4. DISCUSSION

4.1 Introduction

In this section some of the major findings outlined in Chapter Three are discussed in relation to previous research. The implications of these findings for future studies and public policy are also considered.

As indicated in Chapter Two, this appears to be only the second investigation of gambling and problem gambling among women prisoners to have been undertaken worldwide and the first to use a validated measure of gambling pathology. Although the response rate of 62 percent is not high, it is higher than that of most gambling and problem gambling surveys of the general population or special populations (Abbott & Volberg, 1999; Shaffer, Hall & Vander Bilt, 1997).

Perhaps the most notable findings are the very high levels of gambling participation and problem gambling. These and other findings discussed in this section are of theoretical interest and extend our limited knowledge of gambling and problem gambling among women prisoners. The high prevalence of problem gambling and gambling-related offending also have important policy implications.

4.2 The Demographic and Social Characteristics of the Study Group in Comparison to Female Prisoners and the General Population

With respect to age, ethnicity and most serious present conviction, the sample did not differ significantly from the 1997 women prison census population or from the population of eligible participants at the time the study was conducted. In both instances, the population considered was sentenced women who had been in prison for less than 12 months. Women in this category make up approximately three-quarters of sentenced female prison inmates. The main reason for confining the study to this group was the primary interest of the investigators in their gambling participation and gambling problems prior to and at the time they entered prison. Had prisoners who had been resident for more than 12 months been included, it is likely that variation in recall accuracy would have confounded many of the measures that were of particular interest to the investigators. Abbott, Williams and Volberg (1999) found that a number of gambling participation and problem gambling indices including the SOGS-R, are strongly influenced by temporal effects.

While the study group is representative of this sector of the female prison population with respect to the three variables considered, it is possible that the sample and the population from which it was drawn differed in other ways. The extent of such differences, if present, is not known. This is one reason why it is important to ensure that high response rates are obtained in future studies. The higher the response rate, the less likely it is that the sample and the population that it is drawn from will differ.

Relative to women in the general population, the study group is significantly younger and contains disproportionately more Māori. Māori numbers are inflated somewhat by the use of a definition that gives primacy to Māori ethnic self-identification. In this study, and
in the 1997 women's prison census, respondents who reported more than one ethnicity were defined as Māori if this was one of the ethnicities mentioned. Most Māori in New Zealand have mixed ethnic ancestry and a significant minority report more than one ethnic identification. Statistics New Zealand, in the Census and in other official government surveys, use the definition employed in the present study. This definition was also used in the 1999 National Survey of Gambling and Problem Gambling (Abbott & Volberg, 2000). Consequently, there is definitional consistency when ethnic groups in the survey are compared with ethnic groups in the Census and 1999 National Survey.

In addition to differing from the general population of New Zealand women by age and ethnicity, the women prisoners surveyed were much more likely to be New Zealand born, single, never married, separated or divorced, and lack formal qualifications. Prior to imprisonment, they also more frequently lived in households with five or more residents, were unemployed or outside the paid workforce for other reasons and reported very low incomes. From this description it is evident that, as with prison populations generally in New Zealand and other parts of the world, the large majority of women in this study come from economically and socially disadvantaged backgrounds.

4.3 Offending Profile

Thirty-nine percent of the women said that their most serious current conviction was for property offences and 29 percent said it was for violent offending. The mean reported age of first offending was 17 years and the mean reported age for first conviction was 20 years. While there was relatively wide variation for both of these figures, most women commenced their criminal ‘careers’ early in their lives. Generally, in New Zealand, diversion or non-custodial sentences are given to first offenders, other than in cases of serious violent offending. With respect to non-violent offending, custodial sentences are usually only given to repeat offenders or people who commit particularly serious offences. In recent years, pathological gambling has increasingly been taken into account by the courts in sentencing, in some cases resulting in non-custodial sentences with a requirement that appropriate treatment is undertaken. This means that women in the study group are atypical of women who commit criminal offences and of women who are convicted. Rather, they represent women who have been convicted for serious violent and non-violent offences, especially those who are recidivists.

4.4 Gambling Participation, Preferences, Expenditure and Reasons for Gambling

Relative to women in the general population, the women prisoners reported very high levels of gambling participation. All indicated that they had gambled at some time in their lives and almost all reported having gambled during the six months prior to their imprisonment. Whereas just under 40 percent of New Zealand women gamble weekly or more, approximately three-quarters of the prisoners indicated that they gambled this often. High levels of regular participation in continuous forms of gambling was a notable feature of the women prisoners’ gambling. Favoured forms in this category included Instant Kiwi, gaming machines outside of casinos, housie, card games, bets with friends or work-mates on the outcome of events and gaming machines in casinos.
The women prisoners also reported high levels of gambling expenditure. Even when four women who spent very large sums were excluded from the analysis, the mean monthly reported expenditure on gambling was NZS190; more than six times that of women in the general population. Given that most of the women prisoners had annual household incomes below NZS30,000, this difference would be considerably greater if considered as a percentage of total earnings. Furthermore, it has been shown that people are much more likely to under-report gambling expenditure on a number of the forms of gambling favoured by the women prisoners, e.g. gaming machines (Abbott & Volberg, 2000). Consequently, the self-reports of overall gambling expenditure by the study group are probably conservative.

In contrast to women in the general population, the women prisoners also reported much longer typical gambling sessions. In the general population, over 70 percent said they typically gambled for an hour or less. Only 37 percent of prisoners reported typical sessions of this duration. Over a quarter reported sessions of three to five hours and ten percent said they usually gambled for 12 hours or more. In the national survey, less than one percent of the population reported typical sessions exceeding six hours and almost none said they gambled for 12 hours or more.

The prisoners resembled women in the general population in that just over half said they usually gambled to win money. Both groups also varied little with respect to reporting gambling for fun or excitement or to socialise. Women prisoners were somewhat, but not markedly, more likely to indicate that they gambled for excitement or challenge, a reason more often given for taking part in continuous rather than non-continuous forms of gambling. The major difference between women generally and women prisoners concerned the relative numbers reporting gambling to support worthy causes. More than three times as many women in the 1999 National Survey gave this reason. Apart from this difference the reasons given for gambling by the women prisoners were generally fairly similar to women in the general population.

4.5 Gambling Participation in Prison

This topic has been little studied to date and the extent and significance of gambling for prisoners and prison authorities is not known. Two studies of small numbers of male prisoners (Jones, 1990; Bellringer, 1986) were referred to in Chapter Two. Findings from these studies suggest that, while not officially sanctioned, gambling is a significant part of the subculture of at least some prisons. Card games appear to be particularly popular and apart from money, items such as tobacco, sweets and drugs are used to gamble. Research prior to the present study has not examined women's gambling participation in prison. Neither does it appear to have considered the role that gambling plays in the lives of prisoners, both positive and negative. While the present study provides some information on these matters, they remain topics that are largely unexplored.

The survey respondents varied in their assessment of how widespread gambling is in prison. As mentioned in the preceding chapter, the reason or reasons for this variability are not known. In part, however, it probably represents differences between prisons with respect to the amount of gambling that takes place. Relative to Mt Eden and Christchurch Women's Prison, more women reported gambling in Arohata. Given that the prisons are divided into separate units, this may also mean that respondents were...
uncertain about the amount of gambling that takes place in their prison as a whole. This could explain why nearly a quarter of women said they were uncertain or could not answer this question. Given that gambling is not officially condoned in New Zealand prisons it is also possible that some respondents were reluctant to answer. Respondents may also have been concerned about the possible consequences of revealing this information in a study that might influence future prison policy with respect to gambling.

The majority of women did not report gambling in prison. It is possible that this behaviour was under-reported for some of the reasons suggested in the previous paragraph. However, in their debriefings, interviewers indicated that in their judgement, the women generally appeared to respond candidly to questions that might be considered sensitive.

Although only 28 percent of the study group said they had gambled in prison, nearly all of those indicated gambling weekly or more often. While Lotto (a non-continuous form) was engaged in most frequently, two forms of continuous gambling, namely housey and card games, were also popular. In contrast to gambling by this group of people prior to entering prison, session lengths were of much shorter duration and the women more frequently reported gambling with other inmates rather than alone. In prison, they also much more often said they gambled for something to do to relieve boredom or to socialise. These responses suggest some possible benefits of gambling for prisoners. However, only three respondents said that gambling influenced their quality of life while in prison and, as a consequence, follow-up questions seeking further information on this topic could not be asked. In the case of the three women who did say gambling in prison affected their quality of life, as noted earlier, two reported negative effects. This remains an area that could be examined in a more focussed way in future studies.

Given the small amount of discretionary income available to women in prison, it is not surprising that much lower levels of expenditure were reported following imprisonment. Nevertheless, it is of interest that mean reported gambling expenditure in prison is similar to that for women in the general population and that wide variability in expenditure was evident. A number of the women reported typically spending more than NZ$60 per month. This suggests that gambling is a major item of expenditure for many women who gamble in prison. It would be of interest in future studies to find out how these women obtain money to gamble and what the consequences of this are for them and other prisoners. The large amount of money that some women reported gambling in the present study suggests that problems could arise between inmates with respect to meeting gambling debts. In this regard, it is of interest that one woman reported that she lost a lot in prison and that this led to her losing friends. Investigation of this topic in future will require more focussed questioning. Open-ended questions and other qualitative research methodologies such as diary keeping or participant observation could also be used.

