1977)	USA (Connecticut)	1.8		No
Culleton & Lang (1984)	USA (Ohio)	2.50	3.40	Cumulative Clinical Signs Method
Culleton (1985)	USA (Delaware Valley)	3.50	4.10	Cumulative Clinical Signs Method
Volberg & Stedman (1986)	USA (New York)	1.40	2.80	South Oaks Gambling Screen
Laventhol & Horwath (1986)	USA (Connecticut)	0.34		No
Dickerson & Hinchy (1988)	Australia	0.44		No

* Probable: defined as gamblers meeting fewer than requisite number of positive responses for diagnosis as potential pathological gamblers.

If overseas rates are applicable to the Australian context, approximately 0.5% to 3.4% of the Australian gambling population are eligible to meet the requirements for a diagnosis of pathological gambling. In actual terms, this figure represents 50,000 to 300,000 individuals in Australia, or expressed in another way, is comparable to the number of hard-drug uses (excluding alcohol) in the Australian community.

CHAPTER FOUR

CRIME AND PATHOLOGICAL GAMBLING

4.1 Introduction

> *"Regardless of whether gambling is the direct or indirect cause of employee dishonesty, it is one of the most important factors contributing to embezzlement." (Peterson, 1947).*

The link between gambling and crime may take several forms:

1. Participation in gambling activities specifically prohibited by law; (currently) casinos in New South Wales and Canberra, two-up.

2. Through the organization and operation of prohibited gambling activities; operating casinos, illegal off-course SP bookmaking, and use of gaming devices in unlicensed or restricted premises.

3. Through schemes designed to cheat either operators of legitimate and illegitimate gambling promoters, or the gambling public; tampering with gaming devices, 'fixing' races.

4. Through associated activities peripherally linked to gambling; standover tactics/extortion with threat, physical violence and/or destruction of property, bribery and corruption, laudering money obtained from other illegal sources, tax evasion, or re-direction of gambling profits to drug dealings, prostitution or pornography.

5. Through the non-specific and indirect influence of gambling attracting large social gatherings; pick-pockets, street crimes and prostitution.

6. Through the endeavours of pathological gamblers to obtain funds to maintain their habitual behaviours.

Considerable attention has been directed toward eliciting the nature and extent of organized crime (points 1, 2, 3, and 4 above) in the community, especially in relation to proposals for the introduction and operation of casinos in Australia and elsewhere.

However, the literature is remarkably devoid of any empirical data describing the presence of any potential relationship between individuals addicted to gambling, pathological gamblers, and their attempts to obtain funds with which to maintain their addictive behaviour patterns. Reference to this relationship has been made as early as the colonial days with David Collins, Judge-Advocate and Secretary of the Colony in

1798 considering that gambling "*was a recurrent theme in the tune of the causation*" of crime within the colony (Charlton, 1987; p11 'Two Flies up a Wall).

The purpose of this chapter is to examine the processes exposing pathological gamblers to the risk for criminal behaviours, and to review the existing scientific literature describing the prevalence, nature and extent of pathological gambling-related crime within the community.

4.2 The Pathological Gambling Process and Risk for Criminal Behaviours.

Anecdotal accounts and clinical case reports in the popular and scientific literature imply a causal link between pathological gambling and the conduct of certain forms of criminal behaviours (Lesieur, 1979). For example, the November 1983 issue of the Business Review Weekly (Thomas, 1983) detailed several infamous cases of million dollar company losses directly linked to the excessive gambling behaviours of the part of accountants and administrators and which resulted in sentences of up to 12 years jail.

In December 1986, the Salvation Army conducted a telephone survey inviting individuals in the Sydney metropolitan area to phone-in if gambling was a deemed a problem affecting either themselves, relatives or friends (Salvation Army Phone-in Report, 1987). In all the Salvation Army received 352 calls, 54% from gamblers themselves, 43% from immediate family members, and 3% from business associates, of the gamblers. Seventy-three percent were male and 27% females. The average level of debt of 123 callers who provided details of level of indebtness, was $20,860.00 with a total debt for the whole group amounting to $2,565,825.00. Of the total callers, 19% admitted to some form of criminal involvement, 9% to gambling induced bankruptcy and 7% to serving a prison sentence for gambling related crimes. Three

quarters of the group had lost all savings, 61% had outstanding debts and 31% had sold real estate property and assets to repay gambling debts.

Henry Lesieur, Professor of Sociology at St John's University in New York, perceptively outlined the self-destructive career path evident in the pathological gambling process which led to the likely emergence of criminal behaviours.

Research data from Australia (Blaszczynski and McConaghy, 1987) and overseas (Custer and Custer, 1978; Lesieur, 1986) reveal that 90% to 95% of pathological gamblers commence gambling prior to age 20 years. In one study of 85 pathological gamblers attending a hospital based treatment programme (Blaszczynski and McConaghy, 1987), the average age of commencement was 12 years. Initially, gambling is maintained at a social and/or controlled level with around three quarters experiencing relatively substantial wins within the first six months (Custer and Custer, 1978; Jacobs, 1986).

In this *winning phase*, participation increases as a function of the reinforcement generated by the excitement of gambling and the expectation of further wins. Progressively larger amounts are invested as unreasonable optimism/confidence rises. It would appear that in view of the youth of most of the subjects in this phase, the lack of family and/or marital responsibility and level of financial commitment allows the gambler to lose virtually all his salary without adverse consequence.

As familial and marital relationships are entered, increased financial responsibilities reduce the available pool of gambling funds. By 25 years of age on average, the conflict of meeting living costs and maintaining gambling habits results in a tendency to conceal gambling habits from family members and friends. Often the

gambler sufferers guilt, impatience or experiences a psychological need to impress his wife and family by providing immediate material benefits that are beyond his means.

In this the *losing phase*, the pressure to intensify gambling exposes the gambler to episodes in which he either gambles or loses more than intended. This invariably leads him to 'chase losses', a process well described in detail by Lesieur (1979). In chasing losses, the gambler is motivated by a desire to recoup monies lost. To do this, the frequency or amount gambled progressively increases at the expense of other financial, employment or social obligations. Legal opportunities to obtain money are exploited as debts compound. The gambler becomes preoccupied with the interception of demand and payment-in-arrears notices and the effective redistribution of diminishing funds to avoid detection. Funds are borrowed from friends, credit card cash advances drawn, loans established with financial institutions, and, in desperation, assets sold off or depleted through pawn-dealers to temporarily alleviate pressures.

The *desperation phase* is characterized by intense anxiety, depression and social alienation. As legal sources of funding are rapidly exhausted, continued gambling with the hope of a large win is perceived as the only solution. This intense need to gamble becomes a catalyst for the gambler to seek alternative avenues to obtain funds.

The sense of despondency produced by overwhelming financial pressures increases the propensity for the gambler to engage in illegal offences to obtain funds. In many cases, the initial actions are justified on the basis that funds taken are 'borrowed' with the expressed and genuine intent of repayment. As losses and consequent debts mount, the possibility of repayment becomes unrealistic and the vicious decreasing cycle entered, in which further illegal acts are pursued to avoid detection and to maintain the gambling habit.

Despite the awareness that gambling has directly contributed to their financial demise, the almost delusional thought is held that continued gambling represents the only possible means of salvation.

As J. Edgar Hoover, director of the Federal Bureau of Investigation remarked in 1933:

> "The records are replete with cases where the embezzler....served his bank and his community and.....achieved an enviable reputation as a friend of the community and a bank officer of unimpeachable integrity and honesty, but who, through circumstances bringing unusual pressure to bear upon his moral fibre, has succumbed to temptation and betrayed both the bank and the community." (Hoover, 1933; p657-658).

Although no one specific factor contributed to embezzlement, gambling equalled 'extravagance in living' as the two dominant causes.

4.3 The Empirical Evidence Linking Pathological Gambling and Crime.

It is difficult to obtain an accurate account of the prevalence and extent of gambling-related criminal behaviours. Arrest and conviction rates are inadequate for two reasons; gambling is not necessarily identified on conviction records as the primary motivation underlying their offences, and not all gambling-related offenders are apprehended or charged so that true prevalence rates are consequently underestimated.

The observation that excessive gambling behaviour is a risk factor for criminal behaviours is not new as indicated by the writings of Virgil Peterson, Operating Director of the Chicago Crime Commission who, in 1947, recognized excessive gambling to be

a major cause of company embezzlement (Peterson, 1947). Based on his experience with 20 large surety companies, he estimated that gambling was responsible for between 30% to 75% of their company losses. Similarly, the United States Fidelity and Guaranty Company of Baltimore in their booklet, "1,001 Embezzlers - A Study of Delfactions in Business', noted that gambling/drinking was identified as the underlying cause for 26.3% of company losses in a sample of 963 men convicted for embezzlement.

In an attempt to determine the social cost of pathological gambling and the cost-benefit effectiveness of treatment, Dr Robert Politzer and his colleagues at the Johns Hopkins Compulsive Gambling Centre in Maryland, USA, surveyed 102 gamblers seeking treatment and obtained an estimate of the number of illegal offences committed. Ninety percent admitted having offended. Each patient was found to have committed a mean of 1.3 prosecutable offences averaging $US1,871 (1981 base-rate) per offence. The nature and frequency of offences are described in Table 3.

TABLE 3

Types and Frequency of Offences Carried out by 92 of 102 Pathological Gamblers Sampled by Politzer et al., 1981.

Type of Offence	Frequency
Forgery	10
Embezzlement	33
Larceny	23
Cheque/Credit Card Fraud	33
Tax Evasion	10
Tax Fraud	16

Thirty percent of the sample committed offences punishable by prison terms. Eighteen patients were prosecuted with 67% of these avoiding further proceedings through restitution agreements. Of the six indicted, only one received a jail sentence.

Clinical studies consistently describe high rates of illegal behaviours in samples of pathological gamblers seeking treatment and on the basis 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, 1978; 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, 1978; 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.

A linear relationship between severity of excessive gambling, suicidal impulses and illegal activity was reported by Frank, Lester and Wexler (1991) such that suicidal gamblers were more likely to have commenced gambling at an earlier age, gambled heavier amounts, and to have engaged in stealing. Their results of a survey of 162 out of an initial pool of 500 Gamblers Anonymous members spanning 17 states in the United States revealed that 48% had contemplated suicide and another 13% had made actual attempts. Of these, approximately 83% had stolen or knowingly issued cheques with insufficient funds compared to 57% of those denying such suicidal ideation or impulses.

A study by Brown (1987) in England and Scotland, reported a similar high crime rate amongst members of Gamblers Anonymous. Seventy-seven English and 30 Scottish men completed questionnaires giving a response rate of 35%. Of the English sample, 82% admitted having committed an offence 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.

Malkin and Syme (1986), in a study investigating personality profiles of pathological gamblers found that seven out of a sample of 16 Gamblers Anonymous members but none of 16 social gamblers admitted to having committed a crime. Social gamblers were defined as those who gambled less than twice weekly and had never regarded their gambling as problematic. No details of the nature or frequency of crimes committed were provided.

As part of a study attempting to identify the prevalence rate of pathological gamblers in a nine-county region of Pennsylvania and New Jersey, Sommers (1988) pre-tested an eight item behaviourally based DSM-III derived inventory on a randomly selected group of 83 Gamblers Anonymous members and 61 social club members who had varying degrees of participation in gambling. In contrast to Malkin and Syme (1986), only 3.84% of their pathological gamblers acknowledged having ever committed or considered committing an illegal act such as forgery, fraud, embezzlement or tax evasion in order to finance gambling.

A number of possible explanations may be offered to account for the discrepancy in reported crime rates between studies. In many studies the primary concern was directed to issues other than the relationship between crime and gambling such as

prevalence rates, personality characteristics or response to treatment interventions. Reference to crime was tangential or based on minimal investigation. Consequently, questions pertaining to criminal behaviours were general in nature, did not define what constituted criminal behaviours, and may have failed to adequately differentiate actual criminal behaviours from those the gamblers may have considered.

Given the sensitive nature of crime, under-estimates may be obtained where the researcher is involved in treatment and exposed to the effects of biased reporting associated with a desire to report positive treatment response (demand characteristics), or to over-estimate this by biased recall or exaggerated claims.

Why do pathological gamblers engage in criminal behaviours ? The need to maintain the gambling addiction and not the desire for personal economic gain appears the principle motivation for criminal behaviour. In his detailed analysis of 50 pathological gamblers, Lesieur (1979; 1984) outlined the sequence of events by which excessive gambling led to criminal offences. Motivated by the need to chase losses, continued gambling resulted in a rapid exhaustion of legal sources of gambling funds. Consequently, illegal behaviours 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). Gamblers' offences were primarily non-violent offences against property. Most frequently committed offences 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 offence such as faking auto accidents or home burglaries, or submitting excessive claims.

However, the tacit assumption that all offences 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 behaviours in samples of pathological gamblers (Brown, 1987; Lesieur, 1987) fail to differentiate between gambling and non-gambling related offences. It could be argued, on the basis of their 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 offences independently of their gambling behaviour.

In support of such an interpretation, Moran (1970) classified 25% of his sample of 50 gamblers as psychopathic while Custer and Custer (1978) 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.

Meyer and Fabian (1990) interviewed all self-help groups for gamblers in the Federal Republic of Germany in 1987 to gain empirical data on the delinquency of those who committed illegal acts in order to obtain money to continue their habitual gambling. In all, 437 gamblers from 54 self-help groups were interviewed. Of these, 54.4% admitted having committed illegal acts specifically to obtain gambling funds, while 10.3% had already been convicted. Consistent with the findings reported by Lesieur and Klein (1985), the majority of offences were non-violent and against property in nature. Slightly less than half (42.2%) were for theft, 31.1% for embezzlement, 26.7% fraud and 13.3% for forgery, tax evasion or manipulation of gambling machines. A substantial proportion, 13.6%, involved robbery or blackmail. Compared to non-offenders, those admitting to illegal acts manifested stronger subjective feelings of dependency on gambling and described more withdrawal-like symptoms. They showed a trend to have gambled more often, for longer periods, with

larger stakes, and sustained greater losses. On average, they gambled 4.4 hours per day approximately 5.5 times per week. Overall, their total debts exceeded those of non-offenders by a magnitude of one and a half.

Supporting the earlier observations of Blaszczynski and McConaghy (1986), these authors found higher levels of psychosocial problems and emotional escape as the primary motivating factor in the group who committed illegal acts. They concluded that a direct relationship existed between increased gambling, reduced financial responsibility, retreat from social functioning and propensity to criminal acts.

4.4 Female Pathological Gamblers and Criminal Behaviours

Although the 1976 American Commission on the review of National Policy Towards gambling suggested that approximately 33% of 'probable' and 'potential' pathological gamblers are female, 85% to 95% of those who seek treatment from hospitals or Gamblers Anonymous are male. In more recent times, the percentage of identified female pathological gamblers has increased. This increased visibility stems from a heightened community awareness of pathological gambling, a recognition that about 50% of the general population of gamblers are females and who are at equal risk of developing problems as their male counterparts, and the availability of treatment programmes which encourage female pathological gamblers to seek assistance. With the notable exception of Lesieur's (1987) work, the apparent visibility of female pathological gamblers has not been associated with any corresponding increase in research studies.

Lesieur (1987) interviewed 50 female pathological gamblers recruited from a population of Gamblers Anonymous attendees. Over two-thirds (68%) procured

monies to support their gambling habit through illegal means. The most common sources of funds were loan frauds, forging cheques, embezzlement and employee theft and larceny. Ten percent of women had involved themselves in prostitution but the frequency of their behaviour was not noted. A quarter of the sample had been employed or engaged in activities associated with illegal forms of gambling, more unique to the American culture such as 'hustling' at pool, cards or dice, running 'con games' or 'swindle rackets'.

Twenty percent of the females had been arrested with seven attending court and subsequently receiving jail sentences. However, only two of the women were charged and jailed specifically for gambling related crimes suggesting that the prevalence of antisocial personality disorders may be over-represented amongst female gamblers who indulge in criminal acts.

Evidence suggests that female pathological gamblers are more likely to be single, gamble alone and feel more socially isolated having less access to resources than their male counterparts (Lesieur, 1987). Further research is required to gain a greater understanding of the extent and particular ramifications of pathological gambling behaviour in females, its contribution to family and marital dysfunction, and relationship to domestic violence. Early reports suggested that male pathological gamblers had higher rates of wife and child abuse than found in the normal population (Fulcher, 1982).

4.5 Adolescence, Pathological Gambling and Crime

As noted earlier, up to 90% of pathological gamblers commence their gambling behaviour by 20 years of age, the average age being 12 to 15 years. This young age

of commencement has been consistently noted by studies despite the presence of legalisation prohibiting access to gambling premises by under-aged adolescents.

Evidence indicates that a high proportion of children and adolescents do gamble with a minority of these exhibiting traits found to be characteristic of adult pathological gamblers, including illegal behaviours. However, as Fisher (1991) perceptively notes, adolescent anti social behaviours may be causally attributed to gambling but, equally, may be peer-driven or co-exist independently of gambling. In addition, adolescents differ from adults in the avenues open to them to obtain gambling funds and to carry out illegal behaviours.

In a field survey of 460, 11 to 16 year old English school children, Fisher (1991*a*) found 277 played fruit-machines. This figure was consistent with other studies reviewed by Fisher (1991*b*) showing that between 50% to 100% of school children surveyed played fruit machines, although a number of other studies reported much lower rates of 8% to 40%. Fruit machines, (officially designated as "*amusements with prize machines*") are popular sea-side resort amusement arcade-type machines which provide non-pecuniary prizes and which are legally accessible to under 16 year old children. Fisher found that 277 of her sample played either socially or excessively on the machines, further identifying 10% who met the criteria for pathological gambling using a version of DSM-IV modified for adolescents. Compared to social gamblers, a significantly higher proportion of adolescents meeting 'pathological' criteria engaged in a variety of 'unsocial/illegal behaviours to resource their fruit machine play including stealing from family members (46%), stealing from others outside the family and/or shop-lifting (12%), sale of possessions (31%), truanting to play (8%) or gambling school dinner/travel money (39%).

In her comprehensive review of 11 studies on juvenile fruit-machine gambling in the United Kingdom, Fisher (1991*b)* noted 2% to 23% (an average of 9% across studies) of players admitting to stealing, and 4% to 18% to truanting from school/work to play video game or fruit-machines. She concluded that overall, research had clearly shown that fruit-machine playing was a major leisure pursuit for adolescents and that a minority became addicted with a small percentages of these engaging in unsocial behaviours to supplement their gambling monies.

Fruit-machines do not exist in Australia and by legislation under 18 year olds are not permitted to gamble or enter restricted gambling premises. In Australia, no studies have been conducted investigating or describing the adolescent behavioural characteristics and illegal activities potentially associated with the fruit-machine equivalents of pin-ball and electronics video-game play, activities which are popular and easily accessible to all age groups. The relationship of pin-ball and video-game play to adult gambling behaviour is not known.

Legislation restricting gambling to over 18 years olds is not effective in preventing adolescents and children from gambling. In the United States of America, Lesieur (1984) surveyed 892 eleventh and twelfth grade students from four New Jersey High schools two of which were in relative close proximity to Atlantic City casinos. By chance, females and students from middle class backgrounds were over-represented in the sample yet 91% reported having gambled at least once, and 31.8% at least weekly over the immediate preceding year period. Card playing and casinos were the most favoured forms engaged in by 45% of students, while 29% wagered on horse-racing.

Just over half Lesieur's student sample stated that they had gambled in the

company of parents, while 15% either had arguments with parents over gambling or were secretive over their involvement.

Overall, 3.5% of students exhibited four or more index signs for pathological gambling with a slightly higher figure of 5.3% expressing a desire but inability to cease gambling. Of the total sample, 10% reported obtaining gambling funds through illegal avenues; 5% drug sales, 2% stealing from someone at home, 3% shop-lifting, 4% other types of theft, 1.5% involvement in the illegal gambling industry, and 3.5% to other non-specified activities.

Lesieur's findings did not suggest a relationship between close proximity to casinos and problem gambling. However, variables of sex, parental gambling and extent of personal gambling significantly related to pathological gambling indicator signs suggesting that males who gambled frequently and from a family background that included gambling, were most at risk to develop pathological gambling traits and utilize illegal means to obtain gambling funds.

No studies have investigated the prevalence of gambling behaviour in Australian adolescents. However, our clinical experience indicates that a minority of adolescents do steal to support their gambling habits, but the presence of major and/or drug-related crime in this age bracket is exceptional.

4.6 Pathological Gambling Amongst Prisoners

The British Royal Commission on Gambling (1978) considered that gambling was of marginal importance as a direct contributing factor in the conduct of petty or serious criminal acts. Similarly, Cornish (1978) in his extensive review, concluded that

gambling was a covariate of antisocial personality or reflected a 'disorganized and feckless lifestyle' of extravagance. That certain crimes were directly linked to excessive gambling was not disputed by these authors. However, they argued that the desire to live extravagantly in a style which included gambling, or that gambling to replace funds embezzled for various other purposes were more apparent motivating factors and that even if a causal link did existed, it accounted for an insignificant proportion of crimes.

Levey (1984) determined the incidence of offenders with a gambling problem amongst the caseload of an unspecified number of probation officers in England. Responses were obtained from 230 clients known to gamble. They represented 14% of the probationer's total population of cases. Of these clients, 13% acknowledged gambling to be a problem. Levey reported that in terms of the known caseload, gamblers accounted for 2%, a figure comparable to that of the 1% reported in two earlier surveys.

The conclusion of both the Royal Commission (1977) and Cornish (1978), that the prevalence of gambling-related crime was low, was predicated on minimal empirical data. Although rates between 1% to 38% of problem gambling within prison populations have been reported (Roebuck, 1967; Sewell, 1977; Royal College of Psychiatrists, 1977; Levey, 1984), methodological inadequacies inherent in these studies make interpretation of data difficult. Consequently the ability to tease out the degree to which crimes committed were specifically gambling-related is not possible.

Recently, a number of surveys have reported findings suggesting higher prevalence rates of pathological gamblers amongst prisoners and a more direct relationship between excessive gambling and crime. Lesieur and Klein (1985) used a validated pathological gambling questionnaire to classify 30% of 448 prisoners as

pathological gamblers and concluded that prisoners were 10 to 15 times more likely to be pathological gamblers than the general population.

From interviews with Gamblers Anonymous members, prison security and probation officers, Bellringer (1986) concluded that 60% of male prisoners had gambling problems, and that in 20% to 30% of cases, gambling was a significant contributing factor in their offending. Without specifying his selection criteria, Bellringer administered a questionnaire to 12 inmates who, presumably, were attending Gamblers Anonymous meetings. Results showed that the imposition of a jail sentence was the direct result of gambling-related offences in eleven inmates with only four stating it to be their first custodial sentence. Three inmates stated that the threat of prison was not a deterrent for future gambling.

Jones (1990) administered the **South Oaks Gambling Screen (SCOGS)** diagnostic questionnaire and an **Assessment of Contribution of Gambling to Offending (ACGO)** to 60 prison inmates of Wooroloo, Barton's Mill, Karnet and Bandyup prisons in Western Australia. Of the sample, 22% (n=13) met criteria for classification as 'probable problem gamblers'. These subjects were further separated into two groups, 'gambling related offenders' and 'non-offence related' on the basis of responses to the ACGO. The average age of the two groups were similar, 28 years and 29 years respectively. Eight (13%) inmates reported gambling related offences with three of these (5%) citing gambling as the main reason for their offending. The majority (75%) of inmates reporting gambling related offences had been convicted by age 17 years with 62.5% being imprisoned by 19 years of age as compared to 42.5% of those reporting non-gambling related offenders convicted by age 17 years. In 75% of cases for the gambling related offenders, the type of crime was robbery. One had committed fraud (289 charges) and one, the importation of heroin. The amount of

money involved in offences ranged from $200 to $4 million with a median figure of $62,000.

As expected, there was a functional relationship between gambling related offences and frequency and intensity of gambling behaviour. All gambling related offenders gambled 2 to 3 hours per session 3 to 5 times per week, and incurred weekly losses of $50 to $2,000 (median=$1,300) on an income of $100 to $600 (median=$250) per week.

Significantly, 48% of the sample of gambling related offenders reported that they had attempted to cease gambling, with 38% indicating that they would be less likely to re-offend if they could control their gambling.

Substantial indirect evidence exists which suggests that a significant proportion of pathological or compulsive gamblers engage in illegal behaviours to supplement their available gambling funds. The purpose of this study was to obtain empirical evidence to determine whether or not a relationship between pathological gambling and crime exists.

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

5.1 Rationale

There is an absence of any empirical Australian data validating pathological gambling as a risk factor for criminal offences. The primary purpose of the present study was to describe the prevalence rate and the essential features of gambling-related criminal behaviours which may be carried out by pathological gamblers in their attempt to maintain their habitual gambling behaviours.

The study was further motivated by the need to obtain empirical data to validate assertions made by welfare groups and others who argue for the existence of a strong causal relationship between gambling and criminal offences. For example, the Reverend John Tully, in his monograph "**Crime, Fraud, Corruption, Confidence Tricks, and the Compulsive Gambler**" states that "*Gambling is often the CATALYST, together with alcohol and sex, that makes sense of the many criminal episodes in the lives of otherwise honest and good people.*" (Tully, 1990; p4). He also asserts that "*FRAUD and CRIME of one type or another is constantly occurring on the Gold Coast, and in South East Queensland. It will increase wherever gambling increases.*" (Tully, 1990; p11). Despite these confident claims, he does not offer significant data to support his assertions nor does he attempt to exclude other mediating factors that may explain any apparent observed relationship between crime and gambling.

The proposition that a strong causal link exists between these behaviours has been offered in courts of law as an argument in defence of gamblers who have been prosecuted for alleged offences or, alternatively, has been offered as a significant mitigating factor which magistrates should rightly take into consideration in sentencing offenders.

Further, references to changes in the pattern of crime statistics have also been used as the foundation for arguments expressing opposition to the introduction or extension of gambling facilities. Tully (1991) in an address to the South Australian Conference on Gambling arguing for the curtailment of excessive gambling opportunities, highlighted the Brisbane Sunday Sun report of the 23rd March 1984 referring to the Atlantic City (USA) experience of:

* a fourfold increase in crime over a six year period to 1984,
* that more than one in three people were victims of crime, and
* that police were unable to control the 'crime wave'

implying that such crimes were directly or indirectly related to the introduction of casino gambling to New Jersey.

Such arguments ignore other potential contributing factors that are independent of gambling but may explain an increase in crime rates. For example, crimes known to be associated with a broad range of tourism attractions, drug-related offences, prostitution, and street crimes of assault and robbery (Jud, 1975; Fujii and Mak, 1980; Pizam, 1982). Ochryn (1990) found that the mean crime rate of three tourist areas including the New Jersey Atlantic City casino region and two other New Jersey urban centres did not differ significantly from each other. He observed that the mean crime rate differed between tourist and non-tourist areas but not between tourist areas with and without gambling facilities, and concluded that increases in crime rates may be independent of the effects of gambling. Casinos operate in close proximity to tourism sites or attract

tourist activities. Any concurrent increase in crime therefore may reflect the influence of tourism rather than that of gambling.

It is imperative that basic information on the fundamental relationship between pathological gambling and crime is obtained to ensure rational debate upon which policy making decisions regarding the treatment, rehabilitation and the judicial process in dealing with pathological gamblers are based.

5.2 Aim

The aim of the study was to obtain descriptive statistics of criminal behaviours in a group of pathological gamblers seeking treatment from a hospital based programme, and a group of Gamblers Anonymous attendees. Specific hypotheses that were tested were as follows:

Hypothesis 1: That there is a high prevalence rate of criminal behaviours amongst pathological gamblers.

Hypothesis 2: That the types of crimes committed by pathological gamblers are crimes against property.

Hypothesis 3: That a large percentage of criminal behaviours of pathological gamblers remain undetected.

Hypothesis 4: That the majority of pathological gamblers do not have anti-social personalities.

Hypothesis 5: That pathological gamblers exhibit anti-social personality traits in response to problems generated by gambling behaviour and subsequent attempts to conceal their activities.

5.3 Ethical Issues

Prior to commencement of the project, the research proposal was submitted to the Eastern Area Health Service Board for ethical consideration. The Ethical Committee's recommendation for ethical approval given in writing by the Board of Directors was accepted.

The research design was forwarded to the Criminology Research Council, Australian Institute of Criminology, as part of the grant application process.

The ethical issue of disclosure of information regarding serious offences which may have been conducted by individuals and revealed during interview remained a sensitive and difficult issue throughout the progress of the project. Confidentiality was emphasized but its need was balanced by the ethical necessity of informing subjects that any disclosure of certain major criminal offences may lead to the research investigator being obligated to notify relevant authorities of such acts.

