

Adult Gambling and Problem Gambling in Alberta, 1998

Summary Report

prepared by Alberta Alcohol and Drug Abuse Commission

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SUMMARY



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CHAPTER 1

INTRODUCTION

A. Purpose of This Summary Report

In 1994, the Alberta Alcohol and Drug Abuse Commission (AADAC) served notice of its intention to replicate a 1994 Alberta Lotteries and Gaming (now Alberta Gaming and Liquor Commission) study on the prevalence of gambling and problem gambling among adult Albertans. The purpose in conducting this replication study was to assess changes in Alberta's gambling participation and problem gambling as part of a continuous review of AADAC's broad strategy for problem gambling.

The purpose of this report is to highlight AADAC's response to the 1998 study findings. More specifically, the purpose of this report is threefold:

1. To summarize the main findings of the 1998 study;
2. To discuss the implications of the 1998 study findings for gambling prevention, treatment, training and further research; and
3. To outline AADAC's recommendations for gambling prevention, treatment, training, and further research.

Since the 1994 study, several regulatory modifications have been made to the Alberta legal gambling infrastructure to expand access to a range of gambling products in Alberta. For example, betting limits increased in casinos and hours of operation were extended; satellite bingo was approved; and the number of VLTs available was increased from 1,767 in 1994 to 5,957 in September, 1997. In Alberta, gross gaming revenues have increased from \$2.2 billion dollars in 1993 to \$3.2 billion in 1996. In particular for VLTs, gross revenue has increased from \$835 million dollars in 1993 to \$1.8 billion dollars in 1996. Conversely, in several instances, changes were made to ameliorate the effects of problem gambling (e.g., the number of VLTs was capped at 6,000 instead of 8,000; the Alberta Gaming and Liquor Commission (AGLC) limited some lottery product advertising; and AADAC was given the mandate and funding to establish and operate prevention, treatment, training and research initiatives for problem gambling). In addition to the current study, the results of the Alberta Lotteries and Gaming Summit '98 are being completed; a study on slowing down the speed of VLT play and increasing pay outs has been announced by AGLC, and program development continues in the industry, the health field and AADAC.

B. The 1994 Study

In 1994, a baseline study was conducted by Wynne Resources Limited for Alberta Lotteries and Gaming on the prevalence of gambling and problem gambling among adult Albertans. Data for the study were collected in two phases. The first phase involved a telephone survey of a representative sample of 1,803 Albertans, 18 years of age and older. The second phase consisted of in-depth field interviews with a sub-sample of 30 Albertans to add to the understanding of problem gamblers. Details of the study are documented in the report, *Gambling and Problem Gambling in Alberta* by Wynne Resources Ltd., 1994.

C. The 1998 Study

A second study was conducted in 1997/98 by Wynne Resources Ltd. for AADAC on the prevalence of adult gambling and problem gambling. The purpose of this study was to determine the current characteristics and scope of gambling and problem gambling among adults in Alberta and to compare these findings with the earlier 1994 study findings. The results serve as a basis for AADAC to enhance or modify current problem gambling initiatives and to guide further program development. The specific objectives of the study were as follows:

1. To determine the prevalence of gambling and problem gambling within the population of adult Albertans (age 18 and older);
2. To analyse and describe the characteristics and behavior of non-problem and problem gamblers;
3. To ascertain, analyse and describe non-problem and problem gamblers' use of licit and illicit substances (i.e., alcohol, tobacco, and drugs);
4. To compare 1998 research findings with results from the 1994 study; and
5. To offer conclusions and implications that may assist AADAC in prevention, education, treatment, and research initiatives designed to ameliorate problem gambling.