Considering the lack of money for gambling and other purposes in prison, it was not surprising to find that a large number of other items were used as gambling 'currency'. A wider variety of items was mentioned than in Bellringer's survey of 12 male ex-inmates who had taken part in Gamblers Anonymous groups while in prison (Bellringer, 1986). Again this topic could benefit from more focussed investigation. Links with drug use and the distribution of drugs might be explored, albeit that this could be a difficult area to
study. In the present investigation, one woman said gambling in prison 'fed' her drug addiction. How this came about is not known.

4.6 Substance Use and Hazardous Alcohol Consumption

Prior to entering prison, almost half of the women prisoners reported hazardous patterns of alcohol consumption. This is a very high rate and compares with a prevalence of ten percent of New Zealand women in the general population and approximately 20 percent of Māori women (Ministry of Health, 1999). Examination of responses to the specific items making up the AUDIT (the measure of hazardous drinking used in both this prison study and the Ministry of Health general population survey) suggests that most women scoring in the hazardous range actually suffered from serious alcohol problems including alcohol dependence.

In the 1996 national survey of psychiatric morbidity in New Zealand prisons, 69 percent of women prisoners were diagnosed as having experienced alcohol abuse or dependence at some time in their lives (Department of Corrections, 1999). This survey included remand prisoners in the female sample and, in contrast to the present study, also included women who had served more than 12 months of their present sentence. While the time frames for the two studies are different (the Department of Corrections study used a lifetime measure; the current study, the period immediately prior to entering prison) both indicate exceedingly high rates of alcohol-related problems. In contrast to these findings, however, the Department of Corrections survey obtained a current rate of alcohol abuse and dependence of only seven percent. The findings of the present survey support the opinion of the authors of the Department of Corrections survey that their current measure was invalid. The reasons given for this by the authors of the national prison survey were that prisoners probably under-reported alcohol abuse because of possible repercussions for admitting use in prison and because of publicity at the time of the study regarding policies to reduce substance use in prisons. However, it would also appear unlikely that large quantities of alcohol are available to most prisoners while they are in prison. Thus, it could be expected that many of these women would be largely asymptomatic, especially those who had been in prison for some time.

Respondents also reported very high rates of regular tobacco and marijuana use prior to imprisonment. In the present study, 84 percent of women said they smoked cigarettes on a daily basis. This compares with 24 percent of women and 48 percent of Māori women in the general adult population (Ministry of Health, 1999). Forty-three percent of the prisoners reported weekly or more frequent marijuana use and 32 percent indicated that they used illicit drugs, other than marijuana, this often.

These rates of substance use and hazardous drinking are exceedingly high in comparison to those of women generally. However, it should be noted that these differences would not be so great if the study group was compared with women matched for age and other sociodemographic variables known to be associated with substance use. Nevertheless, the level of substance use and misuse that was found within the study group is sufficient to have a variety of adverse impacts on the health and other aspects of inmates' lives.

In contrast to the situation with alcohol, the present study did not include a screening or diagnostic measure for cannabis or other substance abuse and dependence. However,
these disorders were assessed in the Department of Corrections survey. The lifetime prevalence rate for cannabis abuse or dependence was 43 percent and for other substance abuse and dependence was 46 percent. These rates are also exceedingly high relative to those of the only New Zealand community survey available for comparative purposes, the Christchurch Psychiatric Epidemiology Study (Wells et al, 1989). In this study, the combined rate for all forms of substance abuse and dependence, other than for alcohol but including cannabis, was only four percent.

As with alcohol abuse and dependence, low rates for current cannabis and other substance abuse and dependence were obtained in the Department of Corrections survey. Again, the authors of the report were of the view that these disorders were markedly under-reported.

A recent national survey of substance abuse and dependence among adolescents in the United States (Kilpatrick et al, 1990) found much higher rates of these disorders among adolescents who had been physically assaulted, who had been sexually assaulted, or who had witnessed violence. Adolescents who had family members with alcohol or drug use problems also had much higher rates. Post-traumatic stress disorder independently increased the risk of marijuana or 'hard' drug abuse and dependence but not alcohol abuse/dependence. When the effects of these and a variety of other variables were controlled statistically, African Americans, but not Hispanics or Native Americans, were also found to be somewhat more at risk than Caucasians.

As mentioned earlier, the recent prison psychiatric morbidity study found very high lifetime rates of post-traumatic stress disorder (37%) among women prisoners. The current (past month) prevalence rate was 17 percent. New Zealand general population data are not available for this disorder. However, the current rate for American adolescents obtained in the Kilpatrick et al (1990) study was five percent. This suggests that women with this disorder were significantly over-represented in the study group relative to women in the general population and are comparable with those of victims of criminal offences and combat veterans (Abbott & Curreen, 2000).

Kilpatrick et al (1990) found that victimised substance abusers (those who had been physically or sexually assaulted) started using alcohol, cannabis and other illicit drugs at a younger age than non-victimised users. They also found that the age of first victimisation generally preceded non-experimental use of these various substances. This raises the possibility that victimisation has a causal relationship with drug abuse and dependence.

Very high rates of physical and sexual abuse have been found in United States surveys of young female incarcerated offenders (Dembo et al, 1992). In Chapter Two, reference was made to a survey of women GA members that found that, as children, a third reported having been physically abused and approximately one-in-five reported sexual abuse (Strachan & Custer, 1993).

The present study did not examine victimisation experiences or post-traumatic stress disorder or their relationship to problem gambling and substance misuse or dependence. However, the high rate of post-traumatic stress disorder evident for New Zealand women prisoners is consistent with similar high rates of exposure to traumatic events and experiences, including physical and sexual abuse. Furthermore, the prison psychiatric morbidity study found that 90 percent of people (men and women combined) who had
suffered from post-traumatic stress disorder at some time in their lives had also experienced at least one form of substance abuse or dependence. This level of comorbidity is much higher than rates in the general population (Department of Corrections, 1999).

Given the high degree of co-morbidity between problem gambling and hazardous drinking in the present study, future studies should examine relationships between victimisation, problem gambling and substance misuse. Because substance use can also increase the probability of victimisation (Windle, 1994), longitudinal studies will be necessary to clarify the temporal sequence of events and inter-relationships between variables that may be implicated in the development of substance misuse and, perhaps, problem gambling. One reason for considering problem gambling in this context is the finding that the problem gamblers have elevated rates of victimisation, alcohol problems and drug misuse (Abbott & Volberg, 1992; 1999). Furthermore, Abbott, Williams and Volberg (1999), in their prospective study of regular and problem gamblers, found that both severity of problem gambling and the presence of hazardous alcohol consumption were significant predictors of problem gambling when survey participants were reassessed seven years after their initial assessment.

### 4.7 Health and Wellbeing

Sixty percent of the prisoners rated their overall health as good, 34 rated it as fair and six percent rated it as poor. These ratings are lower than those given by women in general population surveys. Similarly, ratings of happiness prior to entering prison were also substantially lower than those attained in general population studies including the 1999 National Survey (Abbott & Volberg, 2000). Interestingly, happiness ratings increased somewhat in prison, although they remained low relative to those of women generally and a significant minority reported being unhappy or somewhat unhappy. Reasons for changes in happiness and the relationship of these changes to other factors in prison and following release from prison might be worth investigating in future research with prison populations.

Thirty percent of women were classified as currently suffering from clinically significant levels of psychological disturbance on the GHQ-12 (Goldberg & Williams, 1988). The GHQ-12 contains questions that index a variety of psychiatric symptoms, predominantly related to depression and anxiety. It is widely used as a screening test for non-psychotic mental disorder. As mentioned previously, people who score above the threshold for classification as a ‘case’ have scores similar to those of people who present for treatment at mental health out-patient services or clinics. The prevalence of GHQ-12-defined mental disorder in the prison sample is higher than rates typically found in general population surveys, although similar rates have been found among high-risk groups such as unemployed people, mothers with preschool children and caregivers of dependent older people (Abbott and Kontzman-Royden, 1997). Lesieur and Blume (1991) also found high rates of psychological disorder among women GA participants. A half of women in their sample suffered from depression and 12 percent had made suicide attempts. Steel and Blaszczynski (1996) found that women pathological gamblers had higher levels of psychological distress than their male counterparts.

The PDQ4+ is a screening test for personality disorder (Hyler et al, 1989) that has been used in over 50 published studies in a variety of different countries. It was used in the
recent New Zealand national prison psychiatric morbidity survey (Department of Corrections, 1999). As indicated in Chapter Two, high prevalence rates were found for a number of different personality disorders in the women prison population. In the present survey, only childhood conduct disorder and antisocial personality disorder were considered.

In the study group, 18 percent of women were classified as having antisocial personality disorder. This is lower than the prevalence rate of 35 percent for women prisoners reported in the Department of Corrections survey. The authors of this report stated that this rate was higher than they had expected. However, in the Department of Corrections survey, the clinical significance questions were not used. When these questions were omitted for our study group, the rate increased to 48 percent. This is even higher than the previous Department of Corrections findings, however, as mentioned earlier, the samples drawn for the two studies differed somewhat. The present sample was comprised of recently sentenced prisoners whereas the Corrections study group consisted of all women prisoners. These sample differences could account for the discrepant findings. It is also possible that the composition of the female prison population changed somewhat between the two studies. It is concluded that the 18 percent prevalence rate obtained for the present survey is more likely to be accurate than that of the previous Department of Corrections survey. Nevertheless, it remains many times higher than the rate of two percent obtained for women in the Christchurch epidemiology study.

A very high percentage of women prisoners in the study group, 65 percent, met the diagnostic criteria for conduct disorder during childhood. While an exceedingly high rate relative to that found in the general population, this disorder is common among young offenders. Although this high rate is not unexpected in this population, its validity is uncertain in that it is based entirely on respondent self-reports of events and experiences that took place some years in the past. Assessment during childhood or the addition of collateral sources of information would be required to ensure that accurate estimates are obtained for this disorder.