Under these circumstances, it was accepted that a proportion of subjects would fail to reveal significant gambling-related crimes that they may have committed. However, the effect of an under-reporting of such offences would result in an overall weakening of the magnitude of any relationship to be found between gambling and crime. Any observed relationship, therefore, would err in the direction of being a conservative estimate and therefore strengthen the confidence in any positive finding that emerged.

In no instance did a subject describe involvement in significant criminal behaviours of violence against persons, or report active engagement in serious criminal

offences at the time of interview that would warrant breach of confidentiality and notification of appropriate legal authorities.

Anonymity and confidentiality of individual records and psychological measures was emphasized. For the Gamblers Anonymous sample, anonymity and confidentiality was relatively easily assured in that members were not known to the researchers and were introduced only on a first name basis. Interview schedules and psychological measures were identified by subject number only and, after collation, were not traceable to any individual.

For hospital patients who were known to the researchers in the context of a treatment setting, all interview schedules and psychological measures were randomly allocated a subject number without reference to personal identifying data. Patients were reassured that no master recording sheet was retained thus ensuring that individual patients and record data could not be correlated at any later date.

The imposition of anonymity on Gamblers Anonymous and hospital patient interview and questionnaire protocols precluded the opportunity to corroborate or verify the accuracy of data obtained through confirmation by spouses, family members or significant others in the gamblers' lives. This inability to corroborate data reduced the degree of reliability of self reports but, in the absence of alternative solutions, dictated our need to accept this level of unreliability. Further research aimed at replicating the results reported is indicated.

5.4 Research Method:

5.4a The Prince of Wales Hospital Subjects:

One hundred and fifty-eight consecutive patients presenting at an initial scheduled appointment to the pathological gambling behavioural treatment programme at the Psychiatric Unit, The Prince of Wales Hospital Randwick, over a twelve month period were requested to participate in the project. Five patients refused. One subject's interview but not psychological test data were lost, giving an overall total N of 152 for demographic, and 153 for psychological test scores.

An indeterminate number of patients made telephone enquiries requesting details of the programme but failed to follow through by making appointments or made but did not attend appointments. A record of these approaches was not maintained thus preventing an estimate to be made of the degree to which the gamblers who were included in the project were representative of all gamblers who had initially approached the hospital.

There were 134 males (88.2%) and 18 females (11.8%) included in the sample. Their mean age was 37.08 years, (S.D.=10.61 years; range 17 to 73 years), median age 35 years, and modal age was 30 years.

5.4b The Gamblers Anonymous Subjects

One hundred and fifty-four Gamblers Anonymous members participated in the project. There were 137 males and 17 females. The mean age of the sample was 39.67 years (S.D.=11.40; range 17 to 64), median age 39 years, and modal age 48 years.

5.5 Procedure

5.5a The Prince of Wales Hospital Sample

Patients seeking consultation at the Prince of Wales Pathological Gambling Programme were referred through a number of sources including self-referral from mass media information campaigns, general practitioners, clinical psychologists, and referral from psychiatrists, probation and parole officers, and, in less than ten percent of cases, through court order to attend treatment. All patients were individually assessed for suitability for the behavioural programme and all met the Diagnostic and Statistical Manual III (A.P.A., 1980) criteria for diagnosis as pathological gamblers.

There were essentially two broad categories of patients; inpatients admitted for a period of one week, and those attending treatment on a daily outpatient basis over a similar time period.

For inpatients, the interview schedule was administered on the first day of admission into hospital and prior to commencement of therapy. For those electing treatment on an outpatient basis, interviews were given at their initial consultation or second assessment session. For both groups, psychological test batteries were handed to them with instructions to complete and return or post them within a day. The battery of test required an hour or so to complete. Although interview data was recorded, a significant proportion of patients failed to complete and/or return psychological test batteries.

A large minority of outpatients completed interviews but failed to attend for their scheduled appointment for treatment. Given the ethical consideration of not recording

names and contact numbers for patients who had completed the interview, it was not possible to approach them with a subsequent request for completion or return of the psychological measures. However, as these patients had approached the hospital and were considered suitable candidates for the behavioural programme, they were regarded as valid hospital patients and their interview data component included as part of the project.

Among the hospital sample, it was difficult to reliably ascertain the degree of overlap between Gamblers Anonymous and non-Gamblers Anonymous attendees. Several patients had commenced attending Gamblers Anonymous during the course of treatment, others had attended only one or two meetings immediately prior to admission, while still others had attended regularly or irregularly many years previously. A similar situation was encountered when dealing with Gamblers Anonymous members, some of whom had previously completed one of the two hospital inpatient programmes located within the Sydney metropolitan area.

The decision was therefore made to dichotomize individuals according to the treatment that they were currently undergoing at time of interview. An exception was made for a group of twenty-five hospital patients who were still committed Gamblers Anonymous members and had been for at least six months having attended Gamblers Anonymous meetings on a regular weekly basis. This group was included within the Gamblers Anonymous sample.

5.5b Gamblers Anonymous Sample:

Gamblers Anonymous is a self-help group adopting a similar principle, structure and philosophy to that of Alcoholics Anonymous. It strongly advocates the belief that

pathological gambling is a progressive illness which can be arrested but never cured (Gamblers Anonymous, 1984). The organization incorporates a twelve-step recovery programme and emphasises the sharing of common experiences and the provision of mutual support through a either group process or individually on an on-call basis to assist members to remain abstinent.

By its general nature, Gamblers Anonymous draws members from a broad range of socio-economic classes. Phil S., the founding member of Gamblers Anonymous described the historical development of Gamblers anonymous at the First Australian Gamblers Anonymous National Conference in 1986.

The inaugural meeting of Gamblers Anonymous was held in Los Angeles, California on the 13th September, 1957. Australia holds the distinction of hosting the first meeting arranged outside of the United States of America. This meeting was conducted with three members present on the 25th November, 1961 at the Church Hall, corner Cleveland and Holborn Streets, in Sydney's Surry Hills district. Between 1961 and 1963 attendance figures varied from two to twelve attendees and the venue subsequently moved to York Street, Sydney, with a further group opening in Blacktown. In the period around 1969, interstate groups were established in Victoria, Western Australia, South Australia and Queensland.

Few studies have systematically evaluated potential differences between Gamblers Anonymous members and pathological gamblers attending hospital based programmes. It may be that more severely disturbed pathological gamblers require intensive treatment offered within hospital settings, or alternatively, gamblers seeking such treatment may originate from higher socio-economic strata and have the necessary resources, knowledge and ability to access formal medical services

independent of the severity of their disorder. Consequently, it was considered important for this research project to broaden the source of subjects and to compare the differences between both hospital and Gamblers Anonymous sample.

Gamblers Anonymous members may not be representative of the total population of pathological gamblers. Brown (1985) conducted a five year retrospective and three month prospective study of Gamblers Anonymous attendance rates in the United Kingdom providing the only available empirical data on this organization. The minutes of three group meetings over five years were audited and two hundred and thirty two pathological gamblers were found to have had attended at least one session over this period. Results revealed a drop-out rate of 22% after only one meeting with a total of 70% dropping-out after attending ten or fewer meetings. Findings revealed that only ten percent of gamblers had consistently attend Gamblers Anonymous over a twelve month or longer period.

In the United States of America, patients attending Veteran's Administration Hospitals represent a sample of individuals with a military service background. This group has been shown to exhibit more signs of pathology, a higher familial history of suicide, and suffer a higher incidence of alcoholism, drug abuse, personal history of suicidal attempts, imprisonment and indices of severity/intensity of gambling behaviour as compared to Gamblers Anonymous members (Custer and Custer, 1978; Ramirez et al., 1984; McCormick et al., 1984).

A proportion of pathological gamblers attend Gamblers Anonymous prior to, concurrent with, or subsequent to, hospital-based treatments. The degree of overlap will be dependant upon the strength of the affiliation between hospital-based treatments and Gamblers Anonymous. In the United States of America, hospital-based

programmes include mandatory attendance at Gamblers Anonymous as part of their inpatient programme. This is less the case in Australia where attendance is encouraged but not stipulated. The proportion who continue voluntary attendance at Gamblers Anonymous post-hospital discharge in Australia remains unknown.

It was decided to include Gamblers Anonymous attendees as a comparative sample to investigate biases in the hospital derived sample.

5.5c Difficulties in Achieving the Anticipated Sample Size of Gamblers Anonymous Members over the Twelve Month Study Period.

It is difficult to estimate the number of Gamblers Anonymous members at any particular point in time given the prominence placed on anonymity and the absence of membership registers, attendance at multiple group meetings by some individuals, and sporadic attendance by others. However, at the inception of the project, discussion between Gamblers Anonymous representatives and the authors indicated that a sample size of 300 Gamblers Anonymous subjects was an achievable objective over a twelve month period.

Current estimates suggested that there were up to 40 Gamblers Anonymous groups in Australia (personal communication; Gamblers Anonymous Members), each containing between four to twenty or more members at any one meeting. There were approximately 15 groups within the Greater Sydney metropolitan area, giving a total possible point prevalence population in excess of 300 members.

Several difficulties were encountered in interviewing sufficient numbers of Gamblers Anonymous members to achieve the anticipated sample size of 300:

1. Although a few meetings contained more than twenty participants, the average number attending a particular group varied between 6 to 12 members. New members attended at inconsistent intervals, a significant proportion attending for only one to three weeks. Consequently, after the first wave of interviews were completed at a particular venue, there were a number of occasions on which no new members were available for interview at subsequent meetings.

The secretary of one venue (Newcastle) had maintained a record of the number of members and the frequency of their attendance over a nine month period. As shown in Figure 1, 62.26% of the group had contact with that particular Gamblers Anonymous venue for less than two months. Overall, there were 12 new members over that period with a further 164 members on their attendance record book.

2. Anonymity is of central importance in the philosophy and conduct of Gamblers Anonymous. This issue of anonymity precluded obtaining the names and addresses of attendees to allow interview sessions to be scheduled at mutually convenient times or venues. Therefore all interviews had to be conducted during the course and on the premises of the Gamblers Anonymous meeting. Individuals were interviewed separately in an adjoining room or quiet area.

Number of Weeks a Group of 53 Gamblers Had Attended Gamblers Anonymous Meetings Over a Year Period

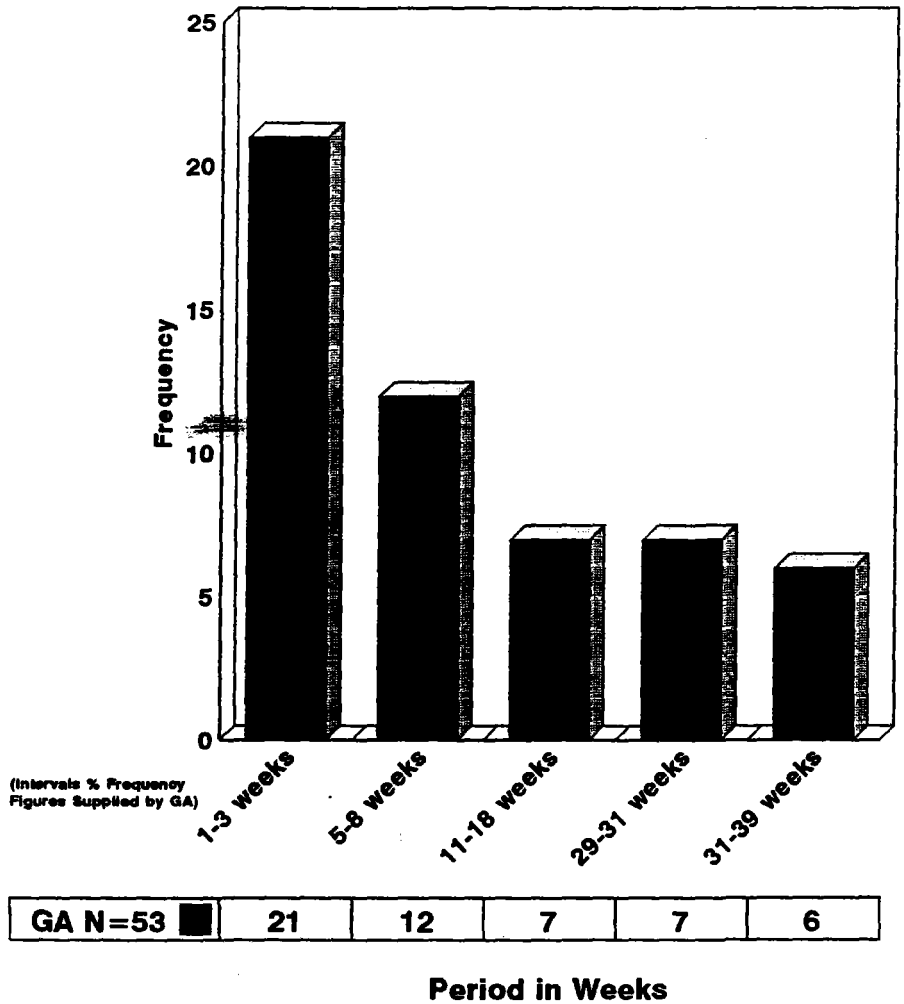


Figure 1

This arrangement proved less than satisfactory over the course of the research project. In the early stages of the project members were generally compliant. However, as the interviews progressed, it became apparent that negative feedback

was emerging revealing that a minority of members resented the request to absent themselves from the evening's therapy proceedings to be engaged in an interview lasting an hour or so. This resentment led to two venues being reluctant to allow access to their meetings. In response, the battery of psychological test measures were significantly reduced and then eliminated to accommodate the request to minimize disruption to therapeutic processes.

The negative reaction to the project was further exacerbated by a number of scientific conference presentations and mass media comments at which the first author advanced the possibility of controlled gambling as an acceptable therapeutic outcome in the behavioural treatment of pathological gambling. Given that the view expressed by the author at these conferences was diametrically opposed to that advanced by, and central to, the Gamblers Anonymous' dogma, a number of their members subsequently declined to participate in the project.

A small number of protocols were sent to Mainline, an organization established in Western Australia to treat and carry out research into pathological gambling, with a request to administer the questionnaires to its patients. This organization is the only non-hospital-based group other than Gamblers Anonymous addressing issues relevant to pathological gambling. Unfortunately, Mainline, a private organization, not unreasonably requested payment for its involvement in administering the questionnaires. This request was unable to be met given the cost and lack of financial resources and consequently no completed copies were returned.

5.6 Measures Used.

5.6a Structured Pathological Gambling Interview Schedule

A sixty-five item Structured-Interview Schedule (see Appendix I) was developed for this project. The Schedule was designed to obtain information on:

1. the demographic details and family characteristics,
2. history of early gambling and current pathological gambling,
3. major sources of gambling funds,
4. the nature, frequency and extent of both gambling-related and non-gambling-related illegal activities,
5. legal proceedings initiated for gambling-related and non-gambling-related illegal activities,
6. alcohol and drug use,
7. anti-social personality features, and
8. psychiatric history.

The items for the Interview Schedule were derived from two primary sources;

(a) items identified as of clinical importance in defining pathological gambling characteristics, and

(b) items considered relevant for our purposes from the South Oaks Gambling Screen (Lesieur and Blume, 1987), Blaszczynski's Gambling Study Interview Questionnaire (Blaszczynski, 1988), and Gamblers Anonymous twenty questions. Where appropriate, several items were modified for the Australian context.

The Interview Schedule was initially administered to ten Prince of Wales Hospital inpatients as part of a pilot study. As a result of findings, modifications were made to the Schedule to include additional items relating to changes in the type of gambling from the pre-morbid to pathological phase of gambling, degree of awareness of the magnitude of crimes carried out, level of impulsivity in initiating crimes, and the impact of gambling on employment. The protocols of these ten subjects were excluded from the project sample proper.

In respect of gambling-related illegal behaviours, respondents were asked to describe the type and frequency of all illegal acts committed over their life-time (life-time prevalence). The types of crimes were classified according to the following categories:

1. Armed robbery.
2. Break and enter.
3. Drug dealing.
4. Shop-lifting.
5. Larceny/theft.
6. Misappropriation.
7. Embezzlement.
8. Pimping/prostitution.
9. Other.

Inherent difficulties were experienced in attempting to precisely define and accurately classify the myriad of offences reported by gamblers. Given the lack of legal training on the part of the interviewers, the decision was taken to dispense with any attempt to follow rigidly formalistic judicial definitions for classification in preference to

the use of broad categories. Therefore, for purposes of this project, the following guide-lines derived from Peter Gillies', **"Criminal Law"** (1985), were used in order to categorize illegal acts:

1. **Armed robbery**: This included the theft of money or property in the context of threat of harm through violence by physical assault or use of weapon. The offence covered such acts as armed bank hold-ups, service stations or shops, and 'muggings and/or rolling drunks'.

2. **Break and enter**: Break and enter was broadly defined as the entry into a building or home as a trespasser with intent to steal. The use of force or breaking of locks/windows to gain access was not considered relevant for this classification. Consequently, this category covered such acts as unauthorized entry into an office/building or vehicle for the specific purpose of finding valuables/money to steal.

3. **Drug dealing**: This category described the growing, selling or distribution of illicit drugs for the specific purpose of obtaining money to gamble. Drug dealing was not considered a gambling-related crime and excluded from this category if the offence was one of use or possession, or trafficking where the proceeds were used acquire drugs for self use or purchase of material goods. In such cases, the offence was defined as non-gambling-related offences.

4. **Shop-lifting**: As implied in the term, this offence covered the act of authorized entry into a store and the subsequent theft of goods from that shop. For the gamblers, the additional criterion for definition as a gambling-related crime was the intent to sell the goods for the specific purpose to obtain money with which to gamble.

5. **Larceny**: The offence of larceny was defined by the act of stealing or theft of money or property without the rightful consent the owner. The money or property was required to have been in the possession of the owner at the time of the offence. Offences that included threat or intimidation by a weapon were delineated from this offence and classified within the armed robbery category.

For purposes of this project, theft of money from the wallet or purse of spouses, parents and immediate relatives were determined to be acts of larceny although it was acknowledged that the likelihood of criminal proceedings being commenced in such cases was negligible. Nevertheless, the intent to steal and knowledge of the wrongfulness of the act was present.

Given that larceny is involved in the offence of fraud, it was considered appropriate to include as larceny the obtaining money or property through false pretences, although strictly at law this offence is distinguished from larceny (Lantham, Weinberg, Brown and Ryan, 1987).

For the purposes of this project, forgery ("*To forge means to make a false document, in order that it may be used as genuine...*" Lantham,

Weinberg, Brown and Ryan, 1987; p176) including imitating another person's signature or endorsement on a cheque, the counterfeiting of an endorsement or signature on a document, or the alteration or falsification of a document in order to procure money, was classified as larceny.

6. **Misappropriation:** Where an individual collected or received any money or valuable property on conditions that required him/her to deliver, account for, or pay those monies to a third party, but fraudulently misappropriated that money or valuables for his/her own use, or failed to account for all or part of the property, these offences were considered to have met the criteria for this category. This category related to sales representatives, some accountants, delivery/courier drivers, and other similar collectors of money.

   To distinguish this category from theft, the intent to obtain the money or property was deemed to have occurred at the time of misappropriating or failing to account for the money rather than at the time of actually acquiring the money. The money or property was not in the possession of its rightful owner at the time thereby differentiating it from larceny.

7. **Embezzlement:** An offence of embezzlement was broadly defined as the misappropriation of money or property received by an employee on behalf of the employer, and before that money reached or was placed in the possession of that employer. The distinction between this category and larceny rested upon the issue of possession, that is, if monies were collected in the course of employment as a bank-teller, shop-keeper or accountant but retained for the purposes of gambling before such monies were actually given to the employer, the act was defined as embezzlement.

If the monies were given to the employer and subsequently taken, the act was defined as larceny. The offences of embezzlement and larceny are mutually exclusive (Lantham et al., 1987).

8. **Pimping/prostitution**: These behaviours were included on the basis that a number of American studies have reported, in samples of pathological gamblers, acts of prostitution and pimping carried out to either repay debts or obtain gambling money. The extent to which such acts reflect a general criminal lifestyle in which gambling is an incidental activity, or a rapid and easy source of revenue for gambling remains unclear. Cultural differences in the gambling scene between America and Australia may account for the prevalence of these offences in America which are not observed in Australia. For example, American casinos provide extensive entertainment activities in addition to gambling facilities. In this context prostitution/pimping may arise in association with the entertainment industry rather than being linked to casinos. Nevertheless, this category was included to allow trans-cultural comparison with overseas studies.

9. **Other.** this residual category was included for other low frequency or esoteric offences.

The Interview Schedule also contained Diagnostic and Statistical Manual III (1980) items for the diagnosis of Anti-Social Personality Disorder but with items referring to sexual behaviours excluded. Given that the interview was being administered to a volunteer non-patient group, it was considered appropriate to delete such questions to avoid risk of causing embarrassment or offence.

Crime is usually defined as an intentional act carried out in transgression of the law and punishable at law (Bartol and Bartol, 1986). To be held responsible, an individual must be deemed to have known that what he/she was doing and that the act was wrong according to the laws of society. Accordingly, it has been argued that those who carry out 'undetected criminal acts' are not criminal in the strict operational sense, because a criminal is by definition one who has been detected, charged and convicted (in Bartol and Bartol, 1986). This argument, while not disputed by the authors, was considered to be outside the terms of reference for this project. The purpose was not to identify the prevalence of convictions for gambling-related crimes in pathological gamblers, but rather to assess the extent of any illegal activities whether detected or not that were carried out to maintain habitual gambling behaviours. For this reason, the term 'criminal act' was used in the broadest sense of detected and non-detected criminal activities.

Respondents were requested to estimate the frequency with which each of their offences were carried out. This proved difficult with certain types of repeated offences such as shop-lifting or theft. Some gamblers reported a high frequency of such offences over a protracted period of time, for example, shop-lifting or pilfering small amounts of money from the till or petty cash on an irregular but approximately weekly basis over several years. In these cases, the frequency was calculated by averaging the number of offences over the given period.

A similar problems arose in estimating the amount of money involved in individual offences. Given the large variance in amounts reported, respondents were asked to estimate the minimum, maximum and average amounts of money involved in their offences.

5.6b Psychological Measures

The aetiology of pathological gambling is multidimensional in nature, the end result of a complex interrelationship between environmental, personality, cognitive, behavioural, and emotional determinants. Blaszczynski and McConaghy (1989) concluded that available evidence supported the concept that pathological gambling is in part a maladaptive coping strategy in response to anxiety, depression and emotional stresses. However, studies have not attempted to elucidate the relationship between personality factors, sensation seeking traits, impulsivity, depression and anxiety and criminal behaviours in groups of pathological gamblers.

In his extensive review of the literature, Ellis (1987) concluded that evidence supported the hypothesis that a substantial association existed between criminality, psychopathy and behaviour patterns indicative of sub-optimal levels of arousal including impulsivity, risk-taking and sensation seeking, recreational drug use, and preference for social interactions. However, in the gambling literature, studies have not shown that pathological gamblers exhibit high sensation seeking traits (Blaszczynski, McConaghy and Wilson, 1986) or impulsivity (Allcock and Grace, 1988) but do manifest significantly higher levels of general psychopathology (Blaszczynski and McConaghy, 1988).

A number of psychological measures were therefore included to investigate the hypothesis that pathological gamblers who committed criminal behaviours loaded highly on general measures of psychopathology, poor tolerance for boredom, impulsivity and sensation seeking traits. The following scales were used:

(a) Zuckerman's Sensation Seeking Scale (S.S.S.) Form V.

(Zuckerman, 1979).

This is a forty item forced-choice self-report questionnaire which produces four subscales in addition to a total score: Thrill and Adventure Seeking (T.A.S.) associated with a propensity to engage in sports or physically dangerous pursuits; Experience Seeking (E.S.) involving changes to life-style and stimulation of the mind; Disinhibition (Dis.) manifested by outgoing social behaviours and gambling; and Boredom Susceptibility (B.S.) characterized by an inability to tolerate repetitive experiences and monotony. The Total Scale score is a summation of the four subscale scores.

The Sensation Seeking Scale aims to identify optimal functional levels of stimulation reflecting a basic personality dimension. The high sensation seeker is defined as "a person who needs varied, novel, and complex sensations and experiences to maintain an optimal level of arousal" (Zuckerman et al., 1972, p308). Activities described in the Sensation Seeking Scale contain elements of danger and produce some form of physical sensation. These experiences may be grouped under the category of sensations from external stimuli (Lyons, 1985). High sensation seekers become bored easily and are more sensitive to inner sensations and less conforming to external constraints.

Inconsistent findings have been reported in regard to elevated high sensation seeking scale scores in groups of criminals/sociopaths (Stewart and Hemsley, 1984; Zuckerman and Neeb, 1979).

(b) Eysenck's Personality Questionnaire (E.P.Q) (Eysenck and Eysenck, 1975).

This is the most recent development of the Eysenck Personality Inventory from the Maudsley group. The questionnaire contains measures of;

1. **Neuroticism** (N): describing persons who are characteristically anxious, worried, labile in mood, and over-reactive emotionally,

2. **Extroversion** (E): referring to traits of sociability, excitement seeking and, to a certain degree, impulsivity,

3. **Lie** (L) scale: a measure of validity to control for persons who respond in a consistently socially desirable fashion,

4. **Psychoticism** (P): a scale composed of items considered to reflect coldness of feeling, aggressiveness and unconventionality. Research conducted by Eysenck, Pearson, Easting and Allsop (1985) found impulsivity Scale scores to be closely aligned with Psychoticism scores, while Rawlings (1984) similarly found these scores to correlate significantly with two behavioural measures of impulsivity.

The Questionnaire has been demonstrated to have an acceptable level of reliability and validity and is widely used in clinical and research settings.

(c) Symptom Checklist 90 (Derogatis, 1977).

The SCL-90, developed from the Hopkins Symptom Checklist, is a 90-item self-report symptom inventory designed to provide a current point-in-time assessment of psychopathology. The scale is not a measure of personality and was included to obtain an estimate of the nature and severity of overall psychopathological symptomatology.

Respondents are requested to rate on a five-point scale, their discomfort levels of symptoms experienced during the immediate preceding seven day period. The

checklist contains nine subscales; obsessive compulsive (O-C), interpersonal sensitivity (I-S), depression (Dep), Anxiety (Anx), hostility (Hos), phobic anxiety (Pho), paranoid ideation (Par), and psychoticism (Psy), and three global indices of distress; global severity index (GSI), positive symptom distress index (PDSI), and positive symptom total (PST).

(d) Beck Depression Inventory (Beck et al., 1961).

The Beck depression Inventory is a commonly used 21 item clinically derived self-assessment scale measuring depth of current depression. Depression is defined as "an abnormal state of the organism manifested by signs and symptoms such as low subjective mood, pessimistic and nihilistic attitudes, loss of spontaneity and specific vegetative signs." (Beck, 1967; p202).

Items are scored on a three point scale with the total summative score representing a combination of the number and intensity of depressive symptoms. Scores correlate highly with clinical judgment and with the Hamilton Rating Scale (Hamilton, 1960).

(e) Boredom Proneness Scale (Farmer and Sundberg, 1986)

The Boredom Proneness Scale was administered to test the hypothesis that pathological gamblers seek stimulation as a means of reducing aversive under-aroused states of boredom and/or depression. Although viewed as an independent construct but overlapping with depression, boredom prone individuals are considered to characteristically exhibit lack of interest and varying degrees of depression, hopelessness, loneliness, and distractibility. It is a 38 item self-report measure.

Presumably, if individuals who engage in criminal behaviours score highly on sensation seeking traits, their tolerance for boredom may be low. The scale was included to test the hypothesis that pathological gamblers who commit crimes have poor tolerance for boredom.

(f) The Eysenck and Eysenck Impulsivity Scale (Eysenck and Eysenck, 1977)

The fundamental deficit underlying pathological gambling is one of impaired impulse control and/or loss of self-regulatory behaviour. While some studies support the contention that pathological gamblers score highly on measures of impulsivity (McCormick, Taber, Krudelbach and Russo, 1987; Taber, McCormick and Ramirez, 1987) others have reported contradictory findings (Allcock and Grace, (1988).

Impulsivity is also considered a central component of psychopathic or antisocial personality (Blackburn, 1974; Hare and Schalling, 1978; Ziskind, 1978). The purpose of including a measure of impulsivity, therefore, was to determine the relationship between pathological gambling and impulsivity, and the presence of criminal behaviour and impulsivity in specific subgroups of gamblers.