In September 1997, telephone interviews were conducted with 1,821 Albertans from across the province who were 18 years of age or older. This sample size was chosen to closely approximate the 1994 adult gambling survey sample ($n=1,803$) and estimates for both samples are accurate 19 times out of 20 ($\pm 2.3\%$). That is, with a province-wide sample of 1,821 adult Albertans, one can say with 95% certainty that the results for each survey are within $\pm 2.3\%$ of what they would have been if the entire adult population of Alberta had been interviewed. Consistent with the 1994 study, 24% of respondents were from Edmonton, 28% were from Calgary, 33% were from northern Alberta, and 15% were from southern Alberta. The questionnaire used in the telephone interviews consisted of 79 items capturing information on gambling activity, demographics, substance use, and problem gambling. As the purpose of the study was to replicate the 1994 study, the questions were designed to be comparable, with a few enhancements. In particular, some changes to the questionnaire were as follows: (1) Internet gambling was added; (2) response categories of some of the demographic questions were expanded and religion was added; and (3) questions were added on alcohol, tobacco, and drug use. For more details of the study, see Part II of the full report *Adult Gambling and Problem Gambling in Alberta, 1998* prepared by Wynne Resources Ltd.

CHAPTER II

MAJOR FINDINGS

As a general trend, adult Albertans are moving away from gambling and there has been a significant decline in the prevalence of problem gamblers. There is also evidence of an increase in the prevalence of probable pathological gamblers; however, this finding is not statistically significant.

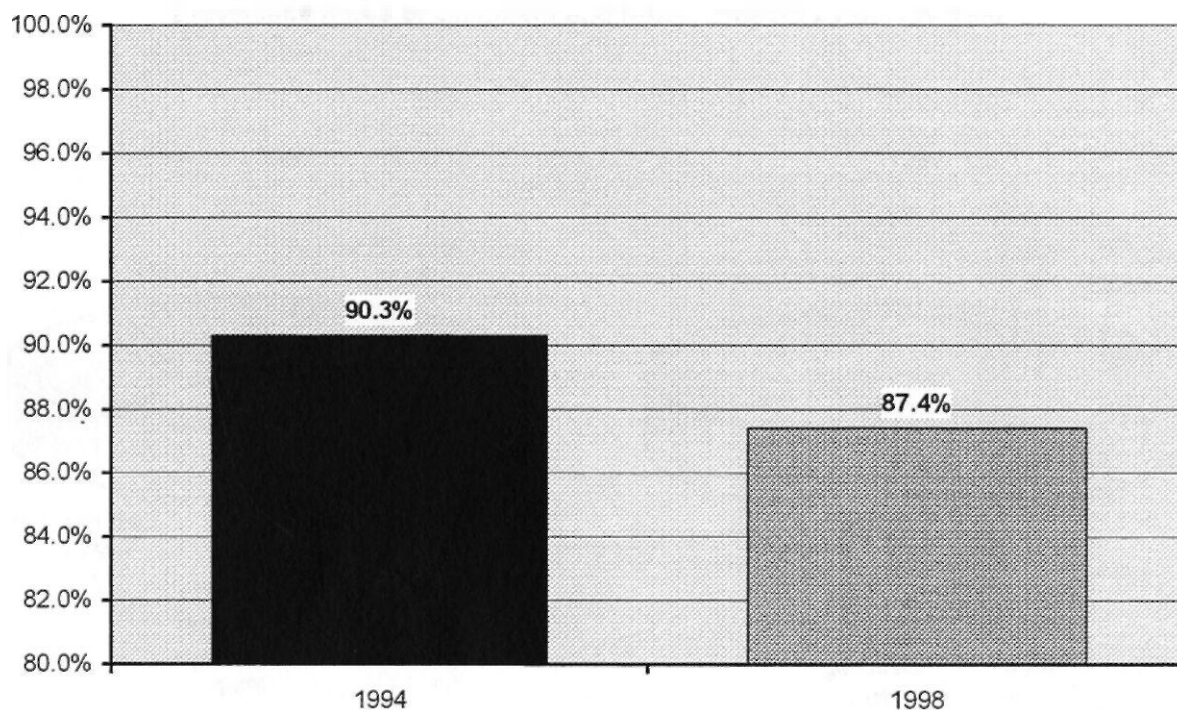
There are a cluster of findings relating to VLT use and problem gambling. These findings are correlational, not causal, in nature. While VLTs appear to be more closely connected with problem gambling than other forms of gambling, other forms of gambling are also connected. These forms of gambling are generally continuous-play in nature (e.g., slot machines, VLTs, casino games, bingo, pull-tab tickets, and instant-win/scratch tickets). The report contains data that suggest that the connection between problem gambling and continuous-play games needs to be further investigated.