### 4.8 Gambling-related Offending

As reported in Chapter Three, more than a quarter of the women surveyed said that they had committed a crime to obtain money to gamble or to pay gambling debts and many of these women also said that they had been convicted for a gambling-related offence. Over half of the women who reported having committed a gambling-related crime mentioned having engaged in fraudulent activities to obtain money for gambling or to pay gambling debts. Smaller numbers mentioned a variety of other forms of property crime and selling illicit drugs. A total of 454 gambling-related convictions were reported and the total sum of money involved in the women’s gambling-related offending was approximately NZ$7 million.

Respondents were not asked how many gambling-related crimes they had committed. However, it is likely that the number would greatly exceed the number of convictions reported for gambling-related crimes. Some support for this contention comes from the finding that, whereas only 12 women said they had appeared in court on charges related to their gambling, double this number said they had committed a crime in order to get
money for gambling or to pay gambling debts. It seems likely that the majority of gambling-related crimes go undetected. It would be helpful if future studies examined gambling-related crimes in more detail than in the present investigation. It would be of interest to know which types of offence lead to apprehension and conviction and which do not. It would seem likely that fraud and offences involving family members and friends are often not detected or reported to the police. Some evidence for this comes from the Productivity Commission (1999).

From the findings of the present study, it can be concluded that gambling-related crimes are relatively common among women prisoners. These crimes can be expected to have a significant adverse impact on their victims. The nature of these impacts requires investigation in future research. Apart from the direct effects on primary victims of burglary, theft and robbery, indirect effects such as the increased costs of goods and services including insurance premiums should be considered. If fraud is as commonplace as suggested by the findings of this study, the impacts on some types of insurance premium could be considerable. Police, court and other costs incurred by the criminal justice system also presumably have some influence on general taxation or opportunity costs by diverting funds from other criminal justice activities or public expenditure more generally. Further, more detailed research on this topic should enable these and related costs to be identified more precisely and quantified.

An important finding of the study was that a small number of women accounted for the great majority of reported gambling-related offending and the money involved in such offending. Detection of these women and effective intervention would have a significant impact on overall gambling-related offending.

An unexpected finding was that over a third of women reported that they had gambled instead of committing a crime. This relationship between gambling and offending does not appear to have been considered previously. It raises the possibility that gambling may, for at least some offenders, reduce their rate of offending and have benefits that would need to be considered when estimating the net cost of gambling-related crime. However, closer examination of the data indicates that only 30 percent of the 34 women who reported this behaviour said that they did this often or always. In contrast, half of the 24 women who reported having committed a gambling-related crime said they did so often or always. How gambling reduces offending and what types of gambling and offending are involved is not known. It would be of interest to investigate this matter further with prison samples, within general population studies and among problem gamblers in other settings.

4.9 Problem Gambling

Introduction

To this point, gambling and gambling-related offending have been discussed for the study group as a whole. Discussion now moves to consideration of the problem gamblers and problem gambling.
Prevalence of Probable Pathological and Problem Gambling and Comparison with Other Studies

Based on their SOGS-R scores, a third of the study group members were identified as lifetime probable pathological gamblers and 22 percent were 'current' (i.e. during the six months prior to imprisonment) probable pathological gamblers. Relative to probable pathological gamblers in community surveys, a high proportion reported very severe gambling problems, i.e. SOGS-R scores of ten or more. In this respect the women probable pathological gamblers resemble New Zealand and Australian women who currently receive therapy for gambling problems. If the six women who met the criteria for current probable pathological gambling on the Fisher screen but not the SOGS-R are also included, the prevalence of current probable pathological gambling increases to 29 percent. As indicated in Chapter Three, a further 12 percent of women were classified both as lifetime and current problem gamblers.

From the foregoing it can be concluded that at least 45 percent of the women prisoners at some stage in their lives experienced significant gambling-related problems, and that a large majority of these women continued to experience such problems immediately prior to entering prison. These rates are exceedingly high relative to the combined lifetime probable pathological and problem gambling prevalence rates for New Zealand women generally. They are also very high when compared to the findings of other studies of problem gambling in prisons and in treatment centres for substance abuse and dependence and serious mental disorders. It will be recalled from Chapter Three that the mean lifetime probable pathological gambling prevalence rate for 18 studies of this type undertaken in North America was 14.2 percent (Shaffer, Hall & Vander Bilt, 1997). The rate of 33 percent for the present study is higher than that obtained in the two prison studies included in Shaffer, Hall and Vander Bilt's (1997) meta-analysis. It is somewhat higher than rates obtained in Jones' (1990) survey of remand centre detainees in Australia and Brown's (1998) survey of convicted offenders serving community sentences in New Zealand. However, the prevalence rate in the present study is identical to that of a recent unpublished survey of newly admitted sentenced male inmates to a South Australian prison (Productivity Commission, 1999). This survey and the present study both assessed inmates who had been recently or relatively recently admitted to prison.

As mentioned above, the only previous study of women prisoners also obtained a lifetime rate of serious gambling problems that was similar to that found for the study group (Lesieur, 1993). However, comparison of the two women prison studies is compromised because Lesieur did not use a validated measure of problem gambling and it is not known how performance on the measure used in his study compares with performance on the SOGS or SOGS-R. Nevertheless, the findings of the two studies of women prisoners raise the possibility that problem gambling rates are higher among female than among male inmates. This possibility will be examined in the next volume of the NZGS (Abbott, McKenna & Ciles, in press).

Given that prison populations are not included in general population surveys of problem gambling, one implication of the findings of this study is that prevalence estimates from these surveys will be lower than they would be if prisoners were included. The impact of this omission will vary across jurisdictions, depending upon the prevalence rate for problem gambling within their prisons and the size of
their prison populations relative to their total populations. In the United States, which has very high incarceration rates, the impact will be greater than in countries with low rates. New Zealand has a prison population of approximately 6,000. If the rate for this population as a whole is similar to that obtained for the present sample, this would add approximately 2,000 lifetime probable pathological gamblers to the total population estimate of 19,700 to 39,100 (Abbott & Volberg, 2000).

‘Lifetime’ versus ‘Current’ Probable Pathological and Problem Prevalence Rates

In contrast to previous studies that have incorporated both lifetime and current measures of problem gambling, the findings of the present study are unusual in that two-thirds of the lifetime probable pathological gamblers remained in this category during the six months prior to their imprisonment. Significantly more remained ‘current’ probable pathological gamblers if those women who scored five or more on the Fisher screen but not the SOGS-R are also included. More unusual was the finding that all of the lifetime problem gamblers (those with a SOGS-R score of 3 or 4) remained problem gamblers during the period immediately prior to their imprisonment. Previous research has found this group to be more prone to problem remission over time than are probable pathological gamblers (Abbott, Williams & Volberg, 1999).

When the SOGS-R was developed, its authors proposed that the difference between lifetime and current prevalence rates may be regarded as an indicator of recovery from gambling problems (Abbott & Volberg, 1991; 1996) and a number of researchers who have subsequently used this measure have adopted this suggestion. However, findings from the longitudinal study reported in the second volume of the NZGS (Abbott, Williams & Volberg, 1999) indicate that caution is required when the SOGS-R is used in this way to assess problem reduction.

Specifically, Abbott, Williams and Volberg (1999) found that the lifetime SOGS-R measure is not stable over time. A substantial number of people in their community sample who scored as lifetime probable pathological and problem gamblers in 1991 no longer scored in this range on the lifetime measure when they were re-assessed seven years later. Change on the current SOGS-R measure is expected over this time-span. However, if the lifetime measure is a valid indicator of whether or not a person has ever experienced a significant gambling problem at some time during their lives, scores should change minimally. The longitudinal study indicated that the 1991 lifetime probable pathological and problem gamblers most likely to not report past problems when reassessed in 1998 were those who no longer (currently) experienced gambling problems. These findings suggest that approximately a third of people do not recall and/or report their past gambling problems. The strength of this effect could be expected to vary as a function of the interval of time between when a person experienced a gambling problem and when they are assessed. Thus, other things being equal, it would have a weaker presence in a study of young people than in a study of older people. It would also be expected to have a weaker presence in a population that contained a large proportion of people whose gambling problems were of recent origin.

The findings outlined and discussed briefly in the preceding paragraph have a number of important implications for the interpretation of previous problem gambling studies and
the conduct of future research. These implications are examined in Abbott, Williams and Volberg (1999) and Abbott and Volberg (2000). In the present context, one implication is that the lifetime probable pathological and problem gambling prevalence rates obtained for women in the present study are likely to underestimate their actual lifetime experience of gambling problems. A further implication is that the difference between the women’s lifetime and ‘current’ (six months prior to imprisonment) rates is probably an under-estimate of the degree of actual problem reduction over time. However, given the relative youth of the prison sample, the extent of this under-estimation is probably less than that for the general adult population.

While the degree of problem gambling ‘recovery’ over time in the study group may be somewhat greater than that suggested by comparison of their ‘lifetime’ and ‘current’ SOGS-R scores, the fact remains that relative to previous studies, the ‘lifetime’ and ‘current’ rates display minimal difference. As mentioned above, in the case of the problem gamblers, there is no difference. Why is the difference between the ‘lifetime’ and ‘current’ measures so modest in this study? Three possible reasons are considered.