Impulsivity is defined as behaviour that is socially inappropriate or maladaptive and emitted without consideration of consequences (Oas, 1985). Eysenck and Eysenck (1977) developed a 43-item self-report measure of impulsivity. The broad measure of impulsivity was found to be made up of four factors; impulsiveness, risk-taking, non-planning and liveliness. Of these, the authors described ***impulsiveness*** as the more pathological trait which correlated with the Psychoticism and Neuroticism

scales of the Eysenck Personality Questionnaire. The scale has moderate to high reliability coefficients but suffers from the weakness that no studies have reported validity coefficients between the impulsivity scale and other criterion measures of impulsivity (Oas, 1985). However, this scale was included given that it views impulsivity as being comprised of multidimensional factors in contrast to most other instruments which define impulsivity in the limited term of a failure to reflect prior to acting or a lack of persistence at tasks.

(g) The Californian Psychological Inventory - Socialization Scale (Gough, 1987).

The 54 item Socialization (So) scale of the Californian Psychological Inventory is based upon a role-taking theory of sociopathy which is consistent with Cleckley's (1976) conception of psychopathy, and was included as an additional measure of antisocial personality traits. It measures the range of asocial to social behaviours manifested in individuals and has been shown to have an impressive array of data supporting its concurrent, predictive and construct validity (Hare and Cox, 1978). The Socialization scale purports to "indicate the degree of social maturity, integrity and rectitude which the individual has attained" (Gough, 1969). Low scorers on the scale are described as defensive, resentful, rebellious, undependable, deceitful in dealing with others and as given to excess and exhibition in their behaviour (Gough, 1969). Hare and Cox (1978) regard this scale as a useful measure of sociopathy when considered in the context of additional clinical indices.

CHAPTER SIX

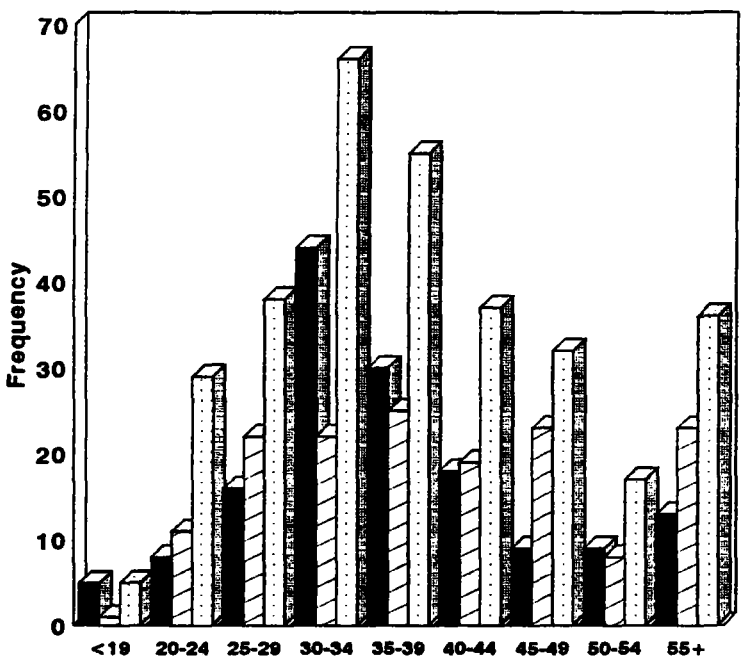
RESULTS

6.1 Demographic Data.

Age:

The mean age of the total sample of 306 gamblers was 38.38 years (SD=11.07 years; range=17 to 73 years) with a median age of 36 years and modal age of 30 years (see figure 2).

Age Distribution of Gamblers:



	<19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+
Hosp N=152	5	8	16	44	30	18	9	9	13
GA N=154	1	11	22	22	25	19	23	8	23
Total N=306	5	29	38	66	55	37	32	17	36

Age in Years

Figure 2

This figure is consistent with the literature which suggests that the mean age that pathological gamblers seek treatment is between 35 and 45 years of age depending on the sample source used. In Australia, pathological gamblers drawn from hospital populations have a mean age of 35 years (Blaszczynski and McConaghy, 1986) as compared to a mean of 42 years for American Veteran's Administration hospital (McCormick, Taber, Kruedelbach and Russo, 1987) and 47 years for Gamblers Anonymous (Custer and Custer, 1978) samples.

Consistent with expectations, the hospital subjects in the present study were found to be on average significantly younger (mean=37 years) than their Gamblers Anonymous counterparts (mean=40 years)($t=2.06$, $df=304$, $p=0.041$).

Sex Ratio:

The predominant majority of pathological gamblers are males, outnumbering females by a magnitude of 10 to 1 (89% male and 11% female). As seen in Table 4, there was no significant difference in the sex ratios in the Hospital compared to Gamblers Anonymous sample ($X^2=0.002$, $df=1$, NS).

This sex ratio reflects that generally reported in hospital, Veteran's Administration and Gamblers Anonymous samples (Blaszczynski and McConaghy, 1986). Why females are under-represented may be explained by reference to social factors. Females may have less ready access to funds and excessive losses may be quickly recognized by spouses. Also, social attitudes remain critical of females 'hanging' around TAB offices. Of the 35 females, 26 (74.3%) reported poker-machines, and only eight (22.9%) horses, as their main form of gambling. Of the eight females gambling on horses, three stated that they worked in TAB offices. One female (2.9%) reported gambling at legal casinos.

Table 4

Sex Ratio of Gamblers: N=306

Sample	Males		Females	
	N	(%)	N	(%)
Hospital	134	(88.2)	18	(11.8)
Gamblers Anonymous	137	(89.0)	17	(11.0)
Total	271	(88.6)	35	(11.4)

There were no significant differences in the relative proportion of females gambling on horses or poker-machines between the Hospital and Gamblers Anonymous samples (X^2=0, df=1, NS).

The relative number of females in the samples were too small to warrant separate statistical analysis for sex differences on any of the variables studied.

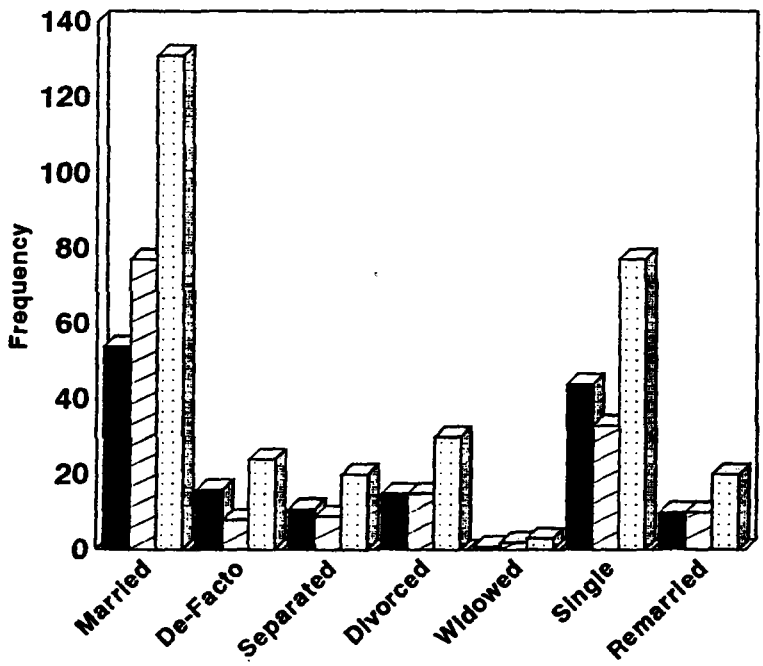
Marital Status:

The marital status of subjects was obtained and is shown in Figure 3.

Of the total sample, 57.5% were currently in a relationship, either married (43%), re-married (6.6%), or living with a de-facto partner (7.9%). The remainder lived on their own or with family members being either single (25.2%), divorced (9.8%), separated (6.6%) or widowed (1.0%).

The proportion of subjects living alone or in a relationship was similar for subjects in both the Hospital and Gamblers Anonymous samples (X^2=2.021, df=1, NS).

Marital Status of Gamblers



Hosp N=151	54	16	11	15	1	44	10
GA N=154	77	8	9	15	2	33	10
Total N=305	131	24	20	30	3	77	20

Marital Status

Figure 3

Educational Level:

The educational distribution of the samples is given in Table 5.

Table 5

Educational Levels Achieved by Gamblers

Sample	Primary		Secondary		Technical		University	
	N	(%)	N	(%)	N	(%)	N	(%)
Hospital	3	(2.0)	108	(71.1)	25	(16.4)	16	(10.5)
Gamblers Anonymous	4	(2.6)	100	(64.9)	30	(19.5)	20	(13.0)
Total	7	(2.3)	208	(68.0)	55	(18.0)	36	(11.8)

Of the group, 70% had attained secondary level or less, 18% technical college and 11.8% university education. There was no significant differences between the hospital and Gamblers Anonymous samples in the proportion of subjects receiving secondary or less and technical or higher educational levels (X^2= 0.858, df=1, NS).

Occupational Status.

Congalton's (1969) four point occupational ranking scale for the Australian population was used to determine the socio-economic status of the gamblers. The distribution of subjects in social classes A (professional; medical practitioners, architects, engineers), B (managerial; office managers, school teachers, accountants), C (skilled; electricians, carpenters, sales person) and D (unskilled; labourers, cleaners,

waiters/waitresses) as shown in Table 6, was 17.1%, 20.7%, 22.0% and 26.5%, respectively. Of the remainder, 9.5% were unemployed for a mean of 26.4 months (SD = 34.89 months; range = 1 to 120 months), and 3.9% were housewifes. Data was unavailable for two subjects.

Compared to the social ranking of their fathers, there was a trend for an shift in socio-economic status for the gamblers as a group. As seen from Table 6, the percentage of subjects from social classes A and B are higher and from B and C lower, as compared to their father's status.

Table 6

Social Class Distribution for N=304 Pathological Gamblers and Their Fathers and Mothers

	Gambler		Father		Mother	
Social Class	**%**	**N**	**%**	**N**	**%**	**N**
A	17.1	52	10.4	31	3.3	10
B	20.7	63	12.1	36	2.3	7
C	22.0	67	34.6	103	5.9	18
D	26.6	81	43.0	128	15.1	46
Unemployed	9.5	29				
Housewife	3.9	12			73.4	223

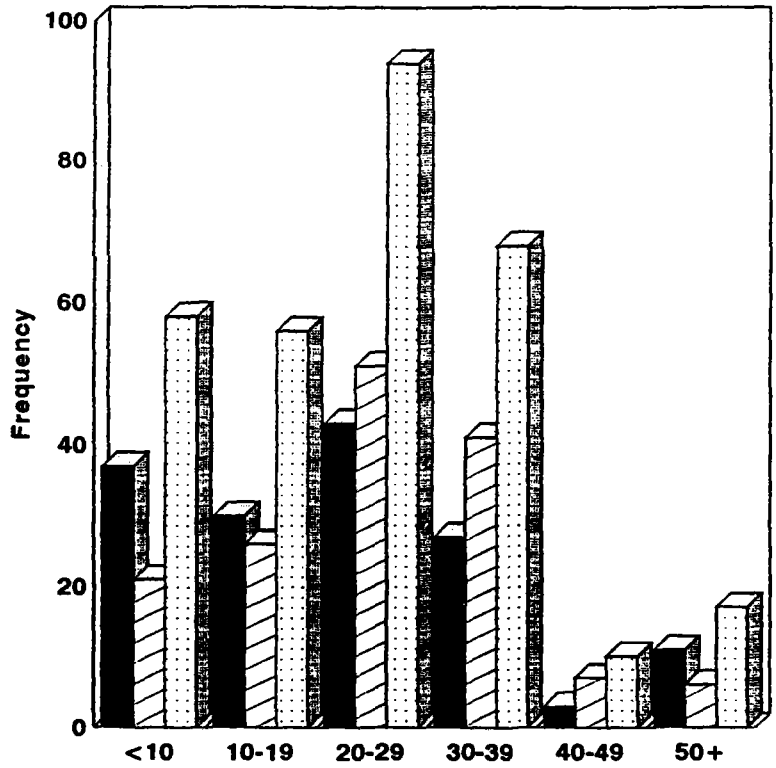
The socio-economic distribution of subjects was similar for both the Hospital and Gamblers Anonymous samples (X^2 = 6.301, df = 3, NS). Of those unemployed, 16 came from the Hospital, and 13 from the Gamblers Anonymous samples with no significant differences between the groups in respect of their period of unemployment (t=1.033, df=27, NS). The mean period of unemployment for the Hospital was 32.44 months (SD = 41.43 months; range = 1 to 120 months) and for the Gamblers Anonymous samples, was 19.0 months (SD = 24.22 months; range = 1 to 84 months).

Income Level:

Subjects were asked to state their average annual income from all sources including salary, shares, interest payments and part-time work. The income distribution of the total sample and Hospital and Gamblers Anonymous subsamples is given in Figure 4.

The annual income of two thirds of the total sample was less than $30,000 per annum. Approximately half (53.4%) were in the range of $20,000 to 39,000 per annum, while a third (37.7%) fell below $20,000 per annum. The distribution of income levels between the two samples were compared by combining the frequency of incomes below $30,000 with those above $31,000 to form a two by two contingency table. Chi-square analysis revealed that the Hospital and Gamblers Anonymous samples did not differ significantly from each other (X^2=2.094, df=1, NS).

Income Distribution of Gamblers



	<10	10-19	20-29	30-39	40-49	50+
Hosp N=151	37	30	43	27	3	11
GA N=152	21	26	51	41	7	6
Total N=303	58	56	94	68	10	17

Income in $000's

Figure 4

Employment History

Stability of employment history was ascertained by asking gamblers to state the number of positions held and the longest period of employment in one job. Given the variance in the number and duration of positions held, gamblers were further asked to

give an estimate of the what they considered to be the average length of time they held a job.

The median number of jobs held by the gamblers was five, with a mean of 8 jobs (SD=10.44; range=1 to 90). The majority of the sample (82.4%) held ten or less jobs over their lifetime but there was a small cohort of 7.1% who reported a highly unstable work record of 20 or more positions.

The mean length of the longest single period of employment was 9.0 years (SD = 8.5 years; range = 4 months to 60 years; median = 6 years) with 17.8% reporting a period of two years or less.

The mean estimated average length of each job held by gamblers was 5 years (SD = 6.6 years; range = 1 month to 46 years; median = 3 years).

A high proportion of gamblers (68.4%) stated that the nature and extent of gambling behaviour had interfered with their ability to work effectively in their job. This interference took the form of lost productivity due to prolonged absence, inefficient attention/concentration to tasks at hand, failure to attend to or follow-up customer requests in preference to placing bets or playing poker-machines, and premature termination of employment to avoid detection of illegal acts. The interference to work was of sufficient severity to lead to resignation or termination of employment in 28.1% of cases. It was not possible to quantify the overall indirect economic loss associated with these behaviours.

While the Hospital and Gamblers Anonymous samples did not differ in respect of the numbers reporting interference with work (X^2 = 1.843, df = 1, NS), there was a

trend just failing to reach significance for more Gamblers Anonymous gamblers to have lost jobs due to gambling (X^2=3.385, df=1, p=0.06).

Ethnicity:

The ethnic background of the gamblers was determined by the asking subjects to describe the background nationality or ethnic origin of their parents. As shown in Table 6, 67% were Australian (non-aboriginal), 11% Northern European, 6% British, and 9% from Mediterranean countries.

Despite the reputed popularity of gambling amongst Asians, only 3.6% of the pathological gamblers interviewed were of Asian origin. This small proportion of Asians most likely reflects an active avoidance of Western-based mental health interventions motivated by a strong cultural-based drive to 'save face' and the family name. Anecdotal reports from treated Asian pathological gamblers would suggest that there is a significant 'hidden' population of pathological gamblers within the Asian community, a large proportion participating in illegal casino gaming.

The distribution of ethnic origin did not differ significantly between the hospital and Gamblers Anonymous sample (X^2=4.77, df=4, (the Asian and Other categories were combined to ensure that all individual cell sizes were greater than 5 for Chi-square analysis), NS).

Table 7

Ethnic Background of Gamblers

Nationality	Hospital N (%)	Gamblers Anonymous N (%)	Total N (%)
Australian	97 (63.8)	109 (70.8)	206 (67.3)
North European	15 (9.9)	18 (11.7)	33 (10.8)
British	14 (9.2)	6 (3.9)	20 (6.5)
Mediterranean	15 (9.9)	13 (8.4)	28 (9.2)
Asian	8 (5.3)	3 (1.9)	11 (3.6)
Other	3 (2.0)	5 (3.2)	8 (2.6)

Religion:

Gamblers were asked to describe their religious affiliation irrespective of their degree of devotion or practice to that religion. In contrast to Protestant religions, Catholics historically do not consider gambling to be sinful (Allcock, 1986). This view is reflected in the tendency for more Catholics to be represented amongst the numbers of pathological gamblers as compared to Protestants and all other religions combined. Certainly, in America, Catholics tend to be over-represented as members of Gamblers Anonymous (Custer and Custer, 1978). Table 7 shows that marginally over half the total sample were Catholics while a third were Protestant. Less Jewish persons (2.3%) were found as compared to the much greater proportion reported in the 1976 American *Commission on the Review of the National Policy Toward Gambling* study. The

Commission study found that 80% of Roman Catholics and 77% of Jews gambled, compared with 54% of Protestants.

Table 8

Religious Affiliation of Gamblers

Religion	Hospital N (%)	Gamblers Anonymous N (%)	Total N (%)
Catholic	81 (53.3)	79 (51.3)	160 (52.3)
Protestant	51 (33.6)	59 (38.3)	110 (35.9)
Jewish	5 (3.3)	2 (1.3)	7 (2.3)
Moslem	2 (1.3)	0 (0.0)	2 (0.7)
Atheist	8 (5.3)	6 (3.9)	14 (4.6)
Other	5 (3.3)	8 (0.2)	13 (4.2)

The distribution of Catholic and Protestant religious affiliations between the Hospital and Gamblers Anonymous sample did not differ (X^2=0.313, df=1, NS).

6.2 Early Gambling History.

Subjects were asked to recall the age at which they first began gambling, the form of gambling they first participated in, and to estimate in 1988 dollar value, the typical or average size of the amount invested in bets over a week period. For this latter figure,

subjects were asked to estimate their net expenditure, that is the amount of their own money gambled and excluding any winnings re-staked.

Age:

Three quarters of the total sample reported that they had commenced gambling by 20 years of age, with 90% having so done by age 30 years (Figure 1). The mean age at which gamblers first began gambling was 18.68 years (SD=7.85 years; range=7 to 54) with no difference being found between the Hospital (mean=18.71 years; SD=7.95 years) and Gamblers Anonymous (mean=18.65 years;SD=7.77 years) sample (F=0.005, df=1,304, NS). The median and modal ages were 17 years and 16 years, respective.

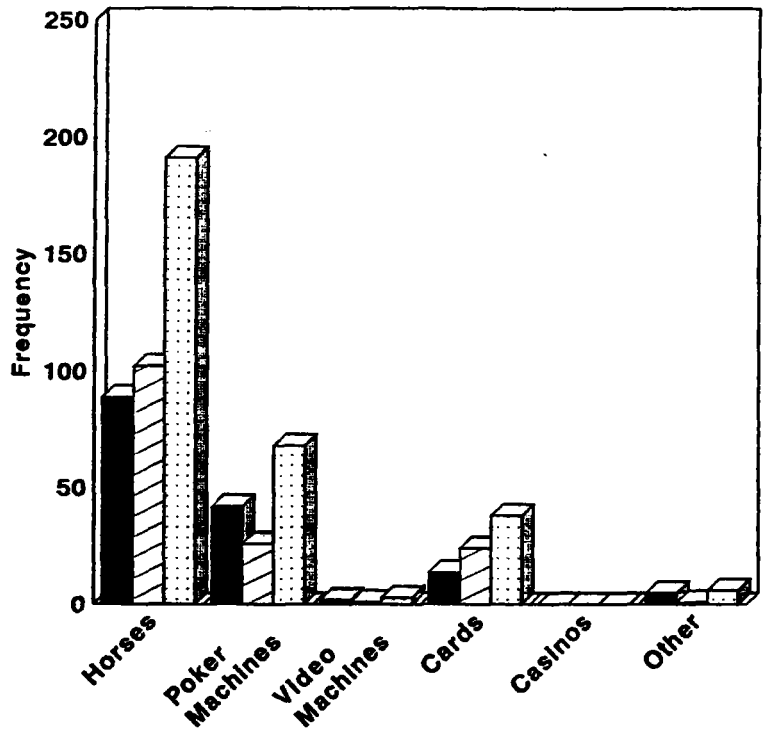
Preferred Form of Gambling:

Figure 5 describes the form of gambling first participated in at the commencement of their gambling career.

Sixty-two percent of subjects reported an initial preference for gambling on horses, 22.2% on poker machines, and 12.4% on cards/dice. Those with a preference for horse races commenced gambling at a significantly younger age (mean=17.68 years) than those selecting poker-machines (mean=23.85 years) (F=32.16, df=1,257, P<0.0001), but there was no significant difference in the amounts bet on each form, a mean of $38 outlay each week on horses and $55 on poker-machines (F=1.411, df=1,256, NS). This age difference is explained by the fact that access to registered clubs, where poker-machines are located, are restricted to adults aged 18 years or older. Despite regulations preventing under age gambling at TAB and on-course gambling facilities, gamblers stated that they were able to place bets through intermediaries, either friends or relative whom they accompanied on-course. A small

number claimed that, as newspaper-boys, they had the opportunity to bet with on-course bookmakers.

Initial Preferred Form of Gambling Selected by Gamblers



	Horses	Poker Machines	Video Machines	Cards	Casinos	Other
Hosp N=152	89	42	2	14	0	5
GA N=154	102	26	1	24	0	1
Total N=306	191	68	3	38	0	6

Form of Gambling

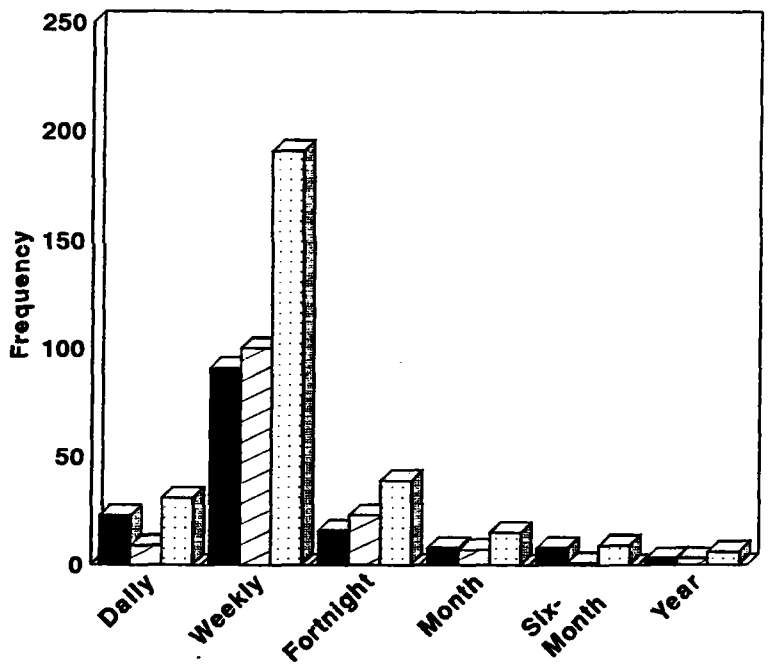
Figure 5

The slightly higher expenditure on poker-machine may be explained by the finding that this group commenced gambling at an older age and, therefore presumably, had access to more financial resources.

Frequency of Gambling:

Subjects were asked to estimate the typical frequency with which they gambled at the commencement of their gambling behaviour (Figure 6).

Frequency of Initial Gambling



Hosp N=149	23	91	16	8	8	3
GA N=143	9	100	23	7	1	3
Total N292=	31	191	39	15	9	6

At Least One Episode of Gambling Per Period of Time

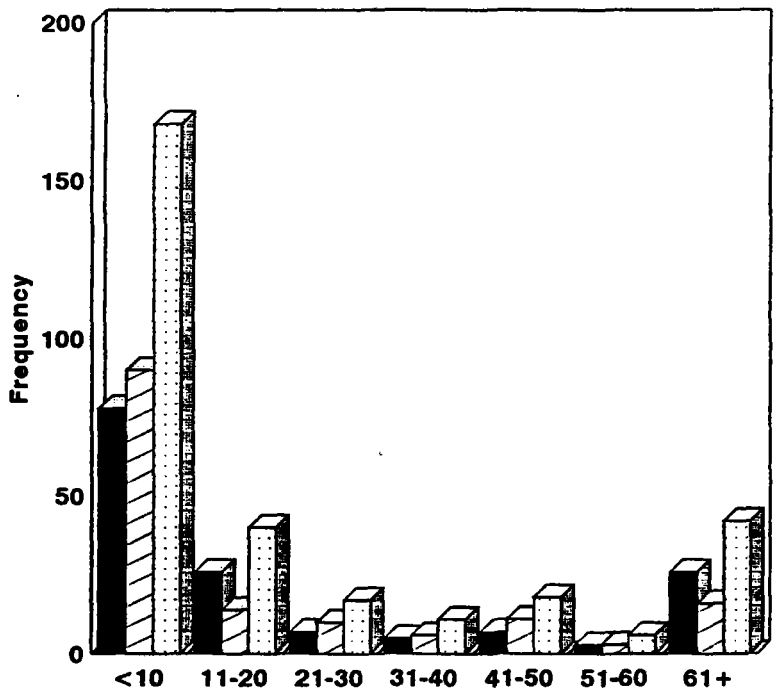
Figure 6

In their early phase, ninety percent of the subjects stated they gambled with a frequency of at least once per fortnight. The majority of the total sample (65.4%) gambled once a week, but a small proportion (13.4%) reported gambling daily.

Expenditure on Gambling:

The distribution of amounts gambled per week is shown in Figure 7).

Size of Bets Gambled in the Early Stages of Pathological Gambler's Career



	<10	11-20	21-30	31-40	41-50	51-60	61+
Hosp N=150	78	26	7	5	7	3	26
GA N=150	90	14	10	6	11	3	16
Total N=300	168	40	17	11	18	6	42

Amount in $

Figure 7

Initial amounts gambled by subjects over a week period were relatively small, although 20% of the total sample bet amounts exceeding $50. The mean amount

gambled was $40 (SD=$98.67; range=$1 to $1,000) with a median bet size of $10 and a modal value of $5. There was a small but significant correlation between age and amount initially gambled ($r=0.1408$, $p<0.01$). Less than half the subjects (40.7%) reported that they attempted to chase losses, that is, to continue to gamble motivated by a drive to recoup losses sustained.

The amount gambled weekly was significantly higher ($F=4.2228$, df1,302, $p<0.05$) in the Hospital sample (mean=$52.83; SD=$129.14; range=$1 to $1,000) compared to that of the Gamblers Anonymous sample (mean=$28.68; SD=50.88; range=$1 to $400). However, it was apparent that the mean value of the Hospital sample was elevated by two subjects who gambled $1,000. Excluding these two subjects from analyses resulted in the mean value being reduced to $39 (SD=$68.36), and the between group difference no longer remaining significant ($F=2.301$, df=1,300, NS).

6.3 Characteristics of Problematic Gambling Behaviour:

Duration of Problematic Gambling:

Data describing the overall number of years subjects had gambled and the number of years of problematic gambling was obtained. Subjects reportedly had gambled an average of 19.12 years (SD=10.22 years; range=1 to 50 years) with a median of 17 years. Between group comparisons revealed that the Hospital sample had gambled significantly fewer years (mean=17.72 years; SD=9.79 years) than their Gamblers Anonymous counterparts (mean =20.50 years; SD=10.46 years) ($F=5.764$, 1,304, $p<0.05$), presumably reflecting their significantly younger mean age.

However, as seen from Table 9, there was no difference between groups in

respect of the number of years gambling was considered to be at problematic levels (F=1.782, df=1,304, NS).

Table 9

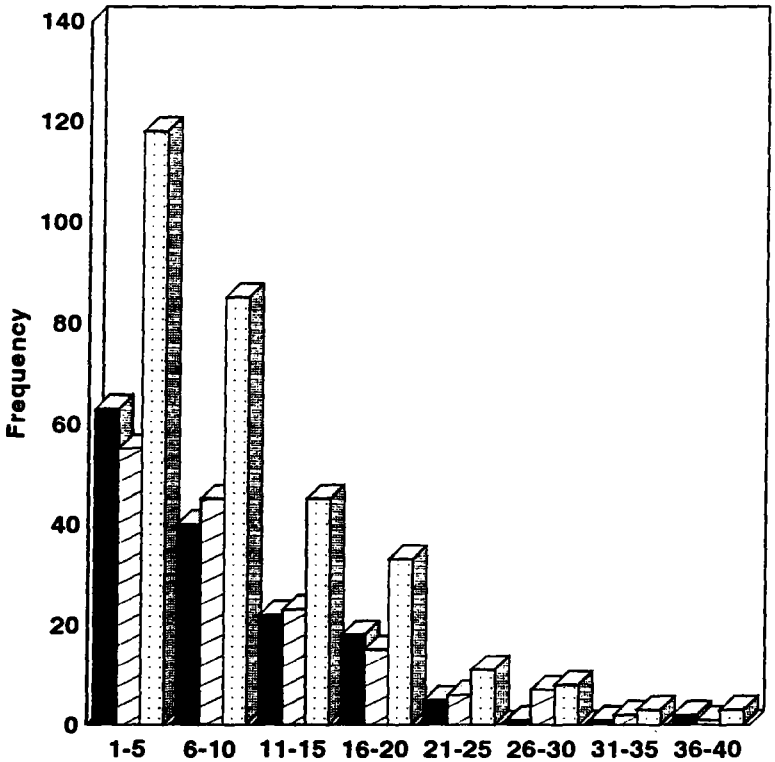
Number of Years of Gambling at Problematic Levels.

Sample	Mean	Standard Deviation	Range
Hospital	9.21	7.24	1-37
Gamblers Anonymous	10.40	8.27	1-40
Total	9.81	7.78	1-40

Figure 8 shows the relative distribution of the number of years of problematic gambling.

Overall, gamblers stated that their gambling was recognized to have been at problematic levels in terms of pathology over a mean period of 9.81 years (SD=7.78 years). The range of years of problematic gambling was relatively large, varying from one to 40 years. Two-thirds had experienced problematic gambling behaviour less than ten years before seeking treatment, the median figure being 7 years.

Number of Years of Problematic Gambling



	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Hosp N=152	63	40	22	18	5	1	1	2
GA N=154	55	45	23	15	6	7	2	1
Total N=306	118	85	45	33	11	8	3	3

Years of Problematic Gambling

Figure 8

Results indicated that less than ten percent of subjects (8.8%) developed gambling problems within five years of having commenced gambling, suggesting that there is a time lag in excess of five to ten years for the development of gambling

problems to emerge. This point is relevant in respect of the introduction of new forms of gambling such as casinos and video-draw-poker machines which may induce non-gamblers to commence gambling. Under these circumstances, it would be anticipated that problems would become increasingly manifest after a ten year period following their introduction.

Impact of Problem Gambling on Marital Relationships:

Gamblers who were or had been in a marital/de-facto relationship were asked if their spouses were aware of the full extent of their gambling behaviour prior to actually living together. The hidden nature of the problematic behaviour is revealed by the finding that only 15.5% of spouses had such prior knowledge. This finding applied equally to the Hospital and Gamblers Anonymous samples ($X^2 = 0.429$, df = 1, NS).

Excessive gambling activities and associated adverse consequences produced relationship problems in half (51.0%) the sample with a further 43.8% being uncertain whether or not gambling had some contribution to relational difficulties. Only a meagre 6.2% claimed no gambling generated conflict. It was interesting to note that the Gamblers Anonymous were significantly more likely to report conflict than the Hospital gamblers ($X^2 = 4.003$, df = 1, p = 0.04), possibly due to their higher mean age, longer gambling history and therefore a greater opportunity for relationship problems to emerge.

The degree of conflict was sufficient to have resulted in periods of separation in 27.5%, and subsequently to divorce, in 12.1% of married or de-facto relationships. The divorce rate surprisingly, appears to be well below that of the 39% figure for the general population (Australian Bureau of Statistics, 1988). There was no significant difference in the proportion of either Hospital or Gamblers Anonymous samples reported

separation (X^2 = 0.343, df = 1, NS) or divorce (X^2 = 2.141, df = 1, NS).

Family History of Gambling:

To determine the presence of a family history of heavy or pathological gambling, gamblers were asked to describe the level of maternal and paternal levels of gambling behaviour. A quarter (24.8%) of the gamblers reported that some family association with some area of the gambling industry, either at the level of book-making, club work, training, part/syndicated or full ownership in horses.

Of the sample, 6.5% stated that they had regarded their mother's gambling to have been either heavy or compulsive. This compared to the much higher percentage of 30.1% who provided a similar description for their father. This difference proved highly significant (X^2 = 54.946, df = 1, $p < 0.0001$).

Only 6.4% of the sample stated that marital conflict between parents over gambling resulted in separation or divorce, but this figure is probably an under-estimate given that most gamblers acknowledged having in their youth a limited appreciation of their parent's actual gambling behaviour.

There was a low prevalence of gambling amongst siblings. Five gamblers reported a brother whose gambling was described as heavy and, and ten, as compulsive. Amongst the sisters there were only two reported instances of heavy and none of compulsive gambling.

Preferred Form of Gambling:

Horse racing and poker machine playing were the preferred but not exclusive form of gambling for ninety percent of problem gamblers. As shown in Table 10, 62.7% of

the sample stated horse racing, and 27.1% poker-machines, to be their main form of gambling. Play on video draw poker machines (Approved Amusements Devices) legalized in 1985, was preferred by 5.6% of the sample.

Table 10

Preferred Forms of Problematic Gambling Participated in by 306 Gamblers*.

Forms of Gambling	N	%
Horses	192	62.7
Poker Machines	83	27.1
Video Draw Poker	17	5.6
Cards/Dice	7	2.3
Casinos	3	1.0
Illegal Casinos	4	1.3

* Main but not exclusive form of gambling.

Figure 9 compares the preferences for the various forms of gambling by the Hospital and Gamblers Anonymous samples.

Horse racing had a greater tendency to be associated with problematic levels of gambling behaviour in both samples. According to the Tasmanian Gaming Commission 1990-1991 and reported in the Street Enquiry (1991), 25% of the NSW 1990-1991 percentage share of gambling expenditure comes from horse racing as

is possible but bet sizes are relatively restricted. Horse race betting, therefore has a greater propensity to encourage the development of financial crises. This is reflected in the relative differences in average amounts bet and maximum debts incurred by horse race as compared to poker machine players. Although the mean amounts gambled per session between horse racing (mean=$1,713.48; SD=$8,761; range =$10-$100,000) and poker-machines (mean=$184.60, SD=$159; range =$5-$800) did not differ significantly (F=2.308, df=1,256, NS), the more appropriate statistic of the median for horse racing (median=$250; mode=$200) was more than double that for the poker machine gamblers (median=$100;mode=$100). Further, horse racing was associated with significantly higher maximum debt levels incurred (mean=$28,167; SD=$47,842; median=$10,000; mode=$3,000) as compared to those participating in poker machines (mean=$8,435; SD=$10,244; median=$6,000; mode=$1,000) (F=10.483, df=1,208, P<0.001).

Involvement in Additional Forms of Gambling:

Slightly over a quarter of the sample (26.7%) did not participate in any other form of regular gambling defined as gambling five or more dollars more than twice weekly . Thirteen percent listed horse racing, 27% poker machines and 10.8% video draw poker machines as additional regular forms of gambling. The proportion of subjects for whom regular forms of gambling also constituted a problem was not ascertained.

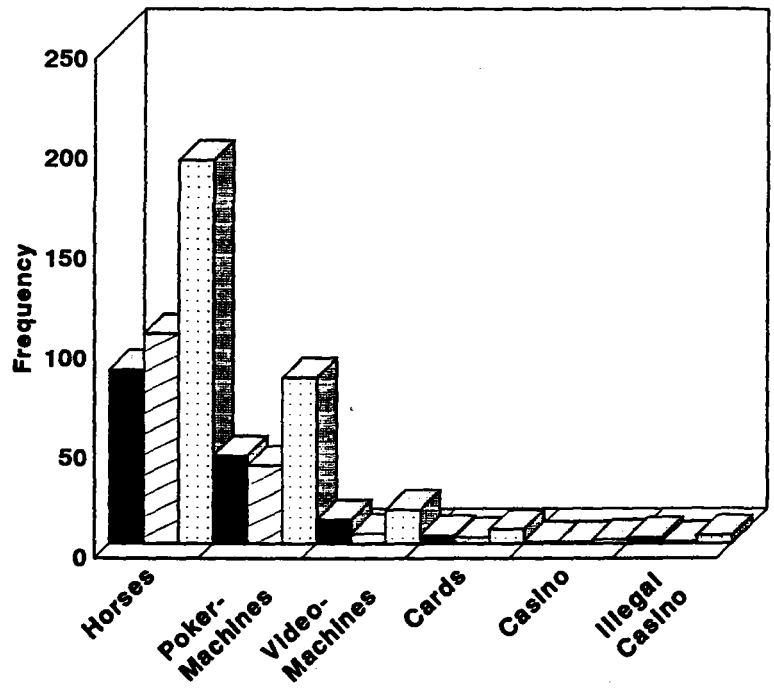
No subjects reported Lotto, Lotteries or sports gambling to be associated with problematic gambling.

Frequency of Problematic Gambling Activity:

The majority of gamblers (83.7%) reported that they gambled on five or more days per week (see Figure 9).

compared to the 58% from poker machines. The preferred form of gambling described by subjects in this study showed a reversal of this trend.

Preferred Forms of Problematic Gambling Participated in by 306 Gamblers



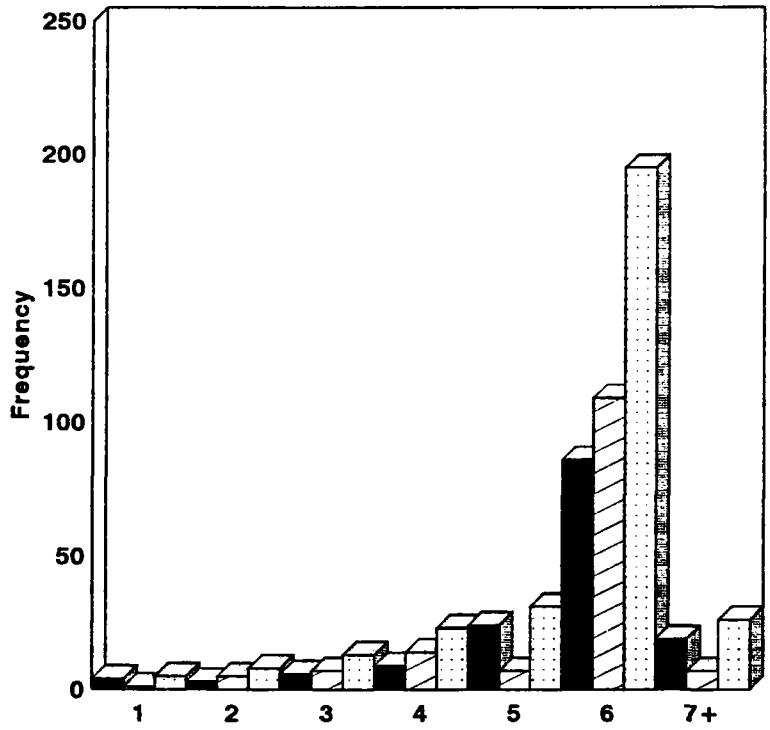
	Horses	Poker-Machines	Video-Machines	Cards	Casino	Illegal Casino
Hosp N=151	87	44	12	4	1	3
GA N=154	105	39	5	3	1	1
Total N=305	192	83	17	7	2	4

Forms of Gambling

Figure 9

The inherent characteristic of horse racing allows a high frequency of play with an essentially unrestricted betting limit. In poker machine play, a higher frequency of play

Frequency of Problematic Gambling



	1	2	3	4	5	6	7+
Hosp N=151	4	3	6	9	24	86	19
GA N=150	1	5	7	14	7	109	7
Total N=301	5	8	13	23	31	195	26

Number of Gambling Sessions Per Week

Figure 10

The average number of days gambled per month was 21.8 days (SD=4.9 days; range 4 to 28 days; median=24 days; mode=24 days) with no significant difference found between the Hospital and Gamblers Anonymous samples (F=0.010, df=1,299, NS).

Expenditure and Debt During the Peak of Problematic Gambling Activity

The level of problematic gambling activity fluctuated over time. Some gamblers

reported consistent high levels of frequency and expenditure over prolonged periods while others defined brief periods or binge episodes of loss of control.

It was anticipated that a significant proportion of Gamblers Anonymous members were abstinent at the time of interview, therefore it was decided to include an estimate of amounts gambled at the peak of their gambling history. Subjects were therefore asked to give estimates of the average amount gambled each gambling session, both currently and at the peak of their problematic gambling behaviour.

Significantly less than expected Gamblers Anonymous members (N=5) reported nil current gambling. This unrealistic figure suggested that subjects were substituting peak amounts gambled for current amounts gambled thus distorting the true situation. It was decided to eliminate the estimate of current gambling from analysis and utilize data describing amounts gambled during peak gambling as the most appropriate variable to report for both groups. Descriptive statistics for the average amount gambled during the peak phase of problematic gambling, and level of debts is given in Table 11.

Debts were defined as money borrowed for the specific purpose of gambling or personal loans taken to cover shortfalls in financial commitments caused through gambling losses. Excluded were mortgages and personal loans for goods or services.

Given the large range of data values, means and standard deviation did not appear the appropriate statistics to use in reporting typical bet-size per session or current and maximum debts incurred by subjects. The large amounts expended by a small number of subjects resulted in mean values being over-inflated and non-representative of the majority of subjects. Consequently, the median and modal values

are considered to be the more accurate estimate of these statistics.

The amount of money bet each gambling session during the peak of gambling activity varied between five dollars and $100,000 with a median value of $200. Of the total sample, 9.1% bet amounts in excess of $1,000 per session, and 2.1% amounts exceeding $10,000.

Table 11

Means, Standard Deviation, Range and Median Values for Bets Size During Peak Gambling and Current and Maximum Debt Level for Gamblers.

Sample	Mean $	Standard Deviation $	Range $	Median $
Bet Size During Peak Gambling				
Hospital	1,967.90	10,241.95	5 - 100,000	200
Gamblers Anonymous	1,005.97	4,493.26	10 - 100,000	200
Total	1,448.12	7,689.20	5 - 100,000	200
Current Debt Levels				
Hospital	19,600.46	44,592.37	10 - 300,000	2,000
Gamblers Anonymous	14,475.00	20,990.60	500 - 110,000	1,000
Total	17,137.95	3,5281.00	10 - 300,000	1,000
Maximum Debt Levels				
Hospital	24,919.05	53,446.74	100 - 300,000	4,000
Gamblers Anonymous	25,024.19	43,033.09	80 - 240,000	5,000
Total	24,970.74	48,505.14	80 - 300,000	5,000

The number of years of gambling or of problematic gambling did not correlate with average amounts gambled per session at the peak of gambling behaviour (r=0.012, NS and r=0.091, NS, respectively) suggesting that amount gambled was not functionally related to length of gambling history. This finding provides evidence against the development of tolerance and the need to increase bet size to generate acceptable levels of excitement as suggested by the addiction model of gambling.

Under half the sample (40.7%) did not have current gambling related debts while 16.2% reported never having had gambling-related debts. The level of current debts ranged from a modest ten dollars to a substantive $300,000 with a median of $6,000, while the maximum debt level sustained varied between $80 to $300,000 with a median of $8,000. Ten percent had current debts in excess of $40,000 with a similar percentage reporting having had maximum debts greater than $70,000.

Overall, there was a small but significant positive correlation between the number of years gambled and maximum debt (r=0.180, p<0.01). Similarly and not unexpectedly, the number of years of problem gambling and maximum debt incurred (r=0.234, P<0.001), and the average amount gambled and maximum debt level (r=0.601, p<0.001), were also significantly and positively correlated with each other.

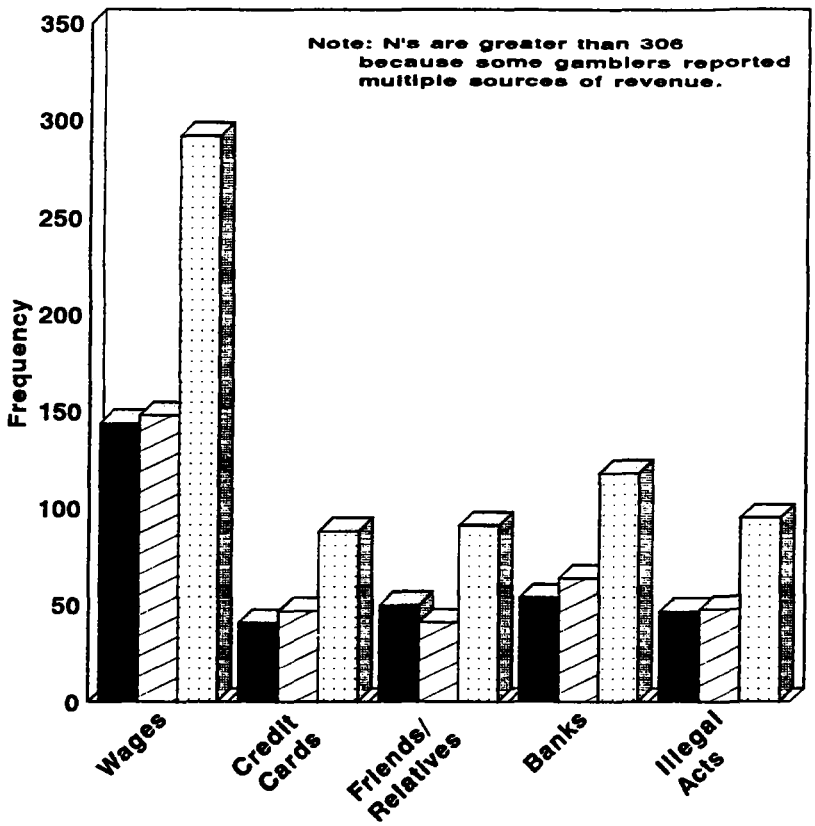
The Hospital and Gamblers Anonymous samples did not differ significantly on average amounts bet per session (F=1.108, df=1,283, NS), current (F=0.943, df=1,177, NS) or maximum (F=0.003, df=1,236, NS) debt levels.

Major Source of Gambling Funds:

As seen from Figure 11, the overwhelming majority of gamblers reported wages and salaries (95.4%) as the main source of gambling money. Additional

supplementary sources included use of credit cards (38.7%), borrowings from friends and relatives (32.9%), and loans from banks and financial institutions (29.8%).

Main Source of Gambling Revenue for Gamblers



Hosp	144	41	50	54	47
GA	148	47	41	64	48
Total	292	88	91	118	95

Source of Gambling Funds

Figure 11

Over a quarter of the total sample (28.8%) admitted to specifically engaging in illegal activities as one of their important means of obtaining gambling funds. Seven gamblers, four from the Hospital and three from the Gamblers Anonymous sample also

stated that illegal activities formed the predominant, if not only, main source of gambling revenue.

There was little difference between Hospital Gamblers Anonymous subjects in the main methods by which they obtained gambling funds.

6.4 Gambling-Related Illegal Activities:

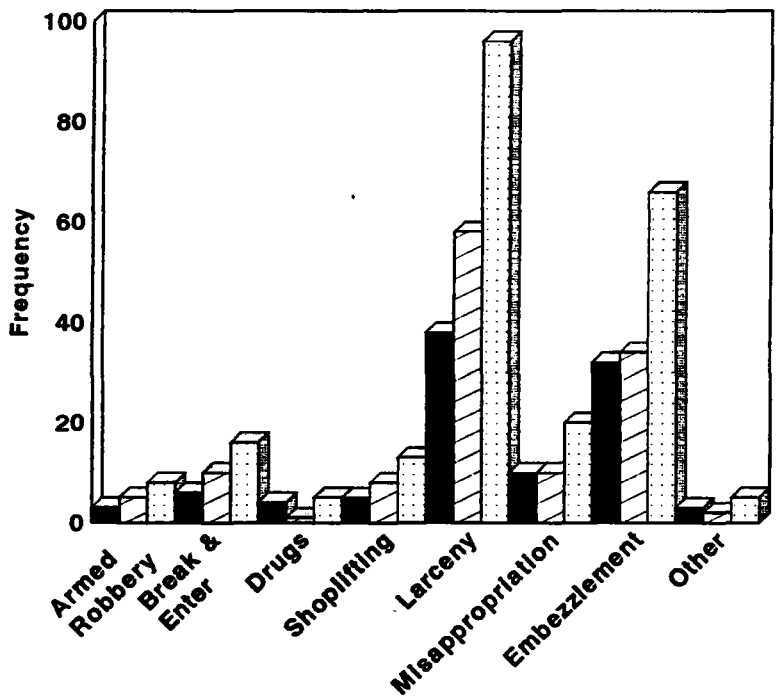
Gamblers were asked to describe the frequency and nature of any illegal activities they had engaged in, whether they were directly or indirectly related or completely unrelated to gambling, and whether or not they were detected. '*Directly related*' was defined as offences presumably motivated by the desire to obtain money specifically for gambling purposes. '*Indirectly related*' referred to illegal acts that were initiated by the need to cover shortfalls in financial commitments that were caused by losses through gambling.

Of the 306 gamblers in the study, 180 (59%) admitted to having carried out at least one gambling-related illegal activity during their gambling career. Eighty (52.6%) were from the Prince of Wales and 101 (65.6%) from the Gamblers Anonymous samples, the difference being non-significant (X^2=4.789, df=1, NS). The mean age at which gamblers committed their first offence was 26.45 years (SD=9.35 years; range=10 to 50 years) with no significant difference noted between Hospital (mean=26.59 years; SD=9.63 years) and Gamblers Anonymous (mean=26.34 years, SD=9.18 years) samples (F=0.031, df=1,174, NS).

Type of Gambling Related Offences

In nature, essentially all gambling-related illegal acts were non-violent crimes against property. As seen from Figure 12, the most frequent types of gambling-related offences were larceny, reported by 31.37%, and embezzlement, by 21.57%, of the total sample.

Types of Offences Committed by Gamblers



	Armed Robbery	Break & Enter	Drugs	Shoplifting	Larceny	Misappropriation	Embezzlement	Other
Hosp N=101	3	6	4	5	38	10	32	3
GA N=128	5	10	1	8	58	10	34	2
Total N=229	8	16	5	13	96	20	66	5

Offence

Figure 12

Markedly fewer cases of misappropriation (6.54%), break and enter (5.23%), shop-lifting (4.25%), armed robbery (2.61%), drug dealing (1.63%) and other offences (1.63%) were reported.

The proportion of subjects admitting to each of the various types of offences in the Hospital and Gamblers Anonymous samples were similar.

Frequency and Number of Gambling Related Offences

It is apparent from Table 12 that the frequency of gambling-related illegal acts committed by individual gamblers varied substantially across all categories with perhaps the exception of armed robbery.

Table 12

Type, Frequency, Total and Median Number of Gambling-related Offences Committed by Gamblers

Offence	N	Frequency Range	Total No. of Offences Committed	Median No. of Offences
Larceny	96	1 - 1,000	5,388	13.5
Embezzlement	66	1 - 600	3,045	5.0
Misappropriation	20	1 - 500	1,698	11.5
Break and Enter	16	1 - 250	760	6.0
Shop-lifting	13	1 - 200	592	10.0
Armed Robbery	8	1 - 17	42	3.5
Drug Dealing	5	15 - 200	315	30.0
Other	5	1 - 10	19	1.0

The total number of offences committed, calculated by summing the product of N X Frequency for offences, is high in the case of larceny, embezzlement and misappropriation. However, in interpreting these results, it should be borne in mind that a small number of individuals accounted for a disproportionate number of offences committed. For example, 17 (17.6%) subjects accounted for 3,850 (71.45%) of the total number of larceny offences committed, 9 (13.5%) subjects for 2,376 (78%) instances of embezzlement, and 5 (25%) for 1,550 (92%) instances of misappropriation.

A similar pattern was also observed in the other categories. In the category of armed robbery, one individual was responsible for 17 (40%) such acts, 3 (18.8%) accounted for 650 (85.4%) cases of break and enter, one (20%) for 200 (63%) cases of drug dealing, and 4 (30.8%) for 500 (84.5%) acts of shop-lifting.

The most representative statistic descriptive of the frequency of illegal acts carried out by pathological gamblers, is the median figure. Averaging out the median figure across all categories in Table 12, suggests that each commonly offending gambler carried out approximately 10 illegal acts specifically to obtain money to finance gambling behaviours.

Table 13 provides a breakdown of the descriptive statistics on type, total and median number of gambling-related offences committed by the Hospital and Gamblers Anonymous samples.

Table 13

Type, Frequency, Total and Median Number of Gambling-related Offences Committed by Hospital and Gamblers Anonymous Subjects

Offence	N	Frequency Range	Total No. of Offences Committed	Median No. of Offences
Larceny				
Hospital Sample	38	1 - 300	1,533	12.0
Gamblers Anonymous	58	1 - 1,000	3,855	17.5
Embezzlement				
Hospital Sample	32	1 - 600	2,183	5.0
Gamblers Anonymous	34	1 - 120	862	7.5
Misappropriation				
Hospital Sample	10	1 - 200	302	10.5
Gamblers Anonymous	10	1 - 500	1,396	16.0
Break and Enter				
Hospital Sample	6	1 - 200	464	30.0
Gamblers Anonymous	10	1 - 250	296	5.0
Shop-lifting				
Hospital Sample	5	1 - 10	33	7.0
Gamblers Anonymous	8	4 - 200	559	65.0
Armed Robbery				
Hospital Sample	3	1 - 7	10	2.0
Gamblers Anonymous	5	1 - 17	32	5.0
Drug Dealing				
Hospital Sample	4	15 - 50	115	25.0
Gamblers Anonymous	1	200	200	
Other				
Hospital Sample	3	1 - 10	12	1.0
Gamblers Anonymous	2	1 - 6	7	3.5

Results suggest that, as compared to the Hospital sample, Gamblers Anonymous subjects have a higher frequency of involvement in all categories of offences except for that of break and enter. The average of the median numbers of offences committed by the Hospital gamblers was 9.64 as compared to 17.07 for the Gamblers Anonymous sample.

Degree of Impulsivity of Gambling Related Offences

To gauge the extent to which they were fully cognizant of the seriousness of offences committed, gamblers were asked to state if they were fully aware of the magnitude of the offence at the actual time of commitment. Over two-thirds (64.9%) admitted full knowledge of the seriousness of their behaviour, 10.6% stated being aware of the seriousness of some of their behaviours, while a quarter (24.5%) denied any awareness.

Gamblers were asked for a percentage estimate of the degree to which they considered their involvement in illegal behaviours to have been pre-mediated or impulsive. Scores on a visual analogue scale with descriptive anchor points "*Totally Premediated*" at the 0% end of the scale to "*Totally Impulsive*" at 100%, revealed comparable proportions of gamblers regarded their offences as being predominantly pre-meditated (41.1% with scores 20 or less) or impulsive (36.5% with scores of 80 or more). For the group as a whole, the mean score was 49.47 (SD=38.60; range=0 to 100) with no differences between the two samples; Hospital sample: mean=52.27, SD=37.41, and Gamblers Anonymous: mean=47.29, SD=39.59 (F=0.616, df=1,149,NS).

However, from Figure 13 it is apparent that the spread of scores tends to be bi-modally distributed suggesting that most gamblers engage in their behaviours mainly as either pre-mediated or impulsive acts .