First, it has already been mentioned that the study group was young relative to adult women in the general population. Consequently, their gambling problems probably had a more recent onset and they had less time to overcome their problems. Second, the ‘current’ measure employed differed from that used in previous studies. In the standard administration of the SOGS-R, the timeframe is the six or 12 months immediately prior to the time when the problem gambling questions are presented. In the present study, the timeframe was the six months immediately before entering prison. Although all women had been in prison for less than 12 months, for some the timeframe extended back further than it does in the standard administration. Third, the study group differs in many respects from women and women problem gamblers in the general population. A number of the particular characteristics of the problem gamblers in the study group are likely to have prognostic relevance.

To reiterate the third point, it should be noted that problem gamblers in prisons are a small, atypical subgroup of problem gamblers in New Zealand. In the 1991 New Zealand national gambling survey, only ten percent of lifetime probable pathological and problem gamblers acknowledged that their gambling had led to problems with the police and none said they had been in prison because of their gambling. In Chapter Two reference was made to an Australian national survey of clients who were receiving counselling for gambling problems (Productivity Commission, 1999). While 44 percent acknowledged engaging in some form of gambling-related criminal activity, only six percent reported having received a prison sentence for a gambling-related offence. Similarly, with respect to women GA members in an earlier United States study (Lesieur, 1988), although approximately two-thirds indicated that they had committed a crime or crimes to support their gambling or to pay gambling-related debts, only four percent said they had been arrested for gambling-related offending.

Apart from differing from women problem gamblers generally with respect to the extent and seriousness of their gambling and non-gambling-related offending, the study group also contained proportionately more women who had very high scores on the SOGS-R. In this latter respect, they more closely resembled problem gamblers receiving specialist counselling or treatment. As discussed earlier, most of the women prisoners came from marginalised, disadvantaged social backgrounds and two-thirds were Māori. The
probable pathological/problem gamblers and non-problem gamblers in the study group did not differ significantly with respect to ethnicity or any of the other sociodemographic variables considered. Māori are also over-represented among problem gamblers in the non-institutionalised New Zealand population. However, a number of the associations between problem gambling and unemployment and other indices of economic and social disadvantage found in the 1991 national survey (Abbott & Volberg, 1991; 1996) were less evident in the 1999 survey (Abbott & Volberg, 2000).

As explained in Chapter Two, relatively little is known about the mental health status of women problem gamblers in the general population or in other settings. However, it appears likely that the study group contained proportionately more problem gamblers who experienced conduct disorder during childhood and who had co-morbid antisocial personality disorder. It probably also included significantly more with alcohol-related problems, other forms of substance abuse and dependence, post-traumatic stress disorder and other mental health problems.

In the longitudinal study of regular non-problem gamblers and problem gamblers living in the community, when other potentially important factors were controlled statistically, Māori ethnicity, high SOGS-R scores and hazardous alcohol consumption were all found to be significant predictors of current problem gambling seven years later (Abbott, Williams & Volberg, 1999). Given that the study group included disproportionately large numbers of women with these attributes, it is possible that they at least partly account for the apparent low rate of problem remission in the present study. It is also likely that some of the other characteristics of the study group mentioned in the previous paragraph are associated with poor prognoses. Prospective studies incorporating these and other variables will be required to identify the various factors that are most important in predicting long-term problem gambling outcomes and whether or not they differ for women and men. Cross sectional designs such as that used in the present study have severe limitations in this respect. However, they can play a role in identifying factors that might have prognostic relevance and that can be investigated further using more rigorous methodologies.

Abbott, Williams and Volberg (1999) also found that almost half of the people in their sample who reported currently experiencing serious gambling problems in 1991 indicated, in 1998, that they no longer currently experienced gambling problems. The majority of people with less serious problems in 1991 reported that they were currently free of problems when they were re-interviewed seven years later. None of the study participants said they had received professional assistance to overcome their gambling problems. The authors concluded that these findings contradicted the conventional viewpoint that pathological gambling is inevitably a chronic, or chronically relapsing disorder. However, they noted that subject attrition and other features of their study sample including the age of participants and design meant that caution should be exercised in generalising the findings to all probable and probable pathological gamblers. They also indicated the importance of corroborating these findings in other samples, extending follow-up times to investigate whether or not problem reduction is sustained and stressed the importance of determining whether similar findings applied to pathological gamblers who have more serious problems and who present in treatment settings.
While the cross sectional nature of the present study limits its value with respect to consideration of long-term outcomes for problem gamblers, it did differ from the longitudinal study in that it contained proportionately many more people with very high SOGS-R scores. It also included people with high rates of a variety of co-morbid disorders and problems. Although there are other possible explanations for the relatively small differences between the 'lifetime' and 'current' prevalence rates in the present study, it is possible that the study sample represents a subgroup of problem gamblers who have particularly low rates of 'natural' or 'self recovery.' However, it is also possible that a significant number of the women will 'grow out' of their problem gambling later in life, in concert with reduced offending and other changes in their lives. Again, only longitudinal studies can adequately address these alternative hypotheses.

**Respondent Reasons for Problem Gambling Reduction or Cessation**

Abbott, Williams and Volberg (1999) also asked respondents who personally acknowledged that they had gambling problems if there had been times when they had been free or mostly free of problems for six months or more. Respondents indicating that they had had problem-free or mostly problem-free times were asked further questions about these occasions and how they had overcome their problems. The same questions were included in the present study. Only seven of the women in the study group were in this category. All were lifetime probable pathological gamblers. As indicated in the previous chapter, three of the seven said these changes in their problem gambling pattern mainly came about through their own efforts. In the longitudinal study, 12 of 13 respondents who reported a cessation or reduction in their problems said this was mainly through their own efforts. One said it was from family support. In the present study, three women said the main reason was a result of imprisonment, and one said it was mainly from help from a minister.

With regard to reasons given for problem cessation or reduction, the main difference between the prison study and the longitudinal study was the greater significance of external agents, particularly imprisonment, among the women prisoners. However, as discussed earlier, relatively few of the women lifetime probable pathological and problem gamblers reported being free of gambling problems immediately preceding their imprisonment. Longitudinal studies will be required to determine what influence imprisonment per se has on the gambling behaviour of problem gamblers. Studies of this type as well as quasi-experimental investigations will be necessary to assess the importance of imprisonment in this regard relative to whatever is involved in changes resulting from problem gamblers' 'own efforts' and other interventions such as counselling and participation in mutual help groups.

**Relationships between Problem Gambling and Criminal Offending**

**Gambling-related Offending**

The lifetime probable pathological gamblers were responsible for the great majority of gambling-related offending. Of the 24 women who acknowledged ever having committed a crime to get money to gamble or pay gambling debts, just three were not
probable pathological gamblers. These three respondents indicated that they did this only rarely or sometimes. Similarly, of the 19 women who reported that gambling had led to problems with the police, only two were non-problem gamblers. Both said this had only happened sometimes. And, of the 13 women who said they had been in prison because of charges related to gambling, none were non-problem gamblers. It is possible that the non-problem gamblers who reported engaging in crime to obtain money for gambling or to repay gambling debts were false negatives, i.e. people who were incorrectly classified on the basis of their lifetime SOGS-R scores as not having problems when in fact they did. However, taken at face value, the findings suggest that some non-problem gamblers occasionally commit crimes for this purpose.

Gambling-related offending in the general population by people who do not have gambling problems does not appear to have been examined in previous studies and its extent is unknown. While probably uncommon, given that the large majority of people do not have gambling problems, gambling-related offending by this sector of the population could account for a significant proportion of the total. If so, it would be important to include this group when estimating the economic and social costs of gambling-related crime. Failure to do so could lead to substantial under-estimation of this category of gambling-related costs to the community. However, it is possible that such behaviour is largely confined to people such as those in the study group who engage in a variety of forms of criminal activity. If so, its occurrence in the overall population would be quite rare. This is a topic that warrants further study.

In Chapter Two, two hypotheses concerning the relationship between problem gambling and gambling-related offending were discussed. The first was that offending occurs relatively late in the development of problem gambling in a substantial number of problem gamblers. Offending is seen as a response to the need to obtain money to gamble or pay gambling debts on the part of people who would ordinarily not engage in criminal activities. The major forms of offending by such problem gamblers are fraud and property crimes. The second was that gambling-related crimes are part of a more general pattern of offending among people who are ‘criminals first’ and ‘problem gamblers second’. In these cases, problem gambling is superimposed on a wider range of offending and both non-gambling-related and gambling-related offending may include violent crimes as well as property crimes. For many of these people, problem gambling may arise in association with conduct disorder early in life and/or with substance abuse or dependence, and these co-morbid disorders may share one or more common antecedents. However, it is also possible that problem gambling arises independently of a conduct, personality or other disorder in people who have already embarked on a criminal career. While previous research has provided some corroboration for both of these hypotheses in their various forms, the developmental and causal pathways remain unclear.

In the present study, the weight of evidence provides corroboration for the second hypothesis referred to in the preceding paragraph, namely that problem gamblers in prison are ‘criminals first’ and ‘problem gamblers’ second. Relevant findings include the age at which gambling and offending first occurred, the high prevalence of conduct disorder among problem gamblers and the nature of the offences committed by problem and non-problem gamblers.

Nearly half of the lifetime probable pathological and problem gamblers reported that they offended prior to having ever gambled. Clearly, these women did not have a gambling
problem prior to the commencement of their offending. Although the present study does not include a precise measure of the age at which problem gambling commenced, the majority of women started offending during adolescence and, on average, lifetime probable and problem gamblers commenced their offending careers three years earlier than non-problem gamblers. These findings are inconsistent with the hypothesis that offending occurs relatively late in the progression of pathological gambling. More significantly, only two lifetime probable pathological or problem gamblers reported that their early offending was related to gambling and only three said their first conviction related to gambling. These findings strongly suggest that, for the large majority of women in this study, offending commenced prior to problem gambling and that this offending was unrelated to their gambling. In other words, the findings are consistent with the hypothesis that most of the women prisoners who had gambling problems were 'criminals first' and 'problem gamblers second'.