Estimated Degree of Impulsivity of Illegal Acts Carried Out by Gamblers

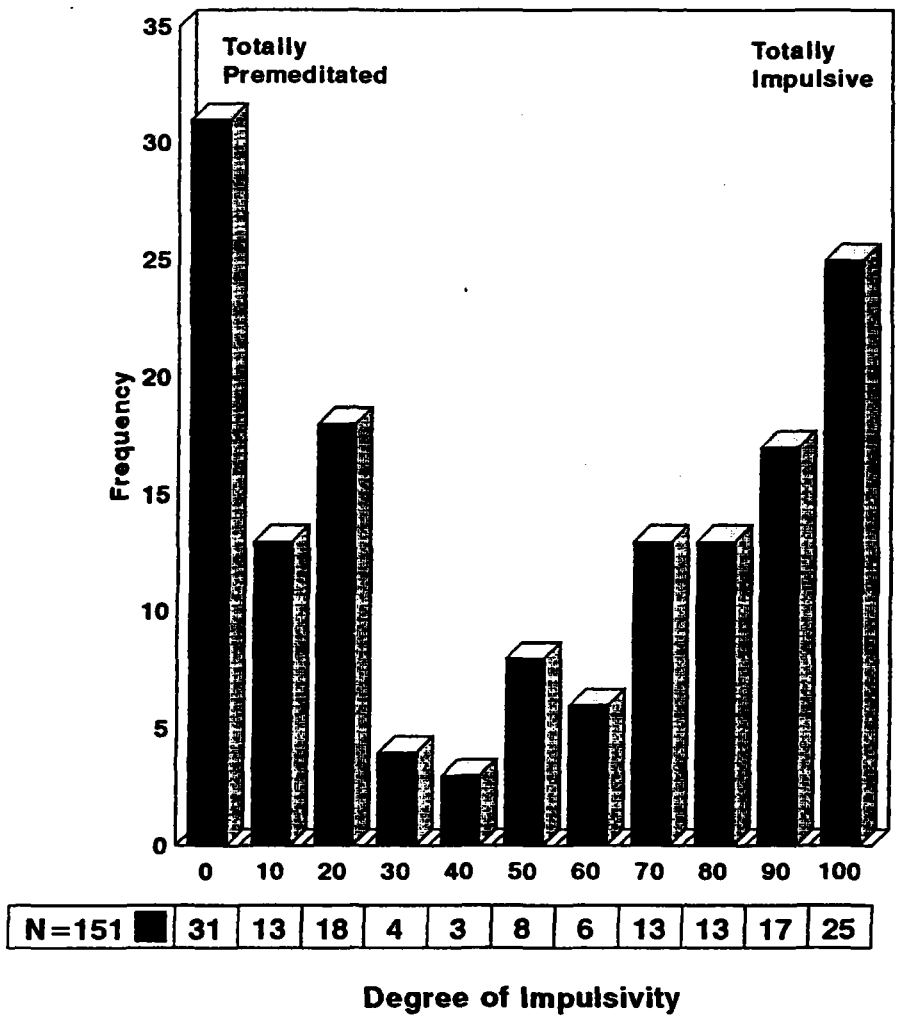


Figure 13

Average Value of gambling related Offences

In addition to obtaining an estimate of the frequency of offences committed, it was decided to obtain an estimate of the monetary value of each offence committed and to determine if the relative monetary value of offences varied according to the type of gambling participated in (horse racing or poker-machines), or between the Hospital and Gamblers Anonymous samples.

Gamblers were asked to provide an estimate of the monetary value of the minimum, maximum and average amounts per offence. The unreliability of retrospective self-report measures was acknowledged but it was concluded that such an estimate could be considered a broad guideline index of the severity of committed offences. Descriptive statistics for the value of each gambling-related offence is given in Table 14.

The range of money obtained by illegal means varied considerably. Some offences involved amounts as little as one or two dollars but others $250,000 or more. A small number of pathological gamblers not included in this study had presented for treatment following criminal charges for embezzlement for amounts, confirmed by audit, ranging between $600,000 and $1.4 million.

From the distribution of amounts reported, it is apparent that a small number of gamblers account for a disproportionate amount of money illegally obtained. Fourteen percent reported their maximum amount to be $13,000 or more and 14%, their average amount to be $6,000 or more per offence. Fourteen percent of gamblers reported that the minimum amount of their offence was $1,000 or more. One third of the sample reported the average value of each offence to be $100 or less and two-thirds, $1,000 or less.

Table 14.

Descriptive Statistics for the Estimated Minimum, Maximum and Average Amounts Involved in Gambling and Non-Gambling Related Offences Committed by Gamblers.

	Mean $	Standard Deviation $	Range $	Median $
Gambling-Related Offences				
N=180 Estimated Minimum Amount Per Offence	2,356	10,733	1 - 120,000	100
N=172* Estimated Maximum Amount Per Offence	9,259	27,276	3 - 250,000	800
N=174* Estimated Average Amount Per Offence	4,264	15,878	2 - 150,000	300
Non Gambling-Related Offences				
N=30 Estimated Minimum Amount Per Offence	15,285	13,369	2 - 400,000	100
N=30 Estimated Maximum Amount Per Offence	18,585	13,587	2 - 400,000	200
N=29 Estimated Average Amount Per Offence	17,407	14,086	2 - 400,000	130

* Some gamblers were unable to provide estimates of maximum or average values.

Given the variance in amounts, the median statistic is again the most appropriate figure to use as a representative estimate of the monetary value per offence. If the median frequency of offences committed per commonly offending gambler, that is, ten, is multiplied by the median figure for the estimated average amount per offence, that is, $300, it can be calculated that each commonly offending gambler commits offences to the value of $3,000 over a mean ten years participation in pathological gambling. This is consistent with the first author's clinical experience and is advanced as a reasonable and valid estimate of the typical monetary value of offences committed by gamblers.

To apply a similar calculation using mean rather than median figures would result in an over-inflated total value of offences exceeding $40,000 over the same period. However, it must be accepted that a minority of less than ten percent do carry out criminal acts involving substantially excessive amounts.

Comparisons were made between the two main forms of pathological gambling and the minimum, maximum and average values of offences to determine if one form of gambling was associated with a greater propensity for crime. However, one-way analyses of variance revealed no significant differences between these two forms of gambling and the minimum ($F=1.161$, $df=160$; NS), maximum ($F=2.828$, $df=1,160$, NS) and average ($F=1.55$, $df=1, 153$, NS) amounts per offence.

The average and median amounts per offence according to type of offence is listed in Table 15.

Table 15.

Descriptive Statistics for Estimated Average Amount Per Offence by Type of Offence Committed by Gamblers.

Offence	N	Mean	Standard Deviation	Median
		$	$	$
Armed Robbery	8	2,200	2,914	1,250
Break & Enter	16	740	909	350
Drug Dealing	5	34,094	65,360	400
Shop-lifting	13	119	119	100
Larceny	96	685	1,300	200
Misappropriation	20	1,314	2,519	300
Embezzlement	66	7,444	17,712	900
Others	5	330	380	200

Alcohol and Problematic Gambling

Alcohol did not feature as a prominent predisposing factor in offending. In only 5.7% of cases were offences committed under the influence of alcohol. The majority of gamblers (81.7%) denied having ingested alcohol prior to or during the offence with the remainder (12.6%) admitting that alcohol played a precipitating role in some offences.

Criminal Proceedings and Gambling Related Offences

Of the gamblers who admitted to gambling-related offences, 40.3% (n=73) were charged. Several gamblers were charged for multiple offences resulting in a total of 93 charges laid for the sample of offenders as a whole. There were several gamblers who reported a charge which involved multiple counts. In one case, a 55 year old male gambler stated that he had been charged for a total of 46 counts of gambling-related break and enters since the age of 15 years, and had spent an accumulated period of 29 years in prison for these and other non-gambling related crimes. Two others each reported 22 and 53 counts of larceny respectively, and another, 40 counts of embezzlement. For statistical purposes, those charges involving multiple counts were tabulated as consituting one charge.

There was no difference in the proportion of Hospital and Gamblers Anonymous gamblers who were charged (X^2=0.005, df=1, NS).

Sentencing and Gambling Related Offences

The most common sentences imposed by the courts were good behaviour bonds, fines or prison sentences. The mean, standard deviation and range of length of sentences imposed for each category of offences is shown in Table 15. Thirty-one sentences involved terms in prison. The highest mean prison sentences imposed were for drug-related and armed robbery offences.

Descriptive statistics for the frequency, type , sentence and length of sentence received for each gambling-related category of offences is shown in Table 16.

Table 16

Descriptive Statistics for the Frequency of Gamblers Charged for Each Category of Gambling-Related Offences, and the Type and Length of Sentences Received.

Offence:	No. Charged	Counts	Sent.	N	Length (in Mnths) Mean	SD	Range
Armed Robbery	7	1-7	Jail	7	59.1	18.5	36- 84
Break & Enter	15	1-8 (1 case reported 46 counts)	Bond	6	33.0	16.9	12- 60
			Fine	2			
			Jail	7	33.4	30.2	2- 96
Drugs	3	1-3	Jail	3	76.0	25.0	48- 96
Shop-lifting	3	1-10	Bond	3	15.3	9.0	6- 24
Larceny	24	1-9 (2 cases reporting 22 and 53 counts ea)	Bond	12	26.7	13.4	3- 48
			Jail	3			
			Pro-bation	1	36.0		
Misappro-priation	9	1-33	Bond	4	42.0	15.5	24- 60
			Fine	2			
			Jail	2	21.0	4.2	18- 24
Embezzl.	29	1-6 (1 case reporting 40 counts)	Bond	15	42.6	33.9	3-120
			Fine	4			
			Jail	9	48.7	32.2	12-108
Others	3	1-3	Bond	2	27.0	12.7	18- 36
			Guilty but no action	1			

Gamblers were asked to specify the actual time spent in jail. Three quarters served an actual total of less than 2.5 years, and 93.9% less than 5.5 years, in prison. The mean period in prison was 2.6 years (SD=5.4 years), a figure inflated by two gamblers reporting sentences served of 15 years and 29 years each. Excluding these outliers from analysis, revealed a mean term of 1.4 years (SD=1.2 years) served in prison.

6.5 Non Gambling-Related Illegal Activities

Gamblers were asked to state whether at any time they had engaged in a non gambling-related illegal activity irrespective of whether or not that behaviour had been detected. Non gambling-related was taken to mean any illegal act that was not motivated by a desire to obtain money for gambling purposes, or that its proceedings were not subsequently directed toward gambling, or to relieve debts due to gambling.

Gamblers commenced non gambling-related illegal activities at a significantly younger age than gambling-related illegal acts. The mean age at which the first non gambling-related offence occurred was 19.67 years (SD=7.64; range=8 years to 42 years; median=19.00 years) compared to 26 years of age for the gambling-related acts ($t=4.864$, $df=233$, $p<0.001$).

Fifty-four (17.6%) gamblers admitted having committed at least one such act. There was no significant difference between the proportion of Prince of Wales Hospital and Gamblers Anonymous samples admitting to the commission of non gambling-related acts, 21.2% and 14.3% respectively ($X^2=2.044$, $df=1$, NS). This lower proportion compared to the prevalence of gambling-related offences suggests that

where gamblers commit illegal acts, those acts are significantly more likely to be gambling-related rather than non-gambling related (X^2=109.668, df=1, p<0.0001).

Frequency and Number of Non-Gambling Related Offences

The type, frequency and median number of non-gambling related offences are shown in Table 17.

Table 17

Type, Frequency, Total and Median Number of Non-Gambling Offences Committed by Gamblers.

Offence	N	Frequency Range	Total No of Offences Committed	Median No of Offences
Larceny	20	1-200	757	10.0
Embezzlement	2	1-7	8	4.0
Misappropri-ation	1	1	1	1.0
Break & Enter	7	1-30	70	4.0
Shop-lifting	2	3-100	103	51.5
Armed Robbery	1	2	2	2.0
Drug Dealing	4	8-300	340	16.0
Other	28	1-10	60	1.0

The small numbers of subjects per category of offence restricts the validity of comparative analysis with gambling-related offences. Nevertheless, although there was a high frequency of larceny, the overall pattern of non gambling-related appeared

to differ from gambling-related offences insofar as there were fewer cases of misappropriation and embezzlement and a tendency for more serious property offences (break and enter, car theft) and non-property violent crimes such as physical assault. In addition, the frequency of all except drug offences was lower in comparison to gambling-related offences.

Again, the small sample size precluded valid comparisons between the Hospital and Gamblers Anonymous gamblers on the type and frequency of non gambling-related offences but for sake of completion, descriptive statistics are included in Table 18. On perfunctory examination, Hospital gamblers appeared to be more likely than Gamblers Anonymous members to report larceny offences with no differences shown across all other categories.

Table 14 above provides the descriptive statistics for the amount of money involved in non gambling-related acts. In twenty-four cases offences were of a non pecuniary nature, for example, driving under the influence of alcohol, property damage or physical assault, and as such were not recorded in the list of offences in Table 14.

Table 18

Type, Frequency, Total and Median Number of Non-Gambling Related Offences Committed by Hospital and Gamblers Anonymous Subjects.

Offence	N	Frequency Range	Total No of Offences Committed	Median no of Offences
Larceny				
Hospital Sample	15	1-200	649	12.0
Gamblers Anonymous	5	1-100	109	2.0
Embezzlement				
Hospital Sample	1	1	1	1.0
Gamblers Anonymous	1	7	7	7.0
Misappropriation				
Hospital Sample	0	0	0	0.0
Gamblers Anonymous	1	1	1	1.0
Break & Enter				
Hospital Sample	4	1-25	31	2.5
Gamblers Anonymous	3	4-30	39	5.0
Shop-lifting				
Hospital Sample	2	3-100	103	51.5
Gamblers Anonymous	0	0	0	0
Armed Robbery				
Hospital Sample	1	2	2	2.0
Gamblers Anonymous	0	0	0	0.0
Drug Dealing				
Hospital Sample	2	8-300	308	154.0
Gamblers Anonymous	2	12-20	32	16.0
Others				
Hospital Sample	13	1-6	16	2.0
Gamblers Anonymous	15	1-10	20	1.0

Average Value of Non-Gambling Related Offences

Although the mean monetary value of non gambling-related offences appear to be large, use of the more appropriate median statistic reveals that typical amount of money per offence was substantially less for non gambling-related as compared to gambling-related acts. For 80% of gamblers the average value of each offence was estimated to be $400 or less, the median figure being $130 as compared to a median value of $300 for gambling-related offences. Two individuals reporting offences of $100,000 and $400,000, each accounted for the inflated overall mean value. The $400,000 was associated with an attempt to avoid tax payments on imported goods.

Overall, the median figures suggest that the value of gambling-related crimes is almost three times that of non gambling-related crimes.

Multiplying the median dollar value of non gambling-related offences by the median number of offences per individual reveals that each offending gambler commits non gambling-related crimes to an amount of $1,430 over their life-time. This figure is approximately half that for gambling-related offences.

The Hospital and Gamblers Anonymous samples did not differ in respect of the proportion of subjects admitting to non-gambling-related acts (X^2=2.044, df=1, NS), or the ages at which they reported their first such act; Hospital sample: mean=18.63 years, SD=7.35 years, range=8 to 36 years, median=18 years; Gamblers Anonymous:mean=21.63 years, SD=8.02 years, range=12 to 42 years, median=19.5 years (t=1.142, df=52, NS).

The mean value of non gambling-related offences for the Hospital sample was compared to that of the Gamblers Anonymous sample to determine differences in the

seriousness of non gambling-related offences. The mean value per offence for the Hospital sample was $4,925 (SD=21,785) and, for the Gamblers Anonymous, $50,497 (SD=$141,221). The large variance involved precluded this difference reaching significance. Comparing the median value, however, revealed that the typical amount involved in the Hospital sample's offences (median=$30) was substantially lower than that of the Gamblers Anonymous (median=$325). Findings suggest that while fewer Gamblers Anonymous than Hospital gamblers report non gambling-related acts, the amount of money per offence is substantially higher.

Criminal Proceedings and Non-Gambling related Offences

Of those committing non gambling-related acts, 63% (n=38) were charged. These figures suggested that there is a significantly higher likelihood of being charged for non-gambling-related as compared to gambling-related illegal acts (X^2=7.525, df=1, $p < 0.05$). Descriptive statistics for the frequency with which gamblers were charged, and the type and length of sentences for each offence are provided in Table 19.

As with gambling-related offences, larceny and break and enter but not misappropriation were more represented amongst offences for which gamblers were charged. However, the majority of offences were from the 'other' category containing non-property type offences.

Fewer gamblers (51%) were inclined to be aware of the magnitude or seriousness of non gambling-related as compared to gambling-related offences at the time of offending.

Table 19

Descriptive Statistics for the Frequency of Gamblers Charged For Each Category of Non-Gambling Related Offences, and the Type and Length of Sentences Received.

Offence	No charged	Counts	Sentence	N	Length (in months) Mean	SD	Range
Armed Robbery	1	1	Jail	1	144		
Break & Enter	3		Bond	1	24		
			Jail	1	36		
Drugs	0	0		0	0		
Shop-lifting	0	0		0	0		
Larceny	7		Bond	4			
			Fine	1			
			Jail	1			
			Case Dismissed	1			
Misappropri-ation	1		Bond	1	36		
Embezzlement	1		Jail	1	6		
Others	24		Bond	7	25.43	14.01	12-46
			Fine	11			
			Jail	2	12.0	8.48	6-18
			Community Service	1	6		
			Probation & Parole	1			
			No Action	1			
			Dismissed	1			

Further, in contrast to gambling-related offences, alcohol was more commonly found to be associated with non gambling-related acts. Fifty-six percent of gamblers reported being under the influence of alcohol during some or all of their offences. In a number of cases offences were for driving under the influence of alcohol, and physical

assault during intoxication. The presence of alcohol possibly accounts for the lower reported awareness amongst gamblers of the magnitude of their non gambling-related acts.

6.6 Alcohol Abuse and Problem Gambling

A high rate of cross-addictive behaviours is consistently reported to be found in pathological gambling with the suggestion that gambling and other addictive disorders are functionally equivalent forms of behaviour that satisfy similar needs (Blaszczynski, 1988). This has led to the view that gambling is conceptually similar to an addictive disorder, a view most clearly exemplified by Diagnostic and Statistical Manual III-R's (A.P.A., 1987) move to have its criteria for substance abuse modified and extended for use in diagnosing pathological gambling.

The cross-incidence of alcohol abuse and dependence in pathological gamblers is estimated to vary between 4% and 39% depending on the population sampled and diagnostic criteria used. Based on Gamblers Anonymous samples, rates of 8% to 15% have been obtained (Custer and Custer, 1978; Dell et al., 1981; Lesieur, 1984) while for samples drawn from Veteran's Administration Hospital samples much higher rates of 36% and 39% have been reported (McCormick et al., 1984; Ramirez et al., 1984).

Gamblers were asked if excess alcohol consumption had constituted a problem for themselves or their immediate relatives. Table 20 reveals that a high proportion of gamblers (28.9%) admit to having or having had a drinking problem with a similar proportion reporting first degree relatives with the problem. This proportion is slightly lower but generally consistent with that reported for the Veteran's Administration samples in the United States of America.

The prevalence of self-reported alcohol problems was similar for both the Hospital and Gamblers Anonymous samples (X^2=0.0546, df=1, NS). However, the Gamblers Anonymous rate was more than double that reported for groups in the United States of America.

Table 20

Percentage of Hospital and Gamblers Anonymous Subjects Reporting Drinking Problem

	Hospital Sample		Gamblers Anonymous		Total	
	%	N	%	N	%	N
Self	26.3	40	31.8	48	28.9	88
Parents	32.9	49	26.6	41	29.7	90
Siblings	18.4	28	17.1	26	18.0	54
Other Relatives	22.4	34	7.3	11	14.7	45

A complex relationship may exist between alcohol abuse, loss of behavioural control and problematic gambling. Disinhibition caused by alcohol use may reduce self-control and precipitate impulsive gambling or binge episodes. Alternatively, losses incurred by excessive gambling may lead to alcohol use as a coping strategy to deal with resultant depression or anxiety (Ramirez et al., 1984). Negative affective states have been shown to be a factor in precipitating loss of control over both gambling and alcohol consumption. Of a group of gamblers with alcohol problems, Ramirez et al.

(1984) found 50% had stated that their gambling problems preceded excessive alcohol use or dependence.

The association between alcohol consumption, mood states and gambling was examined. Subjects were asked if their alcohol consumption varied according to mood states of tension, depression and worry, and/or to the generally defined positive state of 'feeling in a good mood'. In 40% of cases, gamblers stated that negative moods were more likely to result in an increase in drinking behaviour whereas only 17.9% stated that positive moods were more likely to do so (see Table 21).

Table 21

Relationship Between Mood State and Increased Alcohol Consumption.

Mood State	Hospital Sample		Gamblers Anonymous		Total	
	%	N	%	N	%	N
Tension	45.8	65	38.4	58	42.0	123
Depression	41.8	59	37.7	57	49.7	116
Worry	44.7	63	37.1	56	40.8	119
Good Mood	28.9	37	8.4	13	17.9	50

The Hospital sample showed no significant difference as compared to the Gamblers Anonymous sample in the proportion reporting an association between increased alcohol consumption and tension (X^2=1.467, df=1, NS), depression

(X^2=0.416, df=1, NS) and worry (X^2=1.569, df=1, NS).

However, significantly fewer of the Gamblers Anonymous sample reported that an increase in alcohol consumed in response to, or associated with, a positive mood states (X^2=18.333, df=1, P < 0.0001). What the factors beyond chance are which may account for this finding is not certain. It may well be that the Gamblers Anonymous members who have experienced problems over longer time than the younger ones presenting to hospital centres are more dysthymic and less prone to having positive moods, have a greater capacity for self-control when in a positive state, or need to be more vigilant during positive mood states to avoid embarking on a course of action leading to loss of control.

The proportion of gamblers drinking before and during the process of gambling, and after losing is shown in Table 22.

Table 22

The Proportion of Gamblers Reporting Drinking Alcohol Before and During Gambling, and After Losing at Gambling.

	Hospital Sample		Gamblers Anonymous		Total	
	%	N	%	N	%	N
Before Gambling	19.1	29	19.3	29	20.8	58
During Gambling	37.7	49	27.9	43	32.9	92
After Losing	33.3	43	24.7	37	28.7	80

Although alcohol consumption regularly preceded gambling in one-fifth (20.8%) of the gamblers who reported drinking, it cannot be concluded that alcohol precipitated or led to impaired control over gambling behaviour. The intent to gamble may have preceded the desire to drink.

However, significantly more gamblers had a tendency to consume alcohol during, as compared to prior to gambling (X^2=9.760, df=1, $p < 0.0001$). As anticipated, compared to the period prior to gambling, significantly more gamblers reported an increase in alcohol consumption after losing their money (X^2=4.245, df=1, $p < 0.05$). There was no difference in alcohol consumption during gambling and after losing (X^2=0.960, df=1, NS).

The majority of subjects (60.5%) denied ever having taken non-prescribed illicit drugs. Regular use was noted in 6.9% while 15.5% reported occasional use, and 17.1%, at least once in their life.

6.7 Suicidal Intent and Problematic Gambling

Excessive gambling behaviour may lead to pervasive personal, familial, financial and legal problems. Substantive research has shown that pathological gamblers suffer from, or are prone to, depression (Blaszczynski and McConaghy, 1988). This propensity for depression taken in conjunction with the high rate of alcohol consumption and abuse would suggest that as a group, gamblers are placed at high risk for suicide.

To determine the prevalence of suicidal risk amongst the gamblers, subjects were asked to specify if they had experienced any suicidal feelings and whether or not they had engaged in any suicidal attempt that was (a) related to gambling induced

problems, and (b) related to non-gambling issues. Slightly under one quarter of the total sample (23.9%) stated that they had suicidal ideation in response to non-gambling related problems with ten percent (9.8%) admitting to an actual attempt at suicide. Twice as many gamblers (47.7%) admitted to having suicidal ideation as a result of gambling induced difficulties with 17.8% claiming that they had made suicidal attempts (see Table 23).

Table 23

Gambling and Non-gambling Related Suicidal Ideation and Attempts Amongst Problematic Gamblers.

	Hospital Sample		Gamblers Anonymous		Total	
	%	N	%	N	%	N
Gambling Related						
Suicidal Ideation	48.3	73	47.1	72	47.7	145
Suicidal Attempts	15.1	23	20.3	31	17.8	54
Non-Gambling Related						
Suicidal Ideation	25.8	39	22.2	34	23.9	73
Suicidal Attempts	9.3	14	10.5	16	9.8	30

The difference between gambling and non-gambling related suicidal feelings and suicidal attempts both reached significance (suicidal feelings: $X^2=36.049$, df=1, $p < 0.0001$, and suicidal attempts: $X^2=7.220$, df=1, $p < 0.005$), respectively.

Information concerning the rate of successful suicidal attempts in pathological gamblers is of course, impossible to obtain from the present study. Although estimates have suggested that pathological gamblers are at ten to fifteen times greater risk of committing suicide than members of the total population, confirmation of such figures is difficult. Details for the coroner's court statistical collection is obtained from police records used to notify death (Zavesky, 1988). The 1980 Coroner's Act specifies that the coroner includes the individual's identity, the date and place of death and the manner and cause of death. The underlying motive often is unknown, obscure or attributed to reasons other than gambling. For example, an individual in severe financial problems and facing imminent detection and prosecution for illegal acts may behave in a depressed fashion, drink excessively and impulsively commit suicide. Given the concealed nature of his misdemeanours, relatives and other may be completely unaware of the real motives underlying the suicide.

In one case, a thirty-nine year old male in debt to bookmakers died by falling under a train at a Sydney underground station. Treated successfully twelve months previously at the Prince of Wales Hospital, he was at the time of death still in debt to SP bookmakers for an alleged sum of $300,000. Complicating the matter, his father to whom he was exceedingly close, had died some months earlier from cancer and he, the patient, was suffering a grief reaction. The cause of death was evident but it was not clear as to whether or not the person died as a result of being pushed under the train, fell as a result of an accident or deliberately committed suicide. It is understood the coroner's report entered an open finding. In one other instance, a patient who had made an appointment for interview, was found in his car at the base of a cliff several days prior to keeping that appointment. Again, it was not certain that the suicide and gambling behaviour were related but, on the balance of probability, it is likely.

6.8 Psychiatric History and Pathological Gambling

Past family or personal psychiatric history may be a predisposing factor leading to loss of behavioural control. Gamblers were asked if they or relatives had ever sought consultations from any health professional, including general practitioners, for an emotional or psychiatric problem that they had or were experiencing (Table 24).

Table 24

Personal and Family History of Consultation for Emotional/Psychiatric Problems Reported by Gamblers

Problem	Personal History N	Personal History %*	Family History N	Family History %*
Depression	42	13.7	22	7.2
Anxiety	22	7.2	5	1.6
Schizophrenia	7	2.3	8	2.6
Alcoholism	16	5.2	68	22.2
Drugs	1	0.3	0	0.0
Manic Depressive Psychosis	3	1.0	1	0.3
Marital Problems	18	5.9	2	0.7
Epilepsy/Organic Condition	2	0.7	3	1.0
Explosive Anger	4	1.3	1	0.3

* Percentage of total sample.

One-third (35.3%) had a personal, and a similar proportion (35.9%) a family, history of treatment for an emotional problem. The most common form of emotional problem for both personal and family cases was depression and alcoholism. Problems related to anxiety and marital problems were additionally reported by gamblers.

Slightly over a quarter (28.0%) had been prescribed some form of medication for emotional problems, and a history of admission to hospital noted in 19.6% of subjects.

Consistent with diagnostic requirements, pathological gambling was not secondary to any of the major psychiatric disorders reported. A number of subjects reported seeking consultations for multiple reasons and the causal relationship between gambling and reason for seeking consultation was not determined. However, the constellation of depression, anxiety, alcoholism and marital problems could be a secondary consequence of gambling, or alternatively, could suggest that depressed and anxious individuals who drink excessively are at risk for loss of control if they participate in gambling activities.

6.9 Antisocial Personality and Pathological Gambling

Individuals with an antisocial personality have a propensity for impulsivity, pursuit of self-gratifying behaviours, the seeking of various forms of stimulation including drug and alcohol abuse, and engagement in a variety of criminal behaviours. Despite this last propensity, those individuals manifesting an antisocial personality disorder should not be regarded simply as chronic criminals. This is shown by the finding that less than half of those individuals who meet DSM-III-R (1987) criteria for antisocial personality disorder have a history of criminal conviction for two or more non-traffic

offences (The Quality Assurance Project, 1991). An antisocial personality factor may therefore be a confounding variable which results in the emergence of a non-causal relationship between criminal behaviours and pathological gambling. To investigate the possibility that criminal behaviours are associated with an antisocial personality disorder and not specifically with pathological gambling per se, the number of subjects in the sample meeting DSM-III criteria for Antisocial Personality Disorder (A.P.A., 1980) was determined. The DSM-III criteria specifies:

A. Current age at least 18.

B. Onset before age 15, as indicated by a history of three or more before that age:

1. Truancy (positive if at least five days per year for at least two years, not including the last year of school).
2. Expulsion or suspension from school for misbehaviour.
3. Delinquency (arrested or referred to juvenile court because of behaviour).
4. Running away from home overnight at least twice while living in a parental or parental surrogate home.
5. Persistent lying.
6. Repeated sexual intercourse in a casual relationship.
7. Repeated drunkenness or substance abuse.
8. Thefts.
9. Vandalism.
10. School grades markedly below expectations in relation to estimated or known "IQ".
11. Chronic violations of rules at home and/or at school (other than truancy).
12. Initiation of fights.

and

C. at least four of the following manifestations since age 18:

1. Inability to sustain consistent work behaviour, as indicated by any of the following:

(a) too frequent job changes (e.g., three or more jobs in five years not accounted for by the nature of the job economic or seasonal fluctuations,

(b) significant unemployment (six months or more in five year when expected to work),

(c) serious absenteeism (average three days or more of lateness or absence per month,

(d) walking off several jobs without other jobs in sight (Note: similar behaviour in an academic setting during the last few years of school may substitute for this criterion in individuals who by reason of their age or circumstances have not had an opportunity to demonstrate occupational adjustment).

2. Lack of ability to function as a responsible parent as evidenced by one or more of the following :

(a) child's malnutrition,

(b) child's illness resulting from the lack of minimal hygiene standards,

(c) failure to obtain medical care for a seriously ill child,

(d) child's dependence on neighbours or non-resident relatives for food or shelter,

(e) failure to arrange a caretaker for a child under six when parent is away from home,

(f) repeated squandering, on personal items, of money required for household necessities.

3. Failure to accept social norms with respect to lawful behaviour, as indicated by any of the following: repeated thefts, illegal occupations (pimping, prostitution, fencing, selling drugs), multiple arrests, a felony conviction.

4. Inability to maintain enduring attachment to a sexual partner as indicated by two or more divorces and/or separations (whether legally married or not), desertion of spouse, promiscuity (ten or more sexual partners within one year).

5. Irritability and aggressiveness as indicated by repeated physical fights or assaults (not required by one's job or to defend someone or oneself), including spouse or child beating.

6. Failure to honour financial obligations, as indicated by repeated defaulting on debts, failure to provide child support, failure to support other dependants on a regular basis.

7. Failure to plan ahead, or impulsivity, as indicated by travelling from place to place without a prearranged job or clear goal for the period of travel or clear idea about when the travel would terminate, or lack of fixed address for a month or more.

8. Disregard for the truth as indicated by repeated lying, use of aliases, "conning" other for personal profit.

9. Recklessness, as indicated by driving while intoxicated or recurrent speeding.

and

D. A pattern of continuous antisocial behaviour in which the rights of others are violated, with no intervening period of at least five years without antisocial behaviour between age 15 and the present time (except when the individual was bedridden or confined in a hospital or penal institution).

and

E. Antisocial behaviour is not due to either severe Mental Retardation, Schizophrenia or manic episode.

Of the total sample 47 (15.4%) met DSM-III criteria for a diagnosis of Antisocial Personality. This compares to the lifetime risk for satisfying the criteria for Antisocial Personality Disorder of 4.5% for males found in the American Epidemiological Catchment Study (cited in The Quality Assurance Project, 1991).

To investigate the relationship between antisocial personality, crime and gambling, illegal offences of all subjects were classified into four groups according the relationship of gambling to offences;

1. gambling related offences only (Gambling-Only): only offences reported were those motivated by a specific need to obtain funds for gambling.

2. non-gambling related only (Non-Gambling Only): offences were committed for reasons not directly or indirectly related to gambling or problems cashed by gambling behaviour.

3. gambling and non-gambling related offences (Gambling plus Non-Gambling): both types of offences as described above were reported.

4. no offences reported (No-Offence).

Thirty-five (74.5%) of the 47 subjects who met criteria for Antisocial Personality Disorder admitted to having had committed a gambling related illegal act, with 14 of the 35 (40%) being charged for offences. Sixteen of the 47 Antisocial Personality Disordered subjects (34.0%) admitted to a non-gambling related offence with 9 of the 16 (56.25%) being charged.

Evidence suggests that features of antisocial personality disorder first manifest themselves in early childhood. The American Epidemiological Catchment Study data revealed that 80% experienced their first symptoms by age 11 years (cited in The Quality Assurance Project, 1991). Descriptive statistics for age, age commenced gambling and ages at first offending is given in Table 25.

Table 25

Age, Age Commenced Gambling, and Age at First Offence for Pathological Gamblers Meeting DSM-III Criteria for Antisocial Personality Disorder

	Age	Age Commenced Gambling	Age at First Gambling-Related Offence	Age at First Non-Gambling Related Offence
Mean	35.7	15.81	20.5	15.38
Standard Deviation	11.4	4.1	6.8	5.0

Results indicate that a majority of gamblers who seek treatment engage in some form of illegal behaviour and that most of these are related to some aspect of their gambling. From the total sample of 306 subjects, 180 (59%) admitted to having committed a gambling related, and 54 (18%), a non-gambling related offence. There was some overlap with subjects (n=35 (11% of the total sample of 306 subjects)) reporting the commission of both types of offences, that is, gambling and non gambling-related.

Of the 180 reporting gambling-related offences, 145 (80.5%) subjects reported being engaging in gambling related offences only, and 35 (19.5%) with both gambling and non-gambling related offences. Of the 54 reporting non gambling-related offences 19 (34.2%) non-gambling related offences only, and 35 (64.8%) both gambling and non gambling-related offences.

Approximately a third of the total sample of 306 subjects, 106 (34.6%) denied having had committed any illegal offences whether gambling related or not.

Table 26 provides the descriptive statistics for the subjects' age and for the age at which they first committed gambling and/or non-gambling related offences. A one-way analysis of variance using Least Significant Difference multiple comparison tests was used to determine between group age differences.

Results showed that the Gambling plus Non-Gambling group was significantly younger than the Gambling-Only and No-Offence groups at the time of interview ($F=4.038$, $df=3, 301$, $p=0.007$). The No-Offence group showed a significant tendency to have commenced gambling at an older age as compared to the Gambling-Only and Gambling plus Non-Gambling groups ($F=8.49$, $df=3, 301$, $p<0.001$). The Non-Gambling Only group held an intermediate position on both these age variables and not differing significantly from any other group.

The Gambling and Gambling plus Non-Gambling groups did not differ significantly from each other in respect of the age at which they commenced their first gambling-related offences ($F=1.240$, $df=1,173$, NS). Similarly, the Non-Gambling Only and Gambling plus Non-Gambling groups did not differ significantly from each other in

respect of the age at which they commenced their non-gambling related offences (F=1.048, df=1, 44, NS).

Table 26

Age, Age Commenced Gambling, and Age At First Gambling for Gambling and Non-Gambling Related Offences, by Type of Offence.

	TYPES OF OFFENCES COMMITTED			
	Gambling N=145	**Non-Gambling** N=19	**Gambling & Non-Gambling** N=35	**No Offences** N=106
Age				
Mean	38.06	37.05	33.49	40.68
S.D.	10.76	9.51	8.21	12.09
Age Began Gambling				
Mean	17.15	18.26	16.23	21.61
S.D.	5.34	6.56	6.41	10.25
Age of First Gambling Related Offence				
Mean	26.84	---	24.82	---
S.D.	9.72	---	7.69	---
Age of First Non-Gambling Related Offence				
Mean	---	21.11	18.75	---
S.D.	---	6.94	8.04	---

To investigate the hypothesis that pathological gambling leads to the development of antisocial behaviours in adulthood, changes in the proportion of subjects meeting DSM-III criteria for antisocial personality both before and after the age of 15 years were compared. Antisocial behaviours in pathological gamblers exhibited before the age of 15 years are characterised by non-violent behavioural problems such as misbehaving at school (28.1%), lying (25.8%), truancy from school (19.9%), misbehaviour at home

(18.0%), stealing (16.7%) and running away from home (11.3%). Delinquent behaviours (8.5%), initiating fights (6.6%), alcohol and drug abuse (6.6%) and vandalism (2.8%) were less represented.

Proportionately more subjects reported antisocial features after age 15 years. The most common features were lying (73.5%), failure to meet financial obligations (70.6%), irritability (49.3%), impulsivity (46.1%) and employment instability (32.0%). Interpersonal relationship problems (19.3%) and reckless driving (16.2%) were relatively prominent while not caring for children (5.9%) ranked low, presumably linked to the number of single partners in the sample.

Table 27 lists the relative proportions meeting antisocial features across the four groups of gamblers. The pattern reveals a consistent trend for more subjects in the Gambling plus Non-Gambling group to exhibit antisocial features both before and after age 15 years as compared to remaining groups.

The finding of a highly significant increase in the number of gamblers engaging in lying after as compared to before age 15 years (X^2=137.42, df=1, $p<0.0001$) is interpreted as indicating that learnt antisocial patterns of behaviour emerge in response to repeated attempts to conceal excessive gambling and financial difficulties from spouses or others.

Table 27

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

	Prior to Age 15 Years				
	Gambling Only	**Non-Gambling Only**	**Gambling & Non-Gambling**	**No Offences**	**Total**
	N=145 %	N=19 %	N=35 %	N=106 %	N=305 %
Truancy	19.3	42.1	31.4	13.2	19.9
Misbehaving at School	26.9	42.1	42.9	21.7	28.1
Running Away From Home	11.0	5.3	14.3	11.3	11.1
Delinquency	9.0	5.3	20.0	4.7	8.5
Lying	26.9	21.1	54.3	16.0	25.8
Stealing	22.1	21.1	25.7	5.7	16.7
Vandalism	4.1	0	8.6	2.8	3.9
Starting Fights	7.6	15.8	14.3	6.6	8.5
Drink/ Drugs	3.4	10.5	14.3	6.6	6.2
Misbehaving At Home	16.6	15.8	31.4	16.0	18.0

Table 27 (Continued)

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

	Post Age 15 Years				
	Gambling Only	**Non-Gambling Only**	**Gambling & Non-Gambling**	**No Offences**	**Total**
	N=145 %	N=19 %	N=35 %	N=106 %	N=305 %
Frequent Job Changes	31.7	47.4	48.6	24.5	32.0
Not Caring For Children	7.6	10.5	11.4	0.9	5.9
Not Staying with Partner	15.9	31.6	34.3	17.0	19.3
Irritability	48.3	52.6	77.1	40.6	49.3
Impulsive	57.2	42.1	54.3	29.2	46.1
Lying	77.2	78.9	85.7	63.2	73.5
Not Meeting Financial Obligations	80.0	63.2	68.6	59.4	70.6
Reckless Driving	13.8	31.6	37.1	9.4	16.2

Table 28 shows the distribution of subjects across the four gambling groups who were charged for their gambling and non-gambling related offences, and those displaying antisocial features prior to, and post, age 15 years of age.

There were no significant differences between the Gambling-Only and Gambling plus Non-Gambling groups in respect of the proportion from each group charged for gambling related offences (X^2=0.332, df=1, NS). Similarly, the Non-Gambling Only and Gambling plus Non-Gambling groups did not differ on the number of subjects charged for non-gambling related offences (X^2=0.074, df=1, NS).

Table 28

Number of Gamblers Charged for Gambling and Non-Gambling Related Offences, and Proportion Exhibiting Antisocial Features Prior to, and Post, Age 15 Year According to Type of Offences Committed.

	TYPES OF OFFENCES COMMITTED			
	Gambling Only N=145	Non-Gambling Only N=19	Gambling & Non-Gambling N=35	No Offences N=106
Number and % Charged for Gambling Related Offence				
N	56	---	16	---
%	38.6	---	45.7	---
Number and % Charged for Non-Gambling Related Offence				
N	---	12	22	---
%	---	63.2	62.9	---
Number and % Exhibiting Antisocial Features Prior to Age 15 Years				
N	47	6	21	24
%	32.4	31.6	60	22.6
Number and % Exhibiting Antisocial Features Post Age 15 Years				
N	39	5	17	19
%	26.9	26.3	48.6	17.9
Number and % Exhibiting Three or More Signs Both Prior to and Post Age 15 Years				
N	23	4	12	8
%	15.8	21.0	34.3	7.5%

Chi-square analyses revealed that significantly fewer subjects meeting antisocial personality disorder criteria were found in the No-Offence group as compared to the remaining three groups combined (X^2=6.808, df=1, p<0.05).

A series of 2 X 2 Chi-Square comparisons yielded the following results; significantly fewer antisocial personality disorders were found in the No-Offence group in the No-Offence versus Gambling plus Non-Gambling comparison, and in the Gambling-Only as compared to the Gambling plus Non-Gambling group (Table 29).

Table 29

Chi-square Values for the Comparison of Antisocial Personality Disorders By Type of Offence.

Groups	Gambling Only	Non-Gambling Only	Gambling plus Non-Gambling
Gambling Only			
Non-Gambling Only	0.060		
Gambling Plus Non-Gambling	4.990*	0.497	
No Offence	3.180	2.008	13.336**

* Significant at the p< 0.05 level.
** Significant at the p< 0.001 level.

Consistent with expectations, there appears to be a relationship between level of criminality and antisocial personality disorder. The presence of antisocial personality in a pathological gambler increases the likelihood that both gambling plus non-gambling

related offences will be committed but the relationship does not necessarily hold for non-gambling only or gambling-only related offences. The presence of non-gambling related offences does not indicate the presence of an antisocial personality or an increased risk of gambling related offences.

6.10 Criminal Behaviours and Social Class in Pathological Gamblers

As shown earlier in Table 6, there does not appear to be a significant association between socioeconomic status and pathological gambling with results showing that a similar proportion of gamblers are represented across the four socioeconomic classes; A (highest), B, C, and D (lowest). Interestingly, there is a trend for gamblers to have had their background origin iun working class families. Seventy-seven percent of the gambler's fathers were drawn from the lower socioeconomic classes of C and D as compared to only 22% from A and B. However, given the absence of information on familial socioeconomic status amongst non-pathological gamblers, no firm conclusions can be offered in regards to this finding other than suggesting a direction for future research.

Descriptive statistics for the type of offence and the number and percentage of subjects from different social classes are given in Table 30. The relationship between offending and social class was investigated by reducing the data to form a 2 x 4 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. There was no significant differences in social class between the four groups of gamblers (X^2=6.112, df=7, NS).

There was a trend for fewer housewifes to be found in the groups in which more

antisocial personalities were located, that is, the Non-Gambling Only and Gambling plus Non-Gambling groups.

Table 30

Relationship Between Socioeconomic Status and Gambling/Non-Gambling Motivated Offences

Socio Economic Status	Gambling Only		Non-Gambling Only		Gambling & Non-Gambling		No Offence	
	N	(%)	N	(%)	N	(%)	N	(%)
Class A	25	(17.2)	0		4	(11.4)	23	(22.1)
B	22	(15.2)	5	(29.4)	10	(28.6)	25	(24.0)
C	33	(22.8)	4	(23.5)	8	(22.8)	21	(20.1)
D	47	(32.4)	3	(17.6)	10	(28.6)	20	(19.2)
Housewife	5	(3.4)	1	(5.9)	0		6	(5.9)
Unemployed	13	(9.0)	4	(23.5)	3	(8.6)	9	(8.7)
Total	145	(100)	17	(100)	35	(100)	104	(100)

CHAPTER SEVEN

PSYCHOLOGICAL TEST RESULTS

7.1 Beck Depression Inventory (BDI)

Consistent with the literature and expectations, depression was a common characteristic of the gamblers. The sample of pathological gamblers in the study obtained scores on the Beck Depression Inventory (BDI) (Beck, et al, 1961) which placed them in the dysphoria/depressive range. The mean score of the 135 subjects on whom psychometric data was available was 15.03 (SD=8.59; range=0 to 44). Kendall et al. (1987) suggested the following cut-off points for classification:

0 to 9, non-depressed
10 to 20, mild depression, or alternatively,
10 to 17, dysphoria
greater than 17, moderate to severe depression.

Of the sample, 31.1% obtained scores below the cut-off point of ten, 42.2% between 11 and 20, and 26.7% scores of greater than 20. Overall, 41.5% obtained scores of 17 or more which placed them in the depressed range, and 23% scores of 21 or more which represented moderate to severe depression. These figures are considerably less than the 76% of cases meeting criteria for major depression reported by McCormick et al. (1984) and the 72% by Linden et al (1986).

A one-way analysis of variance with Least Significant Difference Multiple Comparison Test of the BDI scores of the gamblers divided into the four subgroups in relation to their criminal offences revealed no significant between group differences on this measure of depression (F=0.623, df=1,129, NS) (see Table 31).

Table 31

Beck Depression Inventory Scores for the Four Subgroups of Pathological Gamblers

Group	N	Mean	Standard Deviation
Gambling Only	56	13.9	8.2
Non-Gambling Only	12	15.2	7.5
Gambling & Non-Gambling	19	16.6	7.2
No Offence	46	15.8	9.7

7.2 The Symptom Checklist 90 (SCL-90)

Scores obtained by the sample of pathological gamblers were compared with Derogatis' (1977) normative data for nonpatient normal controls. Means and standard deviations for the two groups on the nine scales and the three global indices of distress are shown in Tables 32 and 33. Consistent with previous results (Blaszczynski and McConaghy, 1988) the pathological gamblers were found to have exhibited significantly high levels of psychopathology. T-test comparisons revealed that the pathological gamblers scored significantly higher on all nine SCL-90 subscale and three global indices of distress scores as compared to normal controls.

Table 32

SCL-90 Subscale Scores of 131 Pathological Gamblers Compared Derogatis' Normative Data for Normal Controls.

Group	Som*	O-C	I-S	Dep	Anx	Hos	Pho	Par	Psy
Gamblers N=131									
M	0.83	1.19	1.18	1.42	1.04	1.02	0.54	1.03	0.93
SD	0.74	0.83	0.89	0.91	0.90	1.02	0.69	0.91	0.79
Normative Data N=974									
M	0.36	0.39	0.29	0.36	0.30	0.30	0.13	0.34	0.14
SD	0.42	0.45	0.39	0.44	0.37	0.40	0.31	0.44	0.25

* Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism are SCL-90 scales.

Table 33

SCL-90 Global Indices of Distress Scores of 131 Pathological Gamblers Compared Derogatis' Normative Data for Normal Controls.

	Global Severity Index	Positive Symptom Distress Index	Positive Symptom Total
Gamblers N=131			
M	1.06	1.88	46.26
SD	0.72	0.63	23.14
Normal Controls N=974			
M	0.31	1.32	19.29
SD	0.31	0.42	15.48

The four subgroups of gamblers, Gambling-Only, Non-Gambling Only, Gambling plus Non-Gambling and No-Offence, did not differ significantly from each other in respect of any of the nine subscale scores or three global indices of distress.

The BDI and SCL-90 are point in time measure of psychopathology. In view of the reduction to within the normal range of these scores in gamblers who responded to behavioural treatments (Blaszczynski, 1988), the most likely explanation of these findings are that symptoms were secondary to the effects of excessive gambling behaviour.

Elevations in scores presumably represent the pathological gambler's reaction to severe adverse consequences across spectrum of social functions associated with excessive gambling behaviour. Financial losses, efforts expended to conceal losses and continued gambling from others, frequent lying, involvement in illegal activities to procure gambling monies, frustration at repeated failure to win sufficient amounts to extricate them from their predicament, and marital problems would expectedly lead to tension, anxiety, irritability, depression, hostility, suspiciousness, and interpersonal alienation. The failure to find a relationship between involvement in illegal activities and psychopathology as assessed by the BDI and SCL-90 suggests that focussing on a single factor may be insufficient to show such a relationship, and that an investigation of the interaction of a combination of factors is required.

7.3 Boredom Proneness

It has been hypothesized that pathological gamblers seek stimulation as a means of reducing aversive underaroused states of boredom and/or depression (Blaszczynski, et al, 1990). Boredom is a relatively neglected psychological construct defined as a state of "mental weariness and dissatisfaction produced by lack of interest or activity (Farmer and Sundberg, 1986). Boredom prone individuals are characterised as experiencing varying degrees of depression, hopelessness, loneliness, distractability, lack of motivation and general dissatisfaction. On the basis of clinical reports, it was argued that many pathological gamblers increase gambling activity in periods of diminished activity or increased leisure time when they complain of boredom or understimulation. In a number of cases, gamblers feel an sense of dissatisfaction or existential lack of direction with their lives and consequently gamble in response to the feeling of stagnation they experience.

Negative emotional states including boredom, loneliness and dysphoria have been reported as common causes of relapse in substance and non-substance abuse addictive behaviours (Marlatt and Gordon, 1985). Cummings, et al (1980) earlier reported that 47% of a sample of 19 pathological gamblers identified such negative states as precipitants for relapse.

Farmer and Sundberg (1986) developed a Boredom Proneness Scale designed to assess an individual's capacity for tolerance of boredom. The pathological gamblers mean Boredom Proneness score was 14.94 (SD=5.96) as compared to the normative data for undergraduate male students mean score of 10.44 (Farmer and Sundberg, 1986). The figure is consistent with, and replicates, earlier results reported by Blaszczynski et al (1990). That study also showed that pathological gamblers had a significantly higher intolerance for boredom than a sample of general practice patients.

The Boredom Proneness scores were similar for the four subgroups of gamblers indicating that an inability to tolerate boredom was associated with gambling behaviour but not an increased risk of engaging in criminal activity (see Table 34).

Table 34

Boredom Proneness Scale Scores for the Four Subgroups of Pathological Gamblers.

	Gambling Only N=50	Non-Gambling Only N=10	Gamb & Non-Gamb N=17	No Offence N=45
Mean	14.72	16.90	14.88	14.53
Standard Deviation	6.09	4.91	6.01	6.13

7.4 Sensation Seeking and Pathological Gambling

Gambling is a risk taking activity associated with subjective excitement, physiological arousal and withdrawal symptoms. The thrill component inherent in gambling is a major motivational factor readily identified by gamblers' responses to surveys and is considered as an important reinforcement agent in theoretical models that explain the pathogenesis of pathological gambling, particularly those that regard it as an addictive or compulsive behaviour.

While superficially attractive, the hypothesis that pathological gamblers are driven by a sensation seeking trait has not been supported by the findings of empirical studies (Blaszczynski et al, 1986; Allcock and Grace, 1988). In fact the converse appears to be the case, that is, that pathological gamblers consistently score lower that the normal population on Zuckerman's Sensation Seeking Scale (Blaszczynski, Wilson and McConaghy, 1986). As suggested by Blaszczynski et al (1986), gamblers may not actively seek sensations but be motivated by a need to avoid or reduce noxious physiological or cognitive states characterised by either excessive tension or boredom.

The Sensation Seeking Scale scores for the gamblers in this study are presented in Table 35.

Cross-cultural differences on sensation seeking traits exist amongst American, English and Australian populations. Ball et al. (1984) provided normative data for the Australian population based on a sample of 363 males. Ball et al.'s data was considered to be the most appropriate to use in the present context. T-test comparisons (two-tailed) replicated the previous findings of Blaszczynski, Wilson and

McConaghy (1986) revealing the pathological gamblers to have significantly lower Thrill and Adventure Seeking ($t=12.007$, $p<0.001$), Experience Seeking ($t=4.344$, $p<0.001$), Disinhibition ($t=2.34$, $p<0.01$) and Total ($t=6.49$, $p<0.001$) scale scores. No significant findings were found for the Boredom Susceptibility scale.

Table 35

Sensation Seeking Scale Scores for 131 Pathological Gamblers and Ball et al.'s (1984) Normative Sample for Australian Males.

	Pathological Gamblers		Normative data	
	Mean	Standard Deviation	Mean	Standard Deviation
Thrill & Adventure	3.18	2.09	6.4	2.8
Experience Seeking	4.38	2.57	5.4	2.2
Boredom Susceptibility	3.86	2.90	3.5	2.1
Disinhibition	4.20	1.89	4.8	2.7
Total	15.62	6.97	20.2	6.9

The gamblers' Boredom Proneness scores did not correlate significantly with the Zuckerman's Boredom Susceptibility score ($r=-0.096$). Further, although the Boredom Proneness scores correlated significantly with the Beck Depression Inventory scores ($r=0.625$, $p=0.001$), the Boredom Susceptibility score failed to show such a relationship ($r=-0.094$). These findings suggest that the two scales measure independent factors.

Few differences were found between the subgroups of gamblers on the Zuckerman's Sensation Seeking Scale (see Table 44). One way analyses of variance with Least Significant Difference multiple comparison test set at p=0.05 revealed that on Thrill and Adventure seeking scale, the Non-Gambling Only group obtained significantly higher scores than the Gambling-Only and No-Offence groups (F=2.928, df=3, 127, P=0.03), but no other significant between group differences existed.

Table 36

Sensation Seeking Scale Scores for the Four Subgroups of Pathological Gamblers.

		Gambling Only N=55	Non-Gambling Only N=12	Gamb & Non-Gamb N=18	No Offence N=44
Thrill & Adventure	M	3.05	4.50	3.78	2.73
	SD	2.15	2.19	1.52	2.09
Experience Seeking	M	4.45	5.75	4.89	3.59
	SD	2.73	2.18	1.91	2.52
Boredom Susceptibility	M	4.13	3.83	3.61	3.70
	SD	3.12	2.80	2.55	2.90
Disinhibition	M	4.31	5.08	3.44	4.11
	SD	1.96	1.78	1.95	1.78
Total	M	15.94	19.17	15.72	14.14
	SD	7.44	7.38	5.99	6.57

7.5 California Psychological Inventory - Socialization Scale

The mean score of the sample of 131 pathological gamblers who completed the Socialization scale of the California Psychological Inventory (CPI) (Gough, 1987) was 23.12 (SD=6.51). This compared to Gough's (1987) basic normative data which showed a mean of 29.92 (SD=6.08). The difference between the sample and normative population was significant ($t=11.936$, $p<0.001$) indicating that, as a group, pathological gamblers exhibit traits of unconventiality, resistance to rules and difficulty adjusting to conformity.

The No-Offence group obtained significantly higher scores on the Socialization scale than did the Gambling-Only and Gambling plus Non-Gambling groups, and the Gambling-Only had higher scores than the Gambling plus Non-Gambling group ($F=3.67$, $df=3, 125$, $p=0.01$) (see Table 45).

Table 37

California Psychological Inventory Scale Scores for the Four Subgroups of Pathological Gamblers.

		Gambling Only N=55	Non-Gambling Only N=11	Gamb & Non-Gamb N=18	No Offence N=45
Socialization Scale	M	23.60	19.18	20.28	24.71
	SD	6.23	3.87	6.00	7.02

7.6 Eysenck Personality Questionnaire

Elevated Eysenck Personality Questionnaire (EPQ) Neuroticism and Psychoticism but not Extraversion scale scores for pathological gamblers have been reported (Seager, 1970; Koller, 1972; Blaszczynski, 1988). Consequently, this scale was included to further investigate the postulated correlation between the Psychoticism and Neuroticism scale scores of the EPQ and Eysenck's measure of impulsivity.

The means and standard deviations of the four scales are shown in Table 38. Compared to normative data, the gamblers were found to have obtained significantly higher Psychoticism ($t=4.77$, $p<0.001$), Neuroticism ($t=4.30$, $p<0.001$) and Extraversion ($t=4.45$, $p<0.001$) scale scores.

Table 38

Eysenck Personality Questionnaire Subscale Scores for 134 Pathological Gamblers and Eysenck's Normative Data.

	Psychoticism	Neuroticism	Extraversion	Lie
Pathological Gamblers				
Mean	5.09	15.08	11.38	6.16
Standard Deviation	3.10	5.57	5.06	3.66
Normative Data				
Mean	3.78	13.19	9.33	6.80
Standard Deviation	3.09	4.91	5.18	4.14

In comparing between group differences (Table 39), the four subgroups of pathological gamblers were found to have obtained similar Extraversion and Neuroticism scores. However, the No-Offence group had significantly higher Lie scale scores (F=3.739, df=3, 128, p=0.01) indicating a tendency to answer in a social desirable manner, and significantly lower Psychoticism scores (F=5.567, df=3, 128, p=0.001) indicating less tough-mindedness as compared to the other three groups.

Table 39

Eysenck Personality Questionnaire Scale Scores for the Four Subgroups of Pathological Gamblers.

		Gambling Only N=56	Non-Gambling Only N=11	Gamb & Non-Gamb N=19	No Offence N=46
Psychoticism	M	5.34	6.09	6.89	3.85
	SD	2.76	4.18	3.12	2.82
Neuroticism	M	14.20	16.55	15.79	15.26
	SD	5.64	3.01	4.98	6.11
Extraversion	M	12.18	10.18	11.53	10.46
	SD	4.96	4.77	5.64	5.00
Lie Scale	M	5.93	4.00	5.16	7.39
	SD	3.36	1.84	3.75	4.02

7.7 The Eysenck Impulsivity Scale

The Eysenck Impulsivity Scale (EIS) (Eysenck & Eysenck, 1977) describes four components of a general factor of impulsiveness; Impulsivity, Risk taking, Non-planning and Liveliness. If pathological gambling is a disorder of impulse control then presumably such individuals would exhibit high scores on psychological measures of impulsivity. In addition, if impulsivity is a characteristic feature of antisocial personality, and if pathological gamblers rate highly on anti-social personality traits, then gamblers as a group should also display high trait levels of impulsivity.

As shown in Table 40, compared to normal controls, pathological gamblers were found to have significantly elevated Impulsivity ($t=4.620$, $p=<0.001$) and Non-planning ($t=3.787$ ($p<0.001$) but significantly lower Risk-taking ($t=3.823$, $p<0.001$) scale scores.

Table 40

Eysenck Impulsivity Scale Scores for 124 Pathological Gamblers.