Conduct disorder

A large majority of probable pathological and problem gamblers (81%) had a history of conduct disorder. This rate of conduct disorder was significantly higher than that of non-problem gamblers in the study group. The conduct disordered probable pathological and problem gamblers reported both commencing gambling and commencing offending at a much younger age than their non-conduct disordered counterparts. These findings suggest that most of the women with significant gambling problems started engaging in antisocial rule breaking behaviour during childhood and that their early gambling and drug usage were a part of this behaviour pattern. It is possible that common factors such as childhood physical and sexual abuse and familial histories of substance abuse contributed to the development of conduct disorder, alcohol and drug problems and problem gambling within this group of women. Longitudinal studies will be necessary to examine these matters further.

As mentioned in Chapter Three, probable pathological and problem gamblers did not differ significantly from non-problem gamblers with respect to their most serious lifetime and present convictions. They were no less likely to have committed violent crimes or more likely to have committed property crimes. These findings are inconsistent with the hypothesis that problem gamblers differ from other offenders in that their crimes are predominantly or exclusively property crimes. However, it is important to recall that the present sample of problem gamblers is atypical of problem gamblers within the wider community as well as atypical of those receiving counselling or treatment. As discussed earlier, a number of studies have found that problem gamblers in these non-prison settings do predominantly commit non-violent property offences. Although the problem and non-problem groups did not differ overall with respect to their most serious offending and convictions, offending that was undertaken specifically to obtain money for gambling or to pay gambling debts rarely involved violence. This type of offending did predominantly involve fraud or property crimes.

It is important to note that although women with gambling problems were much more likely than non-problem gamblers to report that they had committed a crime to obtain money to gamble or pay gambling debts, half of these women said that they had never committed a gambling-related crime. Furthermore, of the 21 problem gamblers who said they had committed a gambling-related crime, only
five said they did so often and only seven said they did so always. Thus, in the study group, problem gamblers who predominantly or exclusively committed crimes to finance their gambling and/or gambling-related debts appear to be in the minority.

**Age of First Onset**

While information regarding the age of first onset of problem gambling is not available for all people who were classified as lifetime probable pathological or problem gamblers, some questions provide information that is relevant. Two-thirds of the lifetime probable pathological gamblers and just under half of the lifetime problem gamblers reported that there was a time when the amount of money they gambled made them nervous. Almost half of these women said this was before the age of 21, a quarter said it was between the ages of 21 to 25 years and slightly less said it was when they were older than 25 years. Respondents were also asked if they had ever had a problem with their own gambling. Twenty said they had. The great majority of these respondents were lifetime probable pathological gamblers. Of these 20 women, 35 percent said they first noticed that they had a problem before they were aged 21 years, 10 percent between the ages of 21 to 25 years, and 55 percent when they were older than 25 years.

The findings outlined in the previous paragraph are of interest in that they suggest that while a significant number of women developed gambling problems during their adolescent years, a larger number said this occurred after the age of 25 years. While most of the women in both groups had already been engaged in non-gambling-related criminal offending prior to experiencing anxiety in relation to their gambling or noticing that they had a gambling problem, it is evident that there is quite wide variation in the age at which problems commenced. While common factors may underlie both offending behaviour and problem gambling, it is also probable that additional factors may account for, or contribute to, the genesis of problem gambling. Some of the major risk factors that might play a causal role will be discussed shortly.

**Escalation of Gambling Problems**

One factor that is worthy of note in the present context was the finding that people with more serious gambling problems reported having lost more money gambling in a single day and much more frequently engaging in gambling-related crimes. These findings are consistent with those of previous studies of problem gamblers receiving treatment and attending GA groups. Relevant studies by the Productivity Commission (1999) in Australia and Meyer and Fabian (1992) were referred to in Chapter Two. These findings are also consistent with the hypothesis that gambling-related offending typically emerges when people develop more serious gambling problems and other sources of money are depleted as a consequence of their heavy gambling losses. It may also be significant that the great majority of problem gamblers who reported gambling-related offending indicated that they had bet on casino gaming machines in the past and during the six months prior to imprisonment. Only a minority of problem gamblers who did not report this type of offence had participated in casino gaming machine play. This form of gambling may play an important role in the escalation of gambling problems and debts. However, without more focussed questioning and prospective investigation, the possibility cannot be ruled out that this
type of gambling activity appealed more to women who had already developed serious gambling problems and engaged in gambling-related criminal activities.

Summary

In summary, with respect to the two hypotheses referred to earlier, it appears that the great majority of problem gamblers in the present study engaged in a variety of criminal activities prior to developing gambling problems. Very few engaged in gambling-related offending at the outset of their criminal careers. For most problem gamblers, offending was associated with a history of conduct disorder and other factors rather than gambling problems. Following the development of their gambling problems most continued to engage exclusively in non-gambling-related offending. However, a subgroup of these women predominantly or exclusively engaged in gambling-related crimes and a further subgroup engaged in both gambling and non-gambling-related crimes. The frequency of their involvement in gambling-related offending was strongly influenced by the severity of their gambling problems and the size of their gambling debts. In short, as suggested earlier, almost all of the problem gamblers were 'criminals first' and 'problem gamblers second.' However, after they developed gambling problems, it would appear that for a significant minority of women, gambling-related offending increased as their gambling problems became more serious. Some of these women ceased their involvement in other forms of offending. While this pattern describes the relationships between problem gambling and offending for most of the problem gamblers, a few women had a different pattern. These women may have been 'problem gamblers first' and 'criminals second'. While this summary is consistent with the findings of the present study, it requires corroboration from longitudinal research.

Risk Factors for Problem Gambling

In the 1999 National Survey (Abbott & Volberg, 2000) lifetime probable pathological and problem gamblers were significantly more likely than non-problem gamblers to be males, Māori or Pacific Islanders, aged 25-34 years, living in households of five or more, resident in Auckland and born outside New Zealand, Europe, North America and Australia. These risk factors were confirmed in one or more multivariate analyses which took account of inter-relationships between these risk factors. In these multivariate analyses, Catholics, people without formal educational qualifications and people with low household incomes were also somewhat more likely to be probable pathological or problem gamblers. Although males and females were not considered separately, these various factors remained significant when the effects of gender were controlled statistically.

As discussed earlier, the prison study group differed from the general population of New Zealand women with respect to a number of these sociodemographic risk factors and these differences could be expected to explain, at least in part, the group's high prevalence of problematic gambling.

Within the study group, a variety of sociodemographic factors were examined in relation to lifetime probable pathological and problem gambling status. Some variables considered in the national survey could not be included owing to the small sample size.
and the very small number of women with some of these attributes. For example, as mentioned earlier, very few of the study group members were born outside New Zealand and few were Pacific Islanders. In contrast to the findings of the National Survey, in the present study, the problem and non-problem groups did not differ significantly on any of the sociodemographic variables considered. In large part, differences probably failed to emerge because there was relatively little variation between the women on some of these measures and because the small sample size reduced statistical power.

As outlined in Chapter Three, a variety of continuous forms of gambling were also considered in relation to lifetime and 'current' probable pathological and problem gambling. In the 1999 National Survey (Abbott & Volberg, 2000), past six months gambling participation in the following forms of gambling were associated with increased likelihood of currently experiencing gambling problems:

- Other casino games
- Gaming machines outside casinos
- Casino gaming machines
- TeleBingo
- Horse or dog racing
- Money bets with friends or work-mates.

Participation in all of these forms of gambling except other casino games were found to be associated with 'current' (6 months prior to imprisonment) problem gambling in the present study. In addition, playing card games for money and playing housie for money were also associated with 'current' problem gambling in the study group.

In the National Survey, past six months participation in five of the six forms listed above were also found to increase the likelihood of lifetime probable pathological and problem gambling. With respect to lifetime problems, the association with taking money bets with friends or work-mates was not statistically significant. However an additional form, playing card games for money, was strongly linked with lifetime problem gambling.

In the present study, non-casino gaming machine participation, taking money bets with friends and playing card games for money were also found to be associated with lifetime problem gambling. However in the present study, as in the case of 'current' problem gambling, playing housie for money was an additional form strongly associated with lifetime gambling problems.

As discussed in Chapter Two, a variety of forms of continuous gambling have been shown in studies undertaken in a number of different countries to be associated with problem gambling. In New Zealand, again as mentioned in Chapter Two, gaming machine participation both within and outside of casinos is the form of gambling reported by the large majority of female problem gamblers who are receiving counselling or treatment as being their main form of gambling (Problem Gambling Committee, 1999).

While gaming machine participation is a major risk factor for problem gambling in the present study, other forms including housie, playing cards games for money and taking bets with friends are also important. Housie is much more frequently engaged in by women than men in New Zealand and is particularly favoured by Māori and women in lower socioeconomic groups (Abbott & Volberg, 1999; 2000). It is of
interest that, of the various continuous forms of gambling, card games and housie were
the ones most often engaged in by the respondents while in prison.

In addition to these continuous forms of gambling, TeleBingo, a non-continuous form, is
also clearly associated with problem gambling in the present study. A similar
relationship was found in the National Survey and the authors of the survey report
indicated that because it is a non-continuous form, this finding was not expected. It is
possible that TeleBingo is associated with problem gambling because it appeals to
women who participate in housie (a continuous form of bingo) and/or other continuous
forms. The fact that it is presented in game show format on nation-wide television may
also be influential.