	Impulsivity	Risk-Taking	Non-Planning	Liveliness
Pathological Gamblers				
Mean	8.25	4.96	7.67	3.49
Standard Deviation	3.53	2.60	2.47	1.42
Eysenck & Eysenck's (1977) Normative Data: N=235 males				
Mean	6.53	6.08	6.59	3.40
Standard Deviation	3.25	2.66	2.62	1.67

In comparing the scores of the various subgroups of gamblers as shown in Table 41, significant between group differences were found only on the Liveliness Scale scores. On this scale, the Non-Gambling Only group scored significantly lower than both the Gambling-Only and the Gambling plus Non-Gambling groups (F=2.910, df=3, 118, p=0.04).

Table 41

Eysenck Impulsivity Scale Scores for the Four Subgroups of Pathological Gamblers.

		Gambling Only N=53	Non-Gambling Only N=11	Gamb & Non-Gamb N=16	No Offence N=42
Impulsivity	M	9.00	6.63	8.69	7.43
	SD	3.42	3.35	2.30	3.88
Risk-Taking	M	5.23	4.54	5.69	4.38
	SD	2.59	3.20	2.87	2.29
Non-Planning	M	8.32	7.27	7.25	7.12
	SD	2.38	2.28	2.24	2.52
Liveliness	M	3.70	2.55	3.94	3.36
	SD	1.31	1.21	1.44	1.41

7.8 Comparison of EPQ, EIS, CPI and Other Test Measures.

Intercorrelations between Eysenck's Impulsivity Scale and various psychological test measures are presented in Table 42.

Table 42

Intercorrelations for Depression, Boredom Proneness, Neuroticism, Psychoticism, Extraversion, Sensation Seeking and Socialization Scales with the Boredom Proneness and Impulsivity Subscales Scales for Pathological Gamblers

	Impul	Risk-Taking	Non-Planning	Liveliness	Boredom Proneness
Beck Depression Inventory	.40**	.13	.10	-.09	.65**
Extra-version	.09	.21	.13	.16	-.24*
Neurotic-ism	.50**	.143	.13	-.18	.65**
Psychotic-ism	.47**	.29**	.30**	.01	.45**
Boredom Susceptibility	.04	.47**	.10	.12	-.10
Disinhibit-ion	.07	.35**	.29*	.04	.04
Experience Seeking	.26*	.44**	.26*	.04	.13
Thrill & Adventure	.27*	.42**	.32**	.21	.36**
Total	.21	.57**	.31**	.13	.13
CPI Socializat-ion	-.59**	-.30**	-.20	.09	-.55**

* Significance level: p=0.01
** Significance level: p=0.001

Significant correlations were found between Psychoticism and Impulsivity (r=0.47 p=0.001), Risk (r=0.29, p=0.001) and Non-Planning (r=0.30, p=0.01), but not between

Psychoticism and Liveliness (r=0.005) scale scores. Neuroticism correlated significantly with Impulsivity (r=0.50, p=0.001) and with Boredom Proneness (r=0.651, p=0.001). That Impulsivity correlates with both Psychoticism and Neuroticism but not Extraversion is consistent with Eysenck and Eysenck's (1977) original findings and supports the contention that Impulsivity is a more pathological trait independent of sociability.

The strong negative correlations between the CPI Socialization scale and Impulsivity (r=-0.59, p=0.001) and Risk (r=-0.30, p=0.01) scale scores suggested that those who shows traits of unconventiality and lack of regard for rules also tend to be impulsive and engage in risk taking behaviours. As anticipated, strong negative correlations were shown between the Socialization scale scores and the other measures of unconventiality and tough mindedness, Psychoticism (r=-0.546, p=0.001) and Neuroticism (r=-0.531, p=0.001).

Zuckerman's Sensation Seeking Scale total score did not correlate significantly with the Eysenck Impulsivity Scale. That the pathological gamblers were shown to have elevated Impulsivity but reduced Sensation Seeking Scale Scores suggests that the two scales measure independent constructs. The lack of correlation between Eysenck's Impulsivity and Extraversion measures supports his proposition that impulsivity is independent of sociability. That Impulsivity correlated positively with Psychoticism and negatively with the California Psychological Inventory's Socialization scale, and that these latter scales purportedly are associated with antisocial personality features, supports the contention that impulsivity is a component of antisocial behaviour.

Responses to the psychological measures were obtained from 22 of the 47 subjects who met the criteria for diagnosis of Antisocial Personality Disorder, and 29 subjects who did not meet its full criteria, that is they either had less than three features of antisocial personality prior to age 15 years and/or less than four features after age 18 years. Descriptive statistics for both these groups are provided in Table 43.

Table 43

Descriptive Statistics for the Eysenck Personality Questionnaire, Sensation Seeking, Socialization and Eysenck Impulsivity Scale Scores for Pathological Gamblers With and Without Anti-social Personality Disorder.

	Antisocial Personality Disorder			Non Antisocial Personality			
	Mean	Standard Deviation	N	Mean	Standard Deviation	N	t
Beck Depression	17.73	10.11	22	13.33	6.98	30	1.858
Extraversion	10.82	5.00	22	11.45	5.00	29	0.446
Neuroticism	17.14	4.83	22	14.79	4.70	29	1.747
Psychoticism	7.00	3.12	22	4.76	2.63	29	2.780 *
Boredom Susceptibility	4.00	2.76	22	4.25	2.80	28	0.315
Disinhibition	4.68	1.94	22	4.32	1.91	28	0.657
Experience Seeking	4.55	2.20	22	4.54	2.50	28	0.015
Thrill & Adventure	3.41	1.82	22	3.39	2.25	28	0.034
Total	16.64	6.25	22	16.50	7.21	28	0.072
CPI Socialization	18.33	5.05	21	23.31	6.57	29	2.905 **
Impulsivity	10.22	1.86	18	7.86	3.67	28	2.521 *
Risk-Taking	6.56	2.15	18	5.21	2.29	28	1.687
Non-Planning	8.56	2.12	18	7.54	2.71	28	1.351
Liveliness	3.50	1.29	18	2.82	1.39	28	1.664

Significance:level: '*' = p<0.01; '**'= p=0.005

As predicted, significant differences between the two groups of pathological gamblers were found on psychometric measures reflecting antisocial traits. Subjects meeting Antisocial Personality Disorder criteria exhibited significantly elevated scores on the Eysenck Personality Questionnaire Psychoticism Scale, the California Psychological Inventory Socialization Scale, and the Eysenck Impulsivity Scale scores. This finding supports the validity of the use of DSM-III criteria in identifying Antisocial Personality Disordered subjects within the sample.

7.9 The Prince of Wales and Gamblers Anonymous Samples Compared on Psychological Measures

Scores on the psychological measures obtained by the Prince of Wales and Gamblers Anonymous samples were compared to determine if there were any differences in personality features according to type of treatment sought. Table 53 provides the descriptive statistics for the two groups on the Symptom Checklist-90 subscales scores, while Table 54 provides the statistics for the remaining measures.

There was no evidence for any differences between the Prince of Wales and Gamblers Anonymous samples in respect of level of psychopathology as measured by the Symptom Checklist-90. Given the number of comparisons made, it is important to bear in mind the possibility that the finding of a significant difference on the Positive Symptom Distress Index score is a Type I chance finding. Further replication is therefore required before any conclusive significance can be attached to this finding.

Table 44

Descriptive Statistics for the Symptom Checklist-90 Subscale Scores for The Prince of Wales and Gamblers Anonymous Samples

	Prince of Wales			Gamblers Anonymous		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Somatization	93	0.76	0.67	37	0.99	0.85
Obsessive-Compulsive	93	1.11	0.81	37	1.38	0.86
Interpersonal Sensitivity	93	1.12	0.89	37	1.31	0.89
Depression	93	1.36	0.87	37	1.54	1.00
Anxiety		0.96	0.86	37	1.19	0.94
Hostility		0.97	0.97		1.16	1.15
Phobic Anxiety		0.52	0.69		0.59	0.69
Paranoid Ideation		0.98	0.88		1.13	1.00
Psychoticism		0.86	0.79		1.06	0.75
Global Severity Index		1.00	0.71		1.19	0.73
Positive Symptom* Distress Index		1.77	0.61		2.14	0.61
Positive Symptom Total		46.03	23.33		45.97	22.67

* Significance level: $p<0.005$

Table 45

Descriptive Statistics for All Except Symptom Checklist-90 Psychological Test Measures for The Prince of Wales and Gamblers Anonymous Samples

	Prince of Wales			Gamblers Anonymous		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Beck Depression Inventory	94	15.05	8.53	40	14.85	8.91
Boredom Proneness	83	14.84	6.052	40	14.95	5.81
Extraversion	93	11.13	5.07	40	11.90	5.10
Neuroticism	93	14.95	5.65	40	15.20	5.38
Psychoticism	93	4.77	3.08	40	5.82	3.11
Boredom Susceptibility*	91	4.38	2.95	39	2.72	2.44
Disinhibition*	91	4.50	1.80	39	3.46	1.94
Experience Seeking	91	4.58	2.42	39	3.82	2.83
Thrill & Adventure	91	3.31	2.09	39	2.90	2.11
Total*	91	16.78	6.65	39	12.90	7.11
CPI Socialization	90	23.47	6.66	40	22.27	6.23
Impulsivity	88	7.87	3.63	35	9.17	3.16
Risk-Taking	88	5.22	2.71	35	4.31	2.23
Non-Planning	88	7.45	2.40	35	8.11	2.58
Liveliness	88	3.51	1.42	35	3.54	1.31

* Significance level: $p<0.005$

There were no significant between group differences found on the any of the Eysenck Personality Questionnaire and Impulsivity subscales, the California Psychological Inventory Socialization scale, Boredom Proneness and Beck Depression scores. Of Zuckerman's Sensation Seeking Scale scores, only the Boredom Susceptibility and Disinhibition scales scores showed a significant difference between the hospital and Gamblers Anonymous samples. Again, the number of comparisons and the potential for Type I errors to have occurred needs to be taken into account before any importance can be attached to the findings.

The lack of a consistent difference between the two samples on psychological measures suggests that there are no intrinsic personality differences between patients seeking treatment from an established hospital behavioural treatment programme and those electing to receive assistance from a self-help organization. This interpretation is consistent with the essential lack of differences shown between the samples on demographic details or crucial features of gambling behaviour. The results of this aspect of the suggests that the combination of hospital and Gamblers Anonymous based patients into one group for research purposes is a valid procedure.

CHAPTER EIGHT

DISCUSSION

8.1 Discussion

Despite the recognition by the 1978 Report of the Tasmanian Inter-Departmental Committee, the Connor Report (1983), the Western Australian Report of the Government Gaming Inquiry (Mossenson, 1984, Canberra's Social Impact Study (1988), and the Street Report (1991) for the need for more objective information on the social and financial impact of gambling and pathological gambling, comprehensive research data for Australia continues to be limited. One significant issue ignored not only by State Governments and commercial gambling entrepreneurs, but also by various welfare bodies, has been that of the potential contributory role of excessive and pathological gambling patterns in the initiation and maintenance of criminal behaviours. Determining the casual link is important for forensic reasons, given that increasing numbers of gamblers presenting before the courts are using a psychiatric diagnosis of pathological gambling in their defence, arguing an impaired capacity to control behaviours.

This trend has been clearly evident in overseas countries. In the United States of America, the immediate reaction to the classification of pathological gambling as a psychiatric disorder, resulted in a significant influx of judicial cases in which pleas of not-guilty by reason of insanity, or pleas of diminished responsibility, were entered in defence of pathological gamblers convicted of criminal offences (Rachlin et al., 1986). It was argued that the disturbance of volitional control over behaviour as defined within the diagnostic criteria of pathological gambling as a disorder of impulse control was sufficient to convince the judicial system that pathological gamblers should not be treated as criminals but mentally ill individuals (Rachlin et al., 1984).

However, in all instances, the United States federal appellate courts have rejected

this argument for diminished criminal responsibility stating that an uncontrollable impulse to gamble does not include the presence of a concurrent uncontrollable urge to steal, that pathological gambling does not impair the individual's ability to form a judgement of the wrongful nature of an act or the intent to commit that act, and that society has not accepted alcoholism or drug addiction as a valid defence for offences committed in support of those conditions (Rachlin et al., 1986). Further, the absence of any empirical data put forward to support the contention of a causal link between pathological gambling and crime was a critical element in the determination of the court's decision.

In response to the federal courts' criticism , the descriptor **"inability"** to resist the urge to gamble contained in the original DSM-III (A.P.A., 1980) definition was subsequently changed to a *"failure"* to resist the urge in DSM-III-R (A.P.A., 1987), thereby eliminating the suggestion of impaired volitional control over behaviour.

Despite the approach adopted by the United States judiciary, the German criminal courts appear to have recognised the argument for diminished culpability for pathological gamblers (Meyer, Fabian and Wetzels, 1990 cited in Meyer and Fabian, 1992) in adopting Meyer and Fabian's (1992) interpretation that, "If pathological gambling is the decisive factor which has led to a criminal offence, it may be assumed that control of action was reduced due to an addiction" (p.75). However, a further stipulation is required before a verdict of diminished culpability is given by the German Courts, and that is, that a severe personality change must be manifest and due directly to pathological gambling (German Federal Court verdict 8.11.1988 - 1 StR 544/88, LG Ausburg; cited in Meyer and Fabian, 1992). Although some German courts have decided in favour of diminished responsibility (Meyer and Fabian, 1992), it remains unclear as to whether or not this reflects a general trend and consensus of opinion

within the legal system. The fundamental assumptions upon which the German position is based remain tenuous. Despite widespread acceptance, the validity of the addiction model gambling has been challenged (Hand (1990) reviewed in Walker, 1991), and evidence for that severe personality changes can be attributed to gambling has not been established.

In Australia, anecdotal cases and media reports containing reference to magistrates recognising and taking into account pathological gambling as a mitigating factor in sentencing, has been noted. However, no instance is known to the first author of a case in which legal responsibility for an offence was dismissed due to the presence of a pathological gambling disorder.

The major purpose of this study, the first of its kind in Australia, was to describe the prevalence of criminal offences in pathological gamblers and to investigate the nature of the causal connection between excessive gambling and offending. The primary relevance of the study is in provision of data for use by the judicial system in dealing effectively with pathological gamblers charged with offences motivated by a need to maintain habitual gambling patterns.

Hypothesis: *That there is a high prevalence rate of criminal behaviours amongst pathological gamblers.*

Consistent with previous anecdotal and clinical accounts in the literature, the results of the present study support the argument that a high rate of criminal behaviours exists in pathological gamblers who seek treatment from either health professionals or Gamblers Anonymous. Almost two-thirds (59%) of diagnosed pathological gamblers admitted to the commission of a gambling-related criminal act motivated exclusively by

a need to obtain funds to maintain habitual gambling behaviour patterns. While 95% of the total sample were found to have used salary and earnings as their major source of gambling funds, slightly over half (28%) had employed illegal methods as their primary means of supplementing salary and earnings as the source of gambling.

The obtained rate is consistent with those reported in populations of pathological gamblers in the United States of America, (Lesieur, 1984; Custer and Milt, 1985), the United Kingdom (Brown, 1987) and more recently in Germany (Meyer, 1991; Meyer and Fabian, 1992; Schwartz and Lindner, 1992). 1

It is not clear if differing populations of pathological gamblers are at equal risk of offending. Some (Meyer and Fabian, 1992) consider that pathological gamblers may gain easier access to Gamblers Anonymous and may prefer the anonymity conferred by such an organisation in contrast to the formal consultation and assessment procedures required by hospital-based services. Consequently, a proportion of gamblers may utilise Gamblers Anonymous in the earlier stages of their financial crises and when they are placed at lower risk for offending. Gamblers, on the other hand, requesting consultation from psychiatric services may so do under conditions of severe depression secondary to overwhelming gambling-induced problems, or when requiring assessments for forensic purposes, thereby, inflating the reported rate of offending for the hospital population of pathological gamblers.

In the present study, the prevalence rate for offences reported by the sample of Gamblers Anonymous attenders, 65.6%, was much higher than that of the hospital-

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1: Readers are directed toward the *Journal of Gambling Studies*, (1992), Volume 8, Number 1, which devotes its entire issue to German studies on gambling. This publication has provided the first detailed account in the English language of the demographics of pathological gambling in a European country.

based patients, 52.6%. The Gamblers Anonymous rate was lower than the 90% rate reported for the United States, (Custer and Custer, 1978) and the 82% for the United Kingdom (Brown, 1987) but higher than Germany's 54% (Meyer and Fabian, 1992).

Little data is available on hospital/university clinic populations but the rate of 52.6% was comparable to that reported by German studies (reviewed in Meyer and Fabian, 1992). Fuchtenschneider (1991) found rates of 56%, and Schwartz and Lindner (1992) 50.8%, in two samples of 64 and 57 gamblers, respectively. However, while Bellaire and Caspari (1989) (cited in Meyer and Fabian, 1992) found 72% of 46 gamblers treated at a University Clinic in Hoburg/Saar had offended, only 46% had admitted to exclusively gambling-related offences.

Variations in reported prevalence rates across studies and countries reflect differences in the measures or criteria used to identify offences, and populations from which samples of pathological gamblers were drawn; e.g., prison populations (13%: Lesieur and Klein, 1985), addiction units (38%: Lesieur, Blume and Zoppa, 1986), or general hospital/university psychiatric units (90%: Politzer et al., 1981; 48%: Blaszczynski and McConaghy, 1986; 72%: Bellaire and Caspari, 1989 and 56%: Fuchtenschnieder, 1991 (in Meyer and Fabian, 1992)).

That a high prevalence rate of offending was found in the sample of pathological gamblers, was not surprising. The fundamental principle behaviour gambling is the willingness to risk something of value on an uncertain event in the hope or expectation of a greater return. Although the vast majority of individuals retain control over the frequency and intensity of their gambling, a proportion of gamblers experience what is tantamount to an impairment or loss of control and as a result gamble excessively. In consequence, significant financial difficulties are experienced. In some high frequency

or problematic gamblers, control is rapidly regained, gambling suspended and financial crises aborted or resolved. Unfortunately, in 0.5% to 1% of gamblers, a multiplicity of emotional and cognitive factors combine which act to maintain persistence at gambling despite rapidly escalating personal, social and financial costs. This population has been variably referred to as compulsive (Bergler, 1957), excessive (Comish, 1978), pathological (A.P.A., 1980) and problematic (Dickerson, 1984).

As described by Lesieur (1984), Meyer (1992) and others, the processes associated with any attempt to recoup losses through chasing, results in a rapid depletion of available gambling funds. Once legitimate sources are exhausted, the pathological gambler becomes caught in a predicament in which anxiety, depression and cognitive distortions combine to impair judgment and appropriate decision-making processes. Despite the recognition that gambling was instrumental in producing financial crises, the almost delusional belief is held that gambling provides the only means of escape.

As financial circumstances deteriorate, the ability to abstain from gambling is reduced as the pressure to meet financial commitments mount. This study found an average time-lag of five years between the commencement of gambling and onset of problematic levels of gambling. By the problematic stage, regular bets of a median size of $200 per session gambled on an almost daily basis were found to produce median gambling-debt levels of $6,000. In 10% of cases, gamblers experienced gambling-debts in excess of $40,000. Given that one-third of gamblers earned less than $20,000 per annum and had, in addition to gambling-related debts, mortgage and living cost commitments, their capacity to service such debts were limited. Such financial pressures led gamblers to utilise any available means or resources to obtain funds to gain an opportunity to gamble and a chance to win. Many pathological

gamblers described a state of despondency over the paradoxical situation that further gambling would increase their predicament, but that without such gambling their ability to eliminate debts seemed non-existent. Under these conditions, the propensity to use illegal methods to obtain gambling funds was substantially increased.

To support a causal relationship, the onset of pathological gambling must temporally precede the commission of the first offence, with the risk of offending co-varying as a function of changes in the degree of current financial problems. Further, the onset of gambling should precede the date of the initial offence by a period greater than five years given that this is the average time-lag between the onset of problematic gambling and the development of financial problems.

In support of a causal link, offenders were found to have been gambling for a period of three to five years longer than non-offenders, and an average of nine years had elapsed between the onset of gambling and the commission of the first gambling-related offence compared to three years between gambling and the first non-gambling related offences. Non-gambling offences appear in advance of any gambling induced financial problems. The discrepancy in the lag-time between the onset of gambling and the commission of first gambling and non-gambling related offences, is consistent with the notion that the two types of offences are motivated by different factors.

One study to date appears to have offered contradictory results. Kroeber (1992) found that of 78% of a sample of 46 pathological gamblers treated at a University hospital, only 28% had reported their first offence accused after the onset of excessive gambling. To partial out the potential confounding effects of the presence of an anti-social personality disorder, the 43% of the sample who presented primarily for forensic assessment were excluded. This manoeuvre, however, led to a strengthening of their

findings. An unexpectedly high 66% had reported offences prior to the development of excessive gambling.

That a significant proportion of the total sample were charged with serious crimes of violence, 25% for manslaughter/murder, 14% grievous bodily harm and 11% for sexual offences, suggested, as acknowledged by the author, that this was not a representative group of gamblers.

It is not unreasonable to assume that gamblers seeking treatment represent the more pathological end of the dimensional spectrum of problem gambling and the group at greatest risk of offending. Substantive research has shown that as a group they exhibit higher levels of psychopathology including anxiety and depression (McCormick et al., 1984; Blaszczynski and McConaghy 1988, 1989; Linden et al., 1986), substance abuse (Lesieur, 1987; Lesieur, Blume and Zoppa, 1986; Ramirez et al., 1983), experience greater dependency on gambling, report higher levels of expenditure and intensity of gambling, and higher levels of debt (Lesieur, Blume and Zoppa, 1986; Meyer and Fabian, 1992).

In further support of a causal connection, the findings of the present study suggested that the presence of an offence was related to the level of current financial debt. Offenders had a median debt of $8,000 compared to $2,000 for non-offenders. Although the average period of gambling was similar (19 years for offenders and 18 years for non-offenders), offenders experienced a significantly longer period of problematic gambling than non offenders, 11 years and 8 years respectively. The correlation between offending and degree of debt was consistent with the observation of Meyer and Fabian (1992). These authors similarly noted higher levels of excessive gambling, greater losses and debts in offenders as compared to non-offenders, leading

them to conclude that exhaustion of legal options for revenue was a contributory cause in offending.

In summary, if it is accepted that, of the total population of gamblers, pathological gamblers seeking treatment are the group at greatest risk for offending, then a prevalence rates of 55% may be a valid estimate for the upper limit for the presence of gambling-related offences in gamblers.

Hypothesis: ***That a large percentage of criminal behaviours of pathological gamblers remain undetected.***

The high prevalence rate of offences amongst the total sample of gamblers includes a broad spectrum of illegal activities ranging from minor theft from family members, to embezzlement involving amounts in excess of several thousand dollars. It is clear that not all offences would be considered serious enough if detected, to justify legal action, including arrest/prosecution. Irrespective of whether the sample is drawn from Veteran's Administration, Gamblers Anonymous, hospital clinics or prison populations, self-reported rates for offending have been found to be consistently higher than actual arrest and conviction rates (Brown, 1987; Blaszczynski and McConaghy, 1987; Meyer and Fabian, 1992). Most studies refer to or describe criminal behaviours in pathological gamblers in cursory or tangential fashion, failing to adequately describe the nature, frequency or type of offence, whether detected or not. A notable exception has been the intensive work of Lesieur (1987) who has provided detailed descriptive accounts of offending within specific addiction treatment centre and prison samples. It could be argued that the inclusion of minor offences in statistical analyses results in an unrealistic over-estimate of the true prevalence rate and thus exaggerate the magnitude of the problem. Cynically, reports of unacceptable high rates of offences in

groups of gamblers could be readily seized by anti-gambling activists for potential anti-gambling sensationalism or political lobbying.

A more stringent criteria would be to use actual arrest or conviction rates in determining prevalence. Arrest or conviction for an offence implies a relative degree of seriousness for that offence as well as providing corroborative objective evidence. In the present study, 73 (23%) of the total sample of 306 gamblers were formally charged by police for various gambling-related offences, while the seriousness of the offence was such as to result in 10% serving an average of 2.6 years in prison.

The obtained conviction rate was lower than the 40% to 51% for the United Kingdom reported by Brown (1987) but higher than the 4% reported by Politzer et al. (1981) for the United States, the 10% for Germany by Meyer and Fabian (1992), and the 13% for an Australian sample by Blaszczynski and McConaghy (1987). The variation in reported rates is accounted for by the varying data collection techniques used across studies, that is, interview versus self-report questionnaire check-lists in recording offences and convictions.

Nevertheless, it is generally accepted that arrest rates under-estimate true prevalence rates given that they fail to include non-detected cases or those where restitution or other interventions effectively circumvented prosecution. Therefore, the figure of 23% may to validly represent the conservative lower limits of the prevalence rate.

One hundred and eighty (59%) subjects stated that they had committed a gambling-related offence. This figure represents the upper most liberal estimate of the offending rate for gamblers.

If the upper and lower estimates are accepted as accurate reflection of the range of prevalence rates, the difference between the upper self-report based rate (which included detected and undetected cases), and the lower rate (containing detected cases only, that is arrest or conviction), would provide an indication of undetected cases. Given that 180 subjects offended, and that 73 were charged, the remaining figure of 107 (or 35% of the total sample of 306 subjects) represents the number of undetected cases.

Of the sample of 180 subjects who admitted to a gambling-related offence, 40% were charged on at least one occasion. Sixty percent, therefore, reported offences which remained undetected, or at least which did not preceded to judicial level. Given that each gamblers commits on average of ten offences, and that 60% of the 180 gamblers reported offences for which they were not charged, it is evident that a significant number of offences remain undetected.

The more serious the offence, the greater the likelihood of arrest. Of the eight gamblers reporting armed robbery, seven were arrested as were 15 of those participating in break and enter offences. This compared to 3 of 13 shop-lifters who were arrested. However, not all undetected cases are of a minor nature or involve limited amounts of money. Reports of larceny, embezzlement and misappropriation involving significant amounts were noted within the various category of lessor offences such as larceny or misappropriation.

In summary, the prevalence of gambling-related offences in groups of diagnosed pathological gamblers range from 23% to 60%. Slightly less than half the number of offences which are detected or resulted in charges being laid. The temporal sequence

of events suggested that gambling-related offences occur in association with the emergence of financial problems suggesting a causal link between pathological gambling and crime.

Hypothesis: *That the types of crimes committed by pathological gamblers are crimes against property*

It is logical to assume that gambling-related offences would be exclusively crimes against property in nature. Acts of violence, except where ancillary to the primary objective of gaining money for gambling, such as in the few cases of armed robbery, should be absent. Results were consistent with this expectation and accorded with the findings of Lesieur (1984), Brown (1987) and Meyer and Fabian (1992). In the majority of cases, gamblers engage in offences which involve the direct theft of money, either through acts of larceny, embezzlement or misappropriation. In a minority of instances where offences extended to include more serious acts of armed robbery and drug dealing, the primary motivation related to the need to obtain funds for gambling, not personal economic gain.

Where non gambling-related offences were involved, aggressive behaviours were more prominent, characteristically featured by physical assault while intoxicated, driving offences including driving under the influence of alcohol, and car theft. In instances of property offences, the primary motivation was to obtain goods for their own use rather than conversion into cash.

The nature of gambling-related property offences varied considerably from theft from family members to large scale premeditated and sophisticated embezzlement. At the petty end of the spectrum, gamblers forged their spouse's signature on cheques or

in opening new joint accounts, stole from petty cash, engaged in shop-lifting to subsequently sell the goods at significantly reduced prices, and stole from fellow employees at work. One enterprising individual paid a female stranger waiting outside some shops fifty dollars to impersonate his wife while he signed documents to establish a loan at a financial institution.

More serious offences included repeated theft of vehicle spare parts for illicit sale, distribution and sale of marijuana, and embezzlement of significant amounts on a regular basis from large corporations or banks. In a minority of cases, it was difficult to identify the motivation underlying the offence as to, whether it related to personal gain or gambling. For example, in one case involving several thousand dollars embezzlement, the gambler's life style included, as part of his executive company promotional position, on-course attendance in the company of affluent businessmen. To both succeed and gain a personal sense of acceptance, he gambled at the same level as his business clients, a level beyond his legitimate means. Winnings, at times considerable, were placed in accounts for subsequent gambling in addition to maintaining an extravagant lifestyle while on business trips. Embezzlement was justified by his view that personal expenditure on gambling was a necessary part of his work activities, and as such, should have been funded by the company.

The frequency and value of offences can be used as an index to gauge the seriousness of offences. Each pathological gambler perpetrated an average of 10 to 17 illegal acts with a median value of $3,000 per offence over a ten year history of pathological gambling behaviour. However, in 14% of cases the mean value involved in each offence exceeded $13,000. In the authors experience, five individuals not included in this present study but who were assessed for forensic and/or treatment purposes admitted to offences involving in excess of one million dollars each.

Gamblers most at risk for offending are those employed in positions which entail easy access to money or control over funds, such as accountants, bank tellers, taxi drivers or couriers. Subtle cognitive processes or personality features allow gamblers to morally justify actions. When direct responsibility over cash payments are held, money may be taken and used for gambling purposes with the rationalisation that it will soon be replaced with subsequent winnings. Such action, although technically illegal, was not considered to constitute a wrongful act by a quarter of gamblers.

In other cases, the gambler placed himself into a predicament where, once having carried out an offence, he was obliged to continue the practice of offending to avoid detection or to retain some hope of providing restitution. One bank-teller, subsequently sentenced to a jail term, was apprehended after being required to take holiday leave. In a complicated manoeuvre, the teller had withdrawn monies from various customer accounts, covering his activities by daily reconciliation through accessing money from other accounts. His replacement noted discrepancies of several thousand dollars and immediately informed his administrative officer. The teller had carried out this scheme over a year.

In certain cases, the overall sum value of offences are of such magnitude that further offences seem relatively insignificant in comparison, yet represent the only avenue of hope to avoid detection. In other words, misappropriating a further $10,000 would appear insignificant where the existing total misappropriated sum is $100,000.

Alcohol dependency problems were evident in a quarter of the population of pathological gamblers, but there did not appear to be a relationship between alcohol and gambling-related offences. Only in 3% of cases were gambling-related offences

carried out under the influence of alcohol compared to 56% of non gambling related offences.

Alcohol consumption was found to increase during play and after periods of losses and was associated with negative mood states of depression and irritability. Offences involving physical assault or aggressive behaviour were therefore seen as a response to loss in the context of emotional stress, remorse and displaced anger.

Gamblers often reported the deliberate initiation of an argument to either engineer an opportunity to leave the house to gamble, or distract discussion away from financial problems or their causes. Aggressive behaviour appeared limited to verbal argument or abuse. In this study, no evidence was found of physical domestic violence. However, it is acknowledged that gamblers may have under-reported such behaviours. Fulcher (1982), for example, reported 17% of his sample of gamblers engaged in domestic abuse.

Hypothesis: ***That the majority of pathological gamblers do not have antisocial personalities.***

To argue that offending behaviour is directly related to the negative consequences of pathological gambling, as Lesieur (1984, 1987), Meyer and Fabian (1992) and others have done, it is necessary to exclude the possibility of a confounding variable that accounts independently for both criminal behaviours and excessive gambling. One such variable could be the presence of antisocial personality traits or an antisocial personality disorder.

The French psychiatrist, Philip Pinel (1801), first distinguished individuals who

displayed habitual antisocial behaviours in the absence of other indicators of mental illness from the category of criminality. He employed the term "manie sans delire" to the class of behaviours which included cruelty, irresponsibility and immorality (Bartol and Bartol, 1986). Since that time, the concept of antisocial behaviour as a mental disorder has undergone considerable modification (see Blackburn, 1973, Bartol and Bartol, 1986, and The Quality Assurance Project, 1991) but the key elements of the disorder remain, namely, repeated antisocial acts, aggression, impulsivity, and inability to empathise with others, feel guilt or form lasting interpersonal bonds. It is emphasised however, that psychopathy should not be equated with chronic criminal or deviant behaviour (The Quality Assurance Project, 1991).

The association between gambling and antisocial personality disorder may take several forms. The presence of an antisocial personality disorder may increase an individual's propensity to independently engage in both crime and gambling, or lead to an increase in criminal behaviour as a means to reduce gambling-induced financial problems. From an alternative perspective, personality changes phenotypically similar to antisocial traits may be viewed as emerging directly in response to gambling-induced problems, for example, lying, repeated offending, and risk-taking. This view appears to be accepted at least in principle by German courts.

Personality features suggestive of antisocial personality disorder such as impulsivity, sensation seeking, repeated offending, and failure to learn from experience despite negative consequences, are qualities reputed to be inherently characteristic of pathological gamblers (Lesieur, 1987). Although the psychometric assessment of gamblers has failed to reveal a homogenous personality profile, findings have consistently pointed to similarities between pathological gamblers, drug addicts and alcoholics (Graham and Lowenfeld, 1986) on measures putatively reflecting antisocial

traits of psychopathy. For example, elevated Minnesota Multiphasic Personality Inventory Psychopathic deviate and depression scale scores have been reported in pathological gamblers (Roston, 1961; Glen, 1979; Lowenfeld, 1979; Moravec and Munley, 1982) as well as heroin addicts (Craig, 1979), alcoholics, criminal and shop-lifters (Beck and McKintyre, 1977).

Similarly, McCormick et al. (1987) found that California Personality Inventory Socialisation subscale scores for a sample of both pathological gamblers and alcoholics were significantly lower as compared to a control group of medical patients but no different from each other. While the findings on this psychometric measure led the authors to conclude that impulsivity, inability to delay gratification, concern with long term consequences of behaviour, poorly internalised value system, and hyperactivity supported the conceptualisation of pathological gambling as an addiction, similar patterns of these traits are found to be prognostic of antisocial personality disorder (Hare and Cox, 1978).

Psychological tests used in this project were included on the basis that they putatively measure indices of risk-taking, impulsivity, poor tolerance for boredom, and Psychoticism, traits reputedly characteristic of antisocial personality or psychopathy. If the link between pathological gambling and offending is dependent on components associated with either degrees of antisocial traits or the presence of a diagnosed antisocial personality disorder, then pathological gamblers who offend should exhibit elevated scores on psychometric measures of psychopathy or meet psychiatric diagnostic criteria for antisocial personality disorder.

Eysenck (1977) proposed that criminal behaviours were the result of an interaction between inherited traits and environmental conditions. Inherited traits

provided the biological basis for nervous system characteristics, namely extraversion, neuroticism and psychoticism. The particular constellation of these three personality components were considered instrumental in determining conditioning, response to environmental stimuli and conformity to social demand. According to Eysenck's formulation, antisocial personalities would be deemed to exhibit elevated traits of extraversion (impulsivity, need for excitement, poor tolerance for boredom, and unreliability), neuroticism (moody, sensitive to criticism, and over-reaction to stress), and psychoticism (tough-mindedness, social insensitivity, disregard for danger). Psychoticism correlates highly with impulsivity and risk taking (Rawlings, 1984; Stewart and Hemsley, 1984). While Eysenck's formulation contain some weaknesses with contradictory findings being reported across a number of studies (Bartol and Bartol, 1986), it nevertheless provides a useful framework to formulate a general theory against which to test the hypothesis that pathological gamblers have an antisocial predisposition.

The pattern of psychological test scores supported the contention that as a group, pathological gamblers loaded highly on antisocial personality traits. Elevated levels of Psychoticism, Neuroticism and Extraversion, impulsivity, non-planning, poor tolerance for boredom, and low Socialization scale scores as compared to normative control populations were found. However, there was no evidence that pathological gamblers were risk-takers or, consistent with previous reports (Blaszczynski, Wilson and McConaghy, 1986), sensation seekers.

The pattern of scores relative to the presence and type of offences committed revealed that some traits act as a risk factor for gambling while others are linked to a risk factor for offending. Boredom Proneness, Extraversion and Neuroticism scores were similar across the four groups of gamblers, the No-Offence, Gambling-Only,

Gambling plus Non-Gambling and Gambling Only suggesting that these traits enhanced the likelihood of pathological gambling but not for offending.

Psychoticism scores were significantly lower for non-offenders than offenders irrespective of whether their offence was gambling or non-gambling related. That the score for non-offenders were non different from normal controls suggests that Psychoticism reflects a tendency toward criminality but not necessarily toward pathological gambling.

The California Personality Inventory Socialization Scale scores showed a trend which indicated an association with degree of psychopathy and nature of offence committed. High scores on the scale reflect lower levels of psychopathy. The lower the subject's scores on the scale, the greater the likelihood that the crime was non-gambling related. A gradient of scores was observed with high Socialization scale scores for non-offenders, lower scores for Gambling-Only, still lower scores for Gambling plus Non-Gambling and finally, lowest scores for Non-Gambling Only subjects.

It does not necessarily follow that evidence of a high loading on antisocial personality traits indicates the presence of an antisocial personality disorder in the clinical sense of the term. Although the formal diagnosis of pathological gambling excludes the presence of an antisocial personality, few studies have actually investigated the presence of antisocial traits amongst pathological gamblers. As Lesieur (1987) argues, the presence of such personality disorders may be underestimated.

Using DSM-III (A.P.A., 1980) criteria, 15% of the total sample were identified as

having antisocial personality disorders. Although the presence of an antisocial personality was associated with a significantly increased risk of offending, the majority of gamblers who committed offences did not meet the criteria for anti-social personality. Only one-fifth (20%) of the gambling-related offenders met the diagnosis of antisocial personality.

Differences between antisocial and non-antisocial offenders exist in respect of the ages at which they committed gambling-related and non gambling-related offences. The antisocial personality disorder group were younger at the time of committing both types of offences. The group who committed gambling-related only crimes did so at a later age compared to those involved in non-gambling or gambling plus non-gambling offences.

Where an antisocial personality disorder exists, the risk of offending was significantly increased. Three-quarters of those classified as antisocial reported a gambling-related offences.

What remains unclear is whether or not antisocial features in pathological gambling precede or follow gambling behaviour (Blaszczynski, 1988).

Hypothesis: ***That pathological gamblers exhibit anti-social personality traits in response to problems generated by gambling behaviour and subsequent attempts to conceal their activities.***

In interpreting the results of the present study, it can be concluded that although pathological gamblers have a tendency to exhibit antisocial personality traits, only a relatively small percentage can be classified as suffering an antisocial personality

disorder. With respect to the antisocial personality traits, it remains possible that such traits emerge in response to gambling-induced problems with no direct link to the aetiology of offending. Tthe presence of such a causal link is demonstrated only if it can be established that personality features emerged subsequent, and in response, to gambling-induced difficulties.

As noted earlier, a significant proportion of gamblers who did not meet diagnostic criteria for antisocial personality disorder were found to have committed offences. This finding suggests that in most gamblers, offences, when they do occur, occur independently of an antisocial personality disorder.

If it is accepted that trait measures of antisocial personality reflect an endearing stable predisposition to behaviour, then high scores on Eysenck's Psychoticism dimension and low scores on the California Personality Inventory Socialization subscale can be accepted as an index of risk for offending in pathological gamblers.

A significant rise was seen in the percentage of gamblers displaying antisocial-type behaviours after the age of fifteen, such a lying, irritability and failure to meet financial obligations. This finding was interpreted as suggesting that personality changes emerged in response to gambling generated problems. Unfortunately, it was not possible to ascertain the exact age of onset of antisocial features and the actual age of onset of gambling-related problems to determine the relative contribution of one to the other. However, the nature of these behaviours was consistent with expectations that gamblers were motivated to conceal certain gambling behaviour, evidence of debts or failure to meet financial obligations. This interpretation is in accordance with clinical experience. The majority of pathological gamblers do not exhibit overt antisocial behaviours in the period prior to the manifestation of pathological gambling behaviours.

A gradual transition is observed in which added responsibilities following marriage or other life circumstance, such as investing in an economic venture, result in either or both reduced access to available legitimate funds for gambling, or exposure to financial stresses. These pressure eventually lead to an increase in the frequency and persistence of gambling followed by the cyclical decline associated with instituted attempts to chase losses. As Lesieur (1984) and Becona (1992) noted, the three most common behaviours found in pathological gamblers are the repeated chasing of losses, gambling larger amounts of money over longer time periods than intended, and frequent preoccupation with gambling and means of obtaining money to gamble.

Summary

There is a high prevalence of criminal offences motivated by a need to maintain persistence in gambling in populations of pathological gamblers. Although antisocial personality traits act as a risk factor increasing the probability of the commission of an offence, there is no evidence to support the contention that the majority of pathological gamblers who offend suffer an antisocial personality disorder. Despite the diagnostic criteria's exclusion of an antisocial personality disorder from its classification of pathological gambling, a small percentage continue to be missclassified.

In summary, the profile of a pathological gambler who offends is that of a 35 year old married male from any socio-economic/educational background who has gambled on horses or poker-machines over an average period of 17 years, the last nine of which had been a excessive levels. He has committed a mean of ten offences against property, motivated by a specific need to obtain funds to continue habitual gambling behaviours. Such offences are committed in the absence of an antisocial personality disorder, but significantly, antisocial personality features emerge in response to gambling-induced financial problems.

Given that there is a casual link between gambling and the commission of crimes, appropriate psychological interventions aimed at rehabilitation may be a more cost-effective strategy to reduce the risk of recidivism in this population. A number of effective treatment opportunities are currently available for pathological gamblers seeking to control excessive gambling habits. In addition to Gamblers Anonymous, accessible directly or through the Lifeline organization, help is provided in New South Wales by gambling counsellors at the Lifeline Sydney Addictions Counselling Service, the William Booth Institute (Salvation Army) and Centacare. Hospital based treatments are available only at three locations, The Prince of Wales Hospital at Randwick, the Academic Mental Health Unit of the University of New South Wales at Liverpool Hospital, and at Cumberland Hospital, Parramatta. Also, at Cumberland Hospital Dr Clive Allcock provides a specific out-patient counselling service. These gambling treatment programmes are not provided with additional funding but rely on existing clinical personnel offering their services. Private facilities offering treatment include the St John of God Hospital at Burwood (New South Wales) and Mainchance, a programme run by a clinical psychologist in Western Australia. Apart from these, no other programmes are currently available in Australia.

At the theoretical level, debate continues over the appropriateness of conceptualizing pathological gambling as a disorder of addiction or impulse control. Despite its formal classification as an impulse control disorder, extensive research data emphasizing the similarities between gambling and drug and alcohol disorders (Ciarrocchi, Kirschner and Fallik, 1991; Becona, 1992), and pointing to the high co-morbidity rates between gambling and substance abuse (Lesieur et al., 1986; Becona, 1992), has led to a giving consensus that gambling is an addiction. This view is clearly evident in D.S.M.-III-R's (A.P.A., 1987) shift in its revision of diagnostic criteria for

pathological gambling to parallel those of the substance abuse disorders.

Importantly, irrespective of which theoretical model is adopted, the issue of responsibility for offending remains unaltered. As Rachlin et al. (1984) state, "*The question of whether persons with disturbances of volition and/or behavior, such as personality disorders, impulse disorders, substance use disorders and psychosexual disorders ought to be held accountable for their illegal acts we readily answer in the affirmative*" (p.147). In this view, pathological gamblers must be held responsible for their actions in the commission of offences. But given the absence of antisocial personality disorder and the evidence suggesting that antisocial personality traits emerge as a direct result of the adverse consequences of gambling, some consideration should be offered to assessing the most appropriate and cost-effective means of managing the problem and ensuring reduced risk for recidivism.

It is argued that where a diagnosed condition of pathological gambling is identified in the absence of an antisocial personality disorder, the judicial system may consider referral for treatment as an additional or alternative option in sentencing.

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APPENDIX I

THE PRINCE OF WALES HOSPITAL

C.R.C. PROJECT

GAMBLING QUESTIONNAIRE

This study has been funded by the Criminology Research Council, Australian Institute of Criminology, Canberra.

Approved by The Australian National Council on Compulsive Gambling

INSTRUCTIONS: *Please do not write your name on this questionnaire. All answers are ANONYMOUS and CONFIDENTIAL.*

Please answer each question by placing the appropriate NUMBER in the bracket next to the question, or by writing in the relevant information in the brackets provided.

==========

1. Your age: [____]

---

2. Your Sex:
   1) Male 2) Female [____]

---

3. Your Education:
   1) Primary 2) Secondary
   3) Technical 4) University [____]

---

4. Your background nationality:
   1) Australian 2) Northern European
   3) British 4) Mediterranean
   5) Asian 6) Other (Specify_____) [____]

---

5. Your religious background ?
   1) Catholic 2) Protestant 3) Jewish
   4) Athiest 5) Moslem 6) Other 4) Nil [____]

---

6. At what age did you first begin gambling ? [____]

---

7. What form of gambling was it ?:
   1) Horses, Dogs, Trots 2) Poker-machines
   3) Video Machines 4) Lotto/lotteries
   5) Cards/Dice 6) Legal Casinos
   7) Illegal Casinos 8) Other (Specify)_____ [____]
   [____]

8. What was the average amount you bet each gambling session at that time ?
(give estimate in today's dollar value) [$_____]

---

9. How frequently did you gamble then?
1) Daily 2) Once a week 3) Once a fortnight
4) Once a month 5) Once or twice every six months 6) Once or twice a year [____]

---

10. In your early gambling period did you ever 'chase your losses'?
1) Yes 2) No [____]

---

11. For how many years have you been gambling ? [____]

---

12. For how many years has gambling been a problem to you ? [____]

---

13. What form of gambling is the ***main*** problem for you ?
1) Horses, Dogs, Trots 2) Poker-machines
3) Video Machines 4) Lotto/Lotteries
5) Cards/Dice 6) Legal Casinos
7) Illegal Casinos 8) Sports
9) Other (Specify)_____ [____]
[____]

---

14. What other forms of gambling do you regularly engage in (more than $5.00 once to twice per week)?
1) Horses, Dogs, Trots 2) Poker-machines
3) Video Machines 4) Lotto/Lotteries
5) cards/Dice 6) Legal Casinos
7) Illegal Casinos 8) Sports
9) others (specify)_____ [____]
[____]
[____]
[____]

---

15. How often did you gamble at the peak of your gambling career ? [_____]

---

16 a. What is the average amount you gamble with each gambling session ? [$_____]

or if you have considerably reduced your gambling or are no longer gambling

b. What was the average amount you gambled with each gambling session at the peak of your gambling career? [$_____]

---

17 a. How much is your current gambling-related debt ? [$_____]

and

b. What has been your maximum gambling-related debt ? [$_____]

---

18. What is the major source of your gambling money ?

1) Wages or Earnings 2) Borrowing from friends
3) Borrowing from finance companies/banks
4) Credit cards (Bankcard etc.) 5) Criminal offences [____]

---

19. Your Present Occupation:

1) Unemployed 2) Housewife
3) Unskilled 4) Semi-skilled
5) Skilled 6) Professional [____]

If *3), 4), 5) or 6)* please describe in two words your occupation eg process worker, chartered acountant. _____

If Unemployed:

How long have you been unemployed for? [____]

If you are a ***HOUSEWIFE,*** what is your husband's occupation (in two words)? _____

If your husband is unemployed:

How long has your husband been unemployed for? [____]

---

20. Is your average income in the range of
    1) < $10,000 2) $10,000-$19,000
    3) $20,000-$29,000 4) $30,000-$39,000
    5) $40,000-$49,000 6) $50,000 + [____]

---

21. What is the average total income coming into your family?
    1) < $10,000 2) $10,000-$19,000
    3) $20,000-$29,000 4) $30,000-$39,000
    5) $40,000-$49,000 6) $50,000 + [____]

---

22 a. How many full-time jobs have you had since beginning work ? [____]

b. What has been your longest period of employment in one job? [____]

c. What has been the average length of each job ? [____]

---

23. Has gambling interfered with your work in any way ?
    1) Yes 2) No [____]

---

24. Have you lost your job because of gambling?
    1) Yes 2) No [____]

---

25. Your marital status:
    1) Married 2) De Facto 3) Separated
    4) Divorced 5) Widowed 6) Single
    7) Remarried once 8) Remarried twice
    9) Remarried three or more [____]

If You Are in a Married/De Facto Relationship:

a. Did your present spouse know of the full extent of your gambling before living together ?

1) Yes 2) No [____]

b. Has gambling caused any conflict in your relationship ?

1) Yes 2)No [____]

---

26 a. Have you ever separated because of your gambling behaviour ?

1) Yes 2) No [____]

b. Have you ever divorced because of your gambling behaviour ?

1) Yes 2) No [____]

---

27. Did or do your parents gamble ?

1) Not at all 2) Socially

3) Heavily 4) Compulsively *Mother* [____]

Father [____]

---

28. Have your parents separated or divorced because of their gambling behaviour ?

1) Yes 2) No [____]

---

29. What is/was the occupation of your *Mother*? _____

Father? _____

---

30 a. How many brothers and sisters do you have ? *Brothers* [____] *Sisters* [____]

b. What is your position in the family (eg. eldest, second eldest etc)? [____]

---

31. Did or do any of your brothers or sisters gamble ? (Please answer for each brother and sister)

1) Not at all 2) Socially
3) Heavily 4) Compulsively

	Brothers	Sisters
1st	[____]	[____]
2nd	[____]	[____]
3rd	[____]	[____]
4th	[____]	[____]

---

32. Has or is anyone in your family been closely associated with some part of the gambling industry eg. owning or training horses, running a club or casino ?

1) Yes 2) No [____]

GAMBLING RELATED OFFENCES:

33. Have you ever committed any illegal act, whether you were caught or not, that was caused directly or indirectly because of your gambling ?

1) Yes 2) No [____]

---

34. At what age did you commit your first gambling related illegal act? [_____yrs]

---

35. What was the nature of ***ALL*** the illegal acts you have committed eg; theft, forgery, embezzlement, break and enter etc.?

(Please list all types of illegal acts committed and how many times you committed each of them.)

	Type	*Frequency*
1st.	[_____]	[_____]
2nd.	[_____]	[_____]
3rd.	[_____]	[_____]
4th.	[_____]	[_____]
5th.	[_____]	[_____]
6th.	[_____]	[_____]

---

36. Were you fully aware of the magnitude of the crimes at the time you were committing them?

1) Yes 2) No 3) Some [____]

---

37. Did you commit the crimes impulsively or were they premeditated?

Totally Premeditated — Totally Impulsive

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
[_____!____!____!____!____!____1____1____!____!_____]

---

38 a. What was the range of amounts of money involved in these offences? [$_____ to $_____]

b. Could you give an estimate of the <u>average</u> amount involved per offence [$_____]

---

39. Were any of these illegal acts committed when you were under the influence of alcohol ?

1) Sometimes 2) Always 3) None [____]

---

40. a. Were you ever charged for any of these offences ?

1) Yes 2) No [____]

b. If ***<u>YES</u>***, for which offences and how many times have you been charged for each offence ?

	Type of Offence	Number of Times Charged
1st.	[_____]	[_____]
2nd.	[_____]	[_____]
3rd.	[_____]	[_____]
4th.	[_____]	[_____]
5th.	[_____]	[_____]
6th.	[_____]	[_____]

c. What sentence did you receive (and the length of each sentence.) ?

1) Good Behaviour Bond 2) Fined 3) Jail Sentence 4) Community Service 5) Referred to Probation and Parole 6) Found guilty but no further action taken 7) Charge dismissed

	Type of offence	*Sentence*	*Length*
1st.	[_____]	[_____]	[_____]
2nd.	[_____]	[_____]	[_____]
3rd.	[_____]	[_____]	[_____]
4th.	[_____]	[_____]	[_____]
5th.	[_____]	[_____]	[_____]
6th.	[_____]	[_____]	[_____]

If you received a JAIL sentence,

e. How long did you actually spend in jail ? [_____]

---

41. a. How long ago did you commit your last offence ? [____]

b. How much money was involved ? [$_____]

NON-GAMBLING RELATED OFFENCES.

42. Have you ever committed any illegal act, whether you were caught or not, that was *unrelated* to your gambling behaviour ?

1) Yes 2) No [____]

43. What was the nature of ***ALL*** the illegal acts you have committed eg; car theft, drug related break and enter etc. ?

(Please list all types of illegal acts committed and how many times you committed each of them.)

Type	*Frequency*
[_____]	[_____]
[_____]	[_____]
[_____]	[_____]
[_____]	[_____]
[_____]	[_____]

---

44. What were the motivations behind committing these these offences ?

_____

_____

_____

---

45. Were you fully aware of the magnitude of the crimes at the time you were committing them?

1) Yes 2) No [____]

---

46. Did you commit the crimes impulsively or were they premeditated?

Totally Premeditated — Totally Impulsive

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

[_____!____!____!____!____!____1____1____!____!_____]

---

47 a. What was the range of amounts of money involved in these offences? [$_____ to $_____]

b. Could you give an estimate of the <u>average</u> amount involved per offence [$_____]

---

48. Were any of these illegal acts committed when you were under the influence of alcohol ?

1) Sometimes 2) Always 3) None [____]

---

49. a. Were you ever charged for any of these offences ?

1) Yes 2) No [____]

b. If ***YES***, for which offences and how many times have you been charged for each offence ?

	Type of Offence	Number of Times Charged
1st.	[_____]	[_____]
2nd.	[_____]	[_____]
3rd.	[_____]	[_____]
4th.	[_____]	[_____]
5th.	[_____]	[_____]
6th.	[_____]	[_____]

c. What sentence did you receive (and the length of each sentence.) ?

1) Good Behaviour Bond 2) Fined 3) Jail Sentence 4) Community Service 5) Referred to Probation and Parole 6) Found guilty but no further action taken 7) Charge dismissed

	Type of offence	*Sentence*	*Length*
1st.	[_____]	[_____]	[_____]
2nd.	[_____]	[_____]	[_____]
3rd.	[_____]	[_____]	[_____]
4th.	[_____]	[_____]	[_____]
5th.	[_____]	[_____]	[_____]
6th.	[_____]	[_____]	[_____]

If you received a JAIL sentence,

e. How long did you actually spend in jail ? [____]

---

50. At what age did you commit your first illegal act ? [____]

---

51. Before the age of 15 years did you ever get into trouble because of;	*YES*	*NO*
1) Truancy from school (avoiding school)	[____]	[____]
2) Misbehaving at school	[____]	[____]
3) Running away from home at least twice	[____]	[____]
4) Delinquency	[____]	[____]
5) Lying frequently	[____]	[____]
6) Stealing	[____]	[____]
7) Vandalism	[____]	[____]
8) Starting fights	[____]	[____]
9) Frequent drunkenness or drug taking	[____]	[____]
10) Frequent misbehaviour at home	[____]	[____]

52. Which of the following apply to you since the age of 15 years;	*YES*	*NO*
1) Often changing jobs.	[____]	[____]
2) Not caring for your child/children adequately.	[____]	[____]
3) Not wanting to, or having difficulty, staying with one partner for any length of time.	[____]	[____]
4) Being irritable and aggressive, sometimes involved in physical fights or assaults.	[____]	[____]
5) Not honouring financial obligations - not repaying debts or providing money for dependents.	[____]	[____]
6) Being impulsive, failing to plan ahead or not having clear goals.	[____]	[____]
7) Not always telling the truth, repeated lying and 'conning' others	[____]	[____]
8) Repeated reckless driving ie, driving under the influence of alcohol	[____]	[____]

53. What type of alcohol do you drink and how much ?

TYPE	*Daily Amount*			*Weekly Amount*		
	1-2	3-5	6+	1-2	3-5	6+
Beer (middies)		[____]			[____]	
Wine (glasses)		[____]			[____]	
Ports/sherries (glasses)		[____]			[____]	
Spirits (nips)		[____]			[____]	
Liqueurs (glasses)		[____]			[____]	

(Total [____])

---

54. Has drinking alcohol been a problem to;

	YES	NO
1) Yourself	[____]	[____]
2) Your parents	[____]	[____]
3) Brothers or sisters	[____]	[____]
4) Other relatives	[____]	[____]

55. Does your alcohol consumption increase when;

	YES	*NO*
1) You are tense	[____]	[____]
2) Feeling depressed	[____]	[____]
3) Worried or distressed	[____]	[____]
4) When your in a good mood	[____]	[____]

---

56. When you gamble do you often drink alcohol;

	YES	*NO*
1) Before you start gambling	[____]	[____]
2) While gambling	[____]	[____]
3) After losing	[____]	[____]
4) No set pattern	[____]	

---

57. Do you take non-prescribed drugs (marijuana, hash, cocaine, heroin etc);

1) Once
2) Occasionally
3) Regularly
4) Never [____]

---

58. a. Have you ever consulted anyone about emotional/psychiatric problems that you experienced or are experiencing ?

1) Yes 2) No [____]

b. If *YES*, what was the problem ?

_____

_____

_____

59. Were you ever admitted into a hospital for psychiatric problems?

1) Yes 2) No [____]

60. Do you or have in the past taken prescribed drugs for any emotional or psychiatric problems?

1) Yes 2) No [____]

61. Have you ever felt suicidal for any reasons that were unrelated to gambling?

1) Yes 2) No [____]

62. Have you actually attempted suicide because of those reasons?

1) Yes 2) No [____]

63. Have you ever felt suicidal because of gambling?

1) Yes 2) No [____]

64. Have you ever actually attempted suicide because of gambling?

1) Yes 2) No [____]

65. a. Have any of your relatives ever suffered from psychiatric problems? (eg depression, alcohol)

1) Yes 2) No [____]

b. If ***YES,*** who and what was the problem?

_____

_____

_____

****