The findings of a logistic regression analysis that examined all of the gambling
preference and participation measures and other risk factors in relation to problem
gambling are of interest in this context. This analysis, reported in Chapter Three,
found that when the effects of other gambling forms and risk factors were
controlled statistically, only two forms, namely having a preference for gaming
machines outside casinos and housie were statistically significant predictors of
problem gambling. Thus, these forms may be regarded as the fundamentally
most important predictors of problem gambling in the study group. Further study
is required to see whether or not similar findings apply to women more generally.

It is not possible to directly infer causation from the findings of cross sectional surveys of
the type reported and discussed here. As indicated elsewhere in this report and at
greater length in Abbott and Volberg (1999), this requires longitudinal and quasi-
experimental studies. However it is of interest that, of the women who reported having
felt nervous about the amount they were gambling, half indicated they first had this
experience while playing gaming machines. Over a quarter mentioned card games and
somewhat smaller numbers mentioned track betting and housie. These findings suggest
that participation in these forms is more likely to lead to loss of control over gambling
expenditure.

Among women who become problem gamblers, loss of control over expenditure is
usually associated with ‘chasing’ to attempt to recoup losses. ‘Chasing’ is followed by
an escalation of losses, indebtedness and measures to redress this by further ‘chasing’
and quasi-illegal and illegal activities to obtain money for gambling and the repayment of
gambling debts. The statistical associations found between regular participation in these
continuous forms of gambling and problem gambling in the present study are thus
consistent with the hypothesis that such participation contributes to the development of
problem gambling. Self-reports of large gambling losses on single occasions and
high overall gambling expenditure were also strongly associated with problem
gambling in this and previous studies (Abbott & Volberg, 1999). However, the
degree to which large losses and expenditure preceded rather than followed the
development of problem gambling is not known.

In the New Zealand National Surveys (Abbott & Volberg, 1991; 1996; 2000),
commencing gambling at a young age and reports of parental problem gambling were
additional gambling-related phenomena associated with problem gambling. Similar
findings have emerged from studies in other countries (Abbott & Volberg, 1999). In the
present study, the association with commencing gambling at a young age was, however,
of marginal significance statistically. This was probably in large part due to most of the
study group members having started gambling during adolescence. The association of problem gambling with parental gambling and problem gambling requires further study to disentangle the causal mechanisms involved. There may be both genetic and social learning factors involved, as well as links arising through the cross-generational transmission of physical and sexual abuse and various forms of substance misuse and dependence. The findings of the present study suggest that extending such investigation to other family members and relatives may assist in clarifying these various mechanisms and causal pathways. Future studies of these relationships will also need to give consideration to, and control for, the effects of other factors such as ethnicity and various indices of social inequality and privation.

A history of conduct disorder and current psychological disorder were further risk factors for problem gambling identified in the present study. As mentioned earlier, conduct disorder is not common in the general female population. However, it has a very high prevalence in prison populations. It would be useful to know to what extent women problem gamblers more generally have histories of conduct disorder, whether or not these women differ in other ways from other problem gamblers and how this association comes about. Findings from this study and earlier discussion suggest that substance abuse, child abuse and post-traumatic stress disorder should be considered in this regard.

The association between problem gambling and current psychological disorder could arise in a variety of ways. As Lesieur and Blume (1991) have argued, it may be that many women problem gamblers engage in gambling as a way of reducing negative emotions associated with childhood, recent traumatic events and more persistent stressors. However, it is also possible that past problems related to problem gambling, rather than problem gambling per se, precipitate psychological disturbance. Finally, as most problem gamblers did not report gambling in prison, it is conceivable that this enforced cessation of gambling gives rise to anxiety and depression. Again, longitudinal studies are required to examine these and other possible explanations.

In contrast to the findings of a number of previous studies (Abbott & Volberg, 1999) hazardous alcohol use was not associated with problem gambling. Neither was the use of other drugs. However, it is important to note that very high levels of hazardous alcohol consumption and drug usage were reported by members of the study group, both problem and non-problem gamblers. This pervasiveness probably accounted for the lack of statistical association in the present context. The failure to find significant associations does not mean that alcohol and substance use and misuse are unimportant. It will be recalled that Abbott, Williams and Volberg (1999) found that hazardous alcohol consumption was at least as important as severity of gambling problems in predicting future problem gambling outcome.

**Problem Gambling Subgroups**

A number of problem gambling subgroups were examined separately and compared with their non-problem gambling counterparts. As these subgroups were generally small, there was insufficient statistical power to fully examine differences between groups or relationships between variables within groups. Although a number of multivariate logistic regression analyses were conducted, the resulting models were
generally unstable and had wide confidence intervals. For this reason, they were not included in the report.

Māori

Given that over three-quarters of the lifetime probable pathological gamblers in the present study were Māori and that relatively little is known about problem gambling among Māori, this was one of the groups chosen for further analysis. As mentioned earlier, Māori were found to be an at-risk group for problem gambling in both the 1991 and 1999 New Zealand National Surveys and Māori ethnicity was found to be associated with problem gambling persistence over time (chronicity) in Abbott, Williams and Volberg’s (1999) longitudinal survey.

Volberg and Abbott (1997) identified a number of gambling and problem gambling similarities between Māori and some Native American tribal groups. They noted that these indigenous populations share a number of characteristics, including histories of colonisation, forced dispossession of land, economic and social marginalisation and high rates of alcohol and other forms of substance misuse. A number of these shared characteristics have been shown to be risk factors for problem gambling.

In the National Surveys (Abbott & Volberg, 1991; 1996; 2000; Volberg & Abbott, 1994) and Longitudinal Study (Abbott, Williams & Volberg, 1999) Māori ethnicity remained strongly associated with problem gambling when the effects of other risk factors were controlled statistically in multivariate analyses. This indicates that differences between Māori and non-Māori with respect to risk factors such as age, education, unemployment and socioeconomic status do not fully account for higher problem gambling prevalence rates among Māori. In other words there remain additional, as yet unidentified, factors associated with Māori ethnicity that account for higher problem gambling prevalence and chronicity. However, in contrast to these earlier studies, statistically significant differences in problem gambling prevalence between Māori and non-Māori were not evident in the present survey.

When attention was confined to the 63 Māori participants, there were no sociodemographic differences between the problem and non-problem groups. In this respect, Māori did not differ from the study group as a whole. As indicated in Chapter Three, Māori problem and non-problem groups were also similar to the study group as a whole with respect to the forms of gambling associated with problem gambling. However, it is important to note that because two-thirds of the study group are Māori, large differences would be necessary between Māori and non-Māori to produce statistically significant differences.

In contrast to the findings for the study group as a whole, Māori problem gamblers differed from Māori non-problem gamblers in that they were significantly more likely to report having first started gambling at a younger age. They also differed from the study group in that they were not more likely to report having received their first conviction for a gambling-related crime or to indicate that they had gambled instead of committing a crime.

When the Māori and non-Māori problem gamblers were compared, the former group was found to contain considerably more problem gamblers with a history of conduct disorder. Twenty-eight of the 32 Māori problem gamblers were conduct disorder cases compared
to six of the ten non-Māori problem gamblers. Considered in conjunction with the findings mentioned in the preceding paragraph, it appears probable that the development of problem gambling among Māori women was particularly strongly linked with risk taking and antisocial behaviour during childhood and early adolescence.

Although the Māori and non-Māori problem gambler groups did not differ with respect to adult antisocial personality disorder, Māori were much more likely to have ever been convicted of a violent offence and to be currently convicted for a violent offence. Approximately half of the Māori problem gamblers reported having been convicted for a violent offence compared to only 10 percent of non-Māori problem gamblers. However, as neither of these groups differed from their corresponding non-problem groups with respect to violent offending, this difference appears to be linked to ethnicity rather than being a risk factor for, or consequence of, problem gambling among Māori.

Māori problem gamblers were also significantly more likely than non-Māori problem gamblers to report that one or both of their parents had ever had a problem with gambling. They also reported much higher frequencies and quantities of alcohol consumption prior to imprisonment and whereas over two-thirds of Māori problem gamblers were categorised as engaging in hazardous alcohol consumption, only ten percent of non-Māori problem gamblers were.

Caution must be exercised in generalising these findings to female Māori and non-Māori problem gamblers in the general population. As mentioned previously, the study group is highly atypical. It differs in many respects from problem gamblers in the general population. Nevertheless, the strong links found with parental gambling problems, conduct disorder and hazardous alcohol consumption may have wider relevance and should be examined in other Māori problem gambling groups. The findings also suggest that treatment programmes for problem gamblers in prison, especially for Māori, will need to address both problem gambling and alcohol problems.

With respect to the hypothesis that problem gamblers generally commit non-violent crimes, the findings discussed here are consistent with this hypothesis for non-Māori. For nine of the ten non-Māori problem gamblers, their most serious reported conviction was in the non-violent category and none of these respondents were currently in prison for violent offending. However, the findings for Māori were not consistent with this hypothesis.

It is important to recognise the limitations that are inherent in using ethnic categories or diagnostic categories such as conduct disorder to advance understanding of problem gambling or other aspects of human behaviour. This is especially so when these concepts are employed as explanatory variables. Often, associations between ethnic categories and health or other outcomes are better explained by additional factors that are associated with both ethnicity and the attribute or attributes under investigation. These effects can often be more adequately understood by including a range of relevant measures alongside ethnicity in multivariate analyses that allow inter-relationships and interactions between variables to be systematically examined. In the present study, sample size placed constraints on the number of multivariate analyses that could be conducted.

Even when it is possible to examine multiple inter-relationships between variables, when ethnic categories are used it should be appreciated that they remain, at best, crude
proxies for complex phenomena. In the present study, Department of Statistics definitions of ethnicity were used. As previously mentioned, in the case of Māori, this includes all people who define themselves as Māori as well as people who list one or more other ethnicities. As a consequence, it does not allow for bicultural or multi-cultural ethnic identity. It would be helpful if future research included instruments designed to assess acculturation multidimensionally (Clark & Hofsess, 1998) in addition to measures of ethnic identity. This would enable differences within ethnic categories to be considered and examination of ways in which gambling and problem gambling are related to the adaptation of migrant populations. Although very few prisoners in the present study were born outside New Zealand, approximately one-in-five New Zealanders are and some of these immigrant groups have elevated problem gambling prevalence rates (Abbott & Volberg 2000).

Hazardous Drinking

Given the high co-morbidity found between problem gambling and alcohol problems in this and in previous studies (Abbott & Volberg, 1992; 1999), there was interest in comparing problem gamblers with patterns of hazardous drinking with problem gamblers without such drinking patterns.

Of the 23 problem gamblers with co-morbid hazardous drinking patterns, 22 were Māori. Ten of the 19 problem gamblers without such drinking patterns were Māori. While this difference is highly significant statistically, neither the Māori nor non-Māori problem gamblers with hazardous drinking patterns had significantly higher rates of hazardous drinking than their non-problem counterparts. In other words, the study group as a whole was characterised by hazardous drinking, and Māori generally had higher rates than non-Māori.

Relative to problem gamblers without hazardous drinking patterns, those with co-morbid alcohol problems were significantly more likely to be living with people other than a spouse or partner. They were also much more likely to be aged 16 to 24 years and somewhat more likely to be aged 25 to 34 years. The difference in living arrangements could have been due to age and/or ethnicity. It is also possible that people with both gambling and alcohol problems were more likely to have broken up with a partner. Focussed questioning or longitudinal study will be required to determine why these differences exist. There were no other sociodemographic differences between the two problem gambling groups.

The other most notable difference between the hazardous and non-hazardous drinking problem gambling sub-groups concerned violent offending. Problem gamblers with hazardous drinking patterns were much more likely to report having been convicted for a violent offence and to be currently serving a sentence for violent offending than other problem gamblers. As mentioned in Chapter Three, problem gamblers with hazardous drinking patterns did not differ in this regard from non-problem gamblers who were hazardous drinkers. This pattern of findings suggests that there is an interaction effect whereby hazardous drinking combined with problem gambling is associated with violent crime whereas neither hazardous drinking nor problem gambling are on their own.

This interaction effect is plausible given that problem gambling can generate a need to obtain large sums of money and that excessive acute alcohol intake and
neuropsychological changes often associated with long-term excessive consumption reduce impulse control (Abbott, 1984). This well-documented effect of alcohol is the reason for the quip that ‘the superego can be operationally defined as that part of the brain which is soluble in alcohol’. High levels of acute alcohol intake have also been shown to increase the probability of violent behaviour in both domestic and social settings. However, the interaction hypothesis proposed here requires more rigorous examination. In the present context, the effect may have come about through associations with other variables such as Māori ethnicity that are linked with these measures. As mentioned previously, the sample size was not sufficiently large to control for inter-relationships between multiple independent variables.

**Conduct Disorder**

Earlier, the relationship between conduct disorder and problem gambling was described and briefly discussed. A history of conduct disorder was a strong predictor of problem gambling in that 34 of the 42 lifetime problem gamblers were in this category compared with 27 of the 52 non-problem gamblers. Given this strong association, there was interest in determining which factors differentiated the majority of problem gamblers with a history of conduct disorder from the small group of eight women without this history.

The problem gamblers with a history of conduct disorder were much more likely than problem gamblers without this history to report having a parent who had had a gambling problem and who currently had a gambling problem. These findings raise the possibility that parental factors are more important in the development of problem gambling among people with conduct disorder than they are among people without this disorder. Potentially, this finding is very important as it suggests different causal factors may be involved for these two subgroups of problem gamblers. Further research is required with other samples of problem gamblers to corroborate this finding and, if it is present, to determine what mechanisms are involved. Both social learning and genetic factors may play a role.

The conduct disordered group, as expected given the nature of this disorder, reported first offending on average at the age of 14 years, with approximately two-thirds first offending between the ages of 7 to 21 years. In contrast, the average age at which the non-conduct disordered problem gamblers commenced offending was 22 years. This latter group also evidenced more variation in this respect, with approximately two-thirds first offending between the ages of 12 to 32 years.

The conduct disordered problem gamblers also reported commencing gambling at a much younger age than the non-conduct disordered problem gamblers. The mean age for commencing gambling for the former group was 14 years, the same age at which they first reported offending. The mean age for the non-conduct disordered problem gamblers was 20 years, two years less than their average age for first offending. As with the age of first offending, this group also displayed much greater variability in the age at which they started gambling. These differences in both the age of first offending and commencing gambling suggest, as mentioned earlier, that most of the conduct disordered problem gamblers developed their problems in association with criminal offending and other risk-taking behaviour. The non-conduct disordered problem gamblers, on the other hand, started gambling later, often before they committed criminal offences. It is likely that some of the women with conduct disorder developed
their gambling problems prior to offending and that their gambling problems played a role in their early offending.

It is of interest that although the problem gamblers with a history of conduct disorder were somewhat more likely to report regular alcohol consumption prior to their imprisonment, they did not have higher rates of hazardous drinking or higher rates of violent offending than problem gamblers who did not have a history of conduct disorder. It is also of interest that, as adults, they did not have elevated rates of antisocial personality disorder. As noted earlier, a prior history of conduct disorder is a necessary condition for the diagnosis of this disorder. Most of the problem gamblers (and non-problem gamblers) with childhood conduct disorder in the present study did not progress to antisocial personality disorder.

In addition to the differences discussed to this point, these two problem gambling subgroups also differed in some other ways. The conduct disordered problem gamblers were much more likely to report having ever bet on card games and engaged in gaming machine play outside of casinos and to have taken part in card games during the six months prior to their imprisonment. This group also contained relatively more women who reported large gambling losses.

Conduct disorder is a relatively rare condition, especially among girls. It is not known what percentage of problem gamblers in the general population has this disorder. However, it is probably not common and the reason for its high prevalence in the present study arises from the strong relationship between the presence of this disorder and both childhood and adult offending. Consequently, the general findings of the present study are unlikely to apply to the majority of women problem gamblers in the general population whose gambling problems are not associated with a history of conduct disorder.

**Antisocial Personality Disorder**

Unlike conduct disorder, antisocial personality disorder was not a risk factor for problem gambling in the present study. Similar proportions of problem and non-problem gamblers were identified with this disorder. As predicted from previous studies, the majority of problem gamblers with this disorder (8 out of 10) reported usually taking illicit drugs prior to coming into prison. However, this was a general characteristic of the women with antisocial personality disorder rather than one confined to the subset of women with this disorder who were, in addition, problem gamblers.

Contrary to expectation, the antisocial personality problem gambling group was not more likely than problem gamblers without this disorder to report violent offending. However, this expectation was based on prior research and clinical experience with predominantly male offenders and psychiatric patients with antisocial personality disorder (American Psychiatric Association, 1994). It is possible the women with this disorder engage in a wide variety of offences and do not engage in disproportionately more violent crimes.

The most notable difference between these two problem gambling subgroups concerned their differential reporting of parental gambling problems. Nine of the ten problem gamblers with antisocial personality disorder indicated that one or both of their parents had a gambling problem compared to less than half of the problem gamblers who did not have this disorder. **This finding reinforces the need for further investigation of the**
links between parental gambling and the development of problem gambling in children with conduct disorder. It also raises the possibility that parental problem gambling, or other factors associated with parental problem gambling, may be implicated in the genesis of conduct disorder and antisocial personality disorder among their offspring. This is an aspect of problem gambling that does not appear to have been considered previously. If parental problem gambling does contribute to the development of these disorders, the ‘flow-on’ human, social and financial costs could be considerable.

As mentioned in Chapter Three, these two problem gambling subgroups also differed with respect to their gambling participation. Perhaps most notably, all of the problem gamblers with antisocial personality disorder reported non-casino gaming machine participation prior to their imprisonment. Less than a third of the problem gamblers without this disorder reported this form of participation. The former group was also more likely to report TeleBingo, Instant Kiwi and lotteries/raffles participation. Possible reasons for these differences are not apparent.

Finally, it is of interest that none of the 13 problem gamblers at Christchurch Women's Prison and only three of the 15 problem gamblers at Mt Eden Prison had a co-morbid antisocial personality disorder. In contrast, half of the 14 problem gamblers at Arohata Prison did. It is unclear how these differences arose. However, they caution against assuming that findings from a study such as this apply generally to all women prisoners with gambling problems and point to the need to undertake comprehensive individual assessments when treatment programmes are being developed in a particular prison. Problem gamblers with co-morbid personality disorders may require different interventions to other problem gamblers. These women may, or may not, have worse long-term prognoses. The research required to address such questions is in its infancy. However, if is necessary if treatment efficacy is to be improved.

Problem Gamblers Gambling Participation in Prison

Although problem gamblers as a whole were only somewhat more likely than non-problem gamblers to report that they had gambled while in prison, quite marked differences were found in this respect across the three prisons. Seven of the eight women who reported gambling in Mt Eden or Christchurch Prison were problem gamblers. However, in Arohata, the majority of the 18 women who said they gambled were non-problem gamblers. As mentioned in Chapter Three, the reasons for this variation between the prisons is not known.

Most lifetime problem gamblers (28 out of 42) did not report gambling while in prison. Those who did differed from those who did not in that they were much more likely to indicate that they had been in trouble with the law because of their gambling and that they were heavy drinkers and smokers. In Chapter Three, it was suggested problem gamblers who gamble in prison may be those who have a stronger ‘addiction’ to these substances and to gambling. Another possibility suggested was that they might gamble with the objective of increasing their access to tobacco, alcohol or, perhaps, other drugs. In this regard, it is interesting that one woman said that gambling ‘fed’ her drug problem. Alternatively, for some women, perhaps including those who are alcohol dependent, gambling may help substitute for reduced alcohol consumption. Further research is required to determine why some problem gamblers continue to gamble in prison when others do not. It would also be of interest to see whether or not these gambling and non-
gambling groups differ with respect to their willingness to engage in programmes to overcome gambling problems or with respect to their long-term problem gambling prognosis.

Problem gamblers who reported a continuation of gambling while in prison were also much more likely than those who did not to indicate that they had gambled instead of having committed a crime. While most people in this category said they did so only occasionally, others said that they did so 'often' or 'always'. This aspect of gambling does not appear to have been examined prior to the present study. Again, this is a matter that requires further thought and investigation. It is conceivable that some people, perhaps especially those with alcohol or other drug dependencies, engage in gambling for similar reasons that they commit crimes. While in some cases this will be to finance gambling and/or gambling debts, in other cases it may be to obtain money for non-gambling related purposes or for other reasons.

Help Seeking and Treatment Issues

The extraordinarily high prevalence of problem gambling among women prisoners and the severity of these problems is expected to be of interest to corrections and health authorities. This interest may be further increased by the extent to which this study and other research indicates that problem gambling is involved in the precipitation of criminal offending, especially fraud and other property crimes. For offenders whose gambling-related offending patterns are entrenched and/or involve very large amounts of money, effective treatment could have a significant impact on crime reduction.

Effective treatment for problem gambling can also be expected to enhance the mental health of offenders and contribute to their habilitation and long-term rehabilitation. For a small number of women, it may be sufficient to focus predominantly or exclusively on their problem gambling. However, for the significant number of women prisoners who have multiple problems, commonly including pathological gambling, one or more drug dependencies or problems and other forms of mental disorder, treatment is more likely to be effective if it is multi-modal and tailored to the particular needs of each individual. It was found that Māori problem gamblers were much more likely than non-Māori problem gamblers to experience multiple problems.

Of the lifetime probable pathological gamblers, approximately two-thirds said that they personally considered that they had a problem with gambling at some time. Of those who were classified as probable pathological gamblers immediately prior to imprisonment ('current' probable pathological gamblers), approximately half were of the view that they had a gambling problem at that time. This level of problem gambling awareness is similar to that found in the general population (Abbott & Volberg, 2000). The large majority of these women also said that they had wanted to stop gambling but did not feel able to do so. It is likely that most of these women would be willing to accept counselling or some other form of structured therapeutic intervention. In the case of women who do not recognise that they have a gambling problem, some form of awareness raising and motivational counselling will probably need to precede therapy.
Of the 20 women who personally considered that they had a gambling problem, 12 said that they had at some time wanted help to stop gambling. However, only three of these women said that they had ever tried to get this type of assistance. A somewhat larger number indicated that they had experienced times when they had been free or mostly free of gambling problems for six months or more, predominantly either through their own efforts or because they were in prison. The process and effectiveness of 'natural' or 'self' recovery from problem gambling has been little investigated, either in its own right or in relation to treatment for problem gambling (Abbott, Williams & Volberg, 2000).

Although a third of the women prisoners were lifetime probable pathological gamblers and just under a quarter remained probable pathological gamblers at the time of their imprisonment, only three had sought and received help for this disorder during their current imprisonment. Two of the three said this assistance, which had been obtained from a prison mental health professional (counsellor, psychologist or psychiatrist) had been helpful.

Twelve of the women said they had received treatment for some form of mental disorder during their current imprisonment. The major reasons were for depression or for alcohol and/or other drug problems. This is a low level of mental health service utilisation given the high rates of disorder that characterise this population (Department of Corrections, 1999).

The Department of Corrections prison survey of psychiatric morbidity (Department of Corrections, 1999) involved the assessment of a wide variety of mental disorders, with the notable exception of pathological gambling. This omission was unfortunate given the serious adverse health, mental health and social consequences of pathological gambling, and the opportunity that its inclusion would have afforded to study associations with other mental disorders. Its omission is surprising in that pathological gambling has been officially recognised by the World Health Organisation and major psychiatric bodies for over 20 years. Furthermore, pathological gambling is known to have a high prevalence in prisons and, in contrast to most other forms of psychopathology, contributes both directly and indirectly to criminal offending.

With respect to mental disorders that have a high prevalence in New Zealand prisons, the recent psychiatric morbidity study recommended that screening techniques should be introduced, followed up with formal assessment if particular problems are identified (Department of Corrections, 1999). Given the high rates of substance misuse and dependence detected, this report also recommended that all prison inmates should be exposed "to some degree of basic drug and alcohol education, with a mechanism for identifying at least those with substance dependence disorders" (p. 59).

Given the very high prevalence of problem gambling found in the present study, the severity of these problems and their association with past and, it may be anticipated, future offending, it would appear appropriate to provide all prison inmates with education about gambling and problem gambling. This could be a stand-alone programme or combined with alcohol and other drug programmes. The latter may be appropriate given the high co-morbidity between problem gambling and misuse of and dependence on alcohol, tobacco and other substances. Increased awareness through education programmes may, for some prisoners, help activate 'self' recovery processes. Abbott, Williams and Volberg's (1999) longitudinal survey of problem gamblers living in the community found that overall self-recovery rates
appeared to be moderately high. However, it is important to note that the long-term prognosis was not good for people with more serious gambling problems or for people with co-morbid alcohol problems. In the present study group, most women with problems had very high levels of gambling pathology and many engaged in hazardous alcohol consumption. In addition, as already noted, many also experienced other co-morbid mental disorders that could be expected to further compromise recovery from pathological gambling and a future positive adjustment to life in the community.

Given the complex mix of mental health and other problems that many women prisoners experience, it would seem reasonable to expect that they would all have access to comprehensive psychological screening, of which a problem gambling screen would be one component. This would then be followed up, when problem areas are detected, by more in-depth assessment. Specialist treatment and/or other forms of assistance could then be made available to address pathological gambling or other disorders that are diagnosed. While this is a policy matter that is beyond our brief to address, relative to the total cost of custodial care and the future costs to families and the wider community of ongoing psychological disorders and criminal offending, the provision of such services appears to be a modest investment. This said, it would also be important to evaluate current and future services to assess and enhance their efficacy.

The Effects of Other People's Gambling

Relative to people surveyed from the general population (Abbott & Volberg, 1999; 2000), women prisoners reported very high rates of gambling problems among family members, partners and other significant people in their lives. Over three-quarters of respondents indicated that they considered that at least one person in their life may have or have had a problem with gambling. A third thought their mother had a problem, a quarter their father and a fifth a sister. Significant numbers considered that a spouse or partner (22%) or a friend or someone else important to them (29%) had a problem.

Probable pathological gamblers generally reported higher rates of problems among close relatives and spouses/partners than women with less severe or no gambling problems. As discussed earlier, these findings have some relevance to the identification of factors that lead to the development of problem gambling. In the present context, they also have importance in that women prisoners with serious gambling problems may transmit these problems to their children. Thus, effective intervention may play a role in reducing the future incidence of problem gambling and the various associated adverse social and financial costs.

A further consideration is that irrespective of whether or not a women prisoner had a gambling problem herself, most had someone important in their life that they considered did have a problem with gambling. In a number of cases, these were spouses/partners, close family members or friends. The women reported that they, personally, experienced particularly high levels of adverse consequences when a spouse/partner, mother, friend or sister had a gambling problem. In the case of spouses, arguments, anger and violence were commonly reported, along with a loss of household money, lies, deceit and relationship break-ups. Apart from spouses, it is of interest that women in their lives (mothers, sisters, friends) with problems resulted in more adverse impacts than did male family members and relatives.
Given the extent and impact of other people’s problem gambling on women prisoners, it would be worth giving consideration to the inclusion of ways to deal with the effects of the gambling problems of these people within prison education and rehabilitation programmes.

4.10 Conclusion

This study is significant in that it is the first survey of women prisoners internationally to include a validated measure of problem gambling. While the number of women in the study group is not large, because of the high prevalence of problem gambling among these women, it has been possible to examine relationships between problem gambling and some other factors in a way that has not hitherto been possible. To obtain a similar number of lifetime probable pathological gamblers from the general population would necessitate the assessment of over 3,000 women.

While opening up a number of areas of inquiry and raising questions that will require further investigation in other populations, it is important to note that women prisoners are a highly atypical group within New Zealand society. Women prisoners with gambling problems also differ from problem gamblers generally in various ways. For these reasons, care must be exercised with respect to the generalisation of the findings to women and problem gamblers living in other settings. However, the major concern of this study was women prisoners, per se. It is hoped that the findings will be useful to policymakers and others working in the criminal justice and health sectors, and bring some benefit to present and future women inmates in New Zealand prisons. The findings should also have some relevance to such people in other countries.

The next volume in the NZGS series (Abbott, McKenna & Giles, in press) reports a similar study of recently sentenced male prisoners and includes a number of comparisons between male and female problem gamblers.
REFERENCES


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