A. Gambling Participation Rates

In 1998, 87.4% of adult Albertans report gambling in the past year. As shown in Figure 1, this represents a statistically significant 2.9% decline ($p \leq .01$) in the percentage of adult Albertans participating in gambling activities since the 1994 study.

FIGURE 1

Current Gambling Participation Rates by Survey Year



Implications

Adult Albertans appear to be gambling less since 1994. There are different reasons that might account for this change. For instance, it may be that adult Albertans are less curious about gambling now, having tried it over the past few years. Moreover, people might be more aware of gambling and the potential for gambling problems and have chosen not to gamble. In part, this may be due to the work of AADAC and others, including the media, who have provided Albertans with a considerable amount of educational information about gambling and problem gambling since 1994.

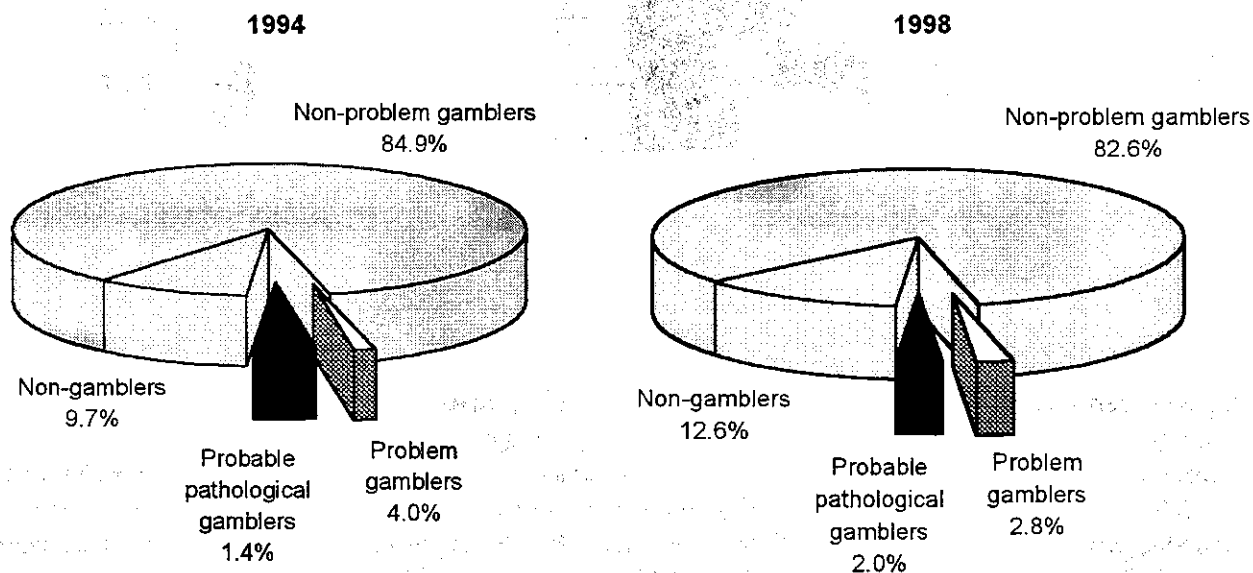
B. Problem Gambling Prevalence Rates

In both the 1994 and 1998 studies, an instrument called the revised South Oaks Gambling Screen (SOGS-R) was used to differentiate non-problem, problem, and probable pathological gamblers. Problem gamblers are the "less severe" group of adults with gambling problems, having answered "yes" to 3 or 4 items of the 20 items in the SOGS-R. Probable pathological gamblers are the "more severe" group of adults with gambling problems, having answered "yes" to 5 or more items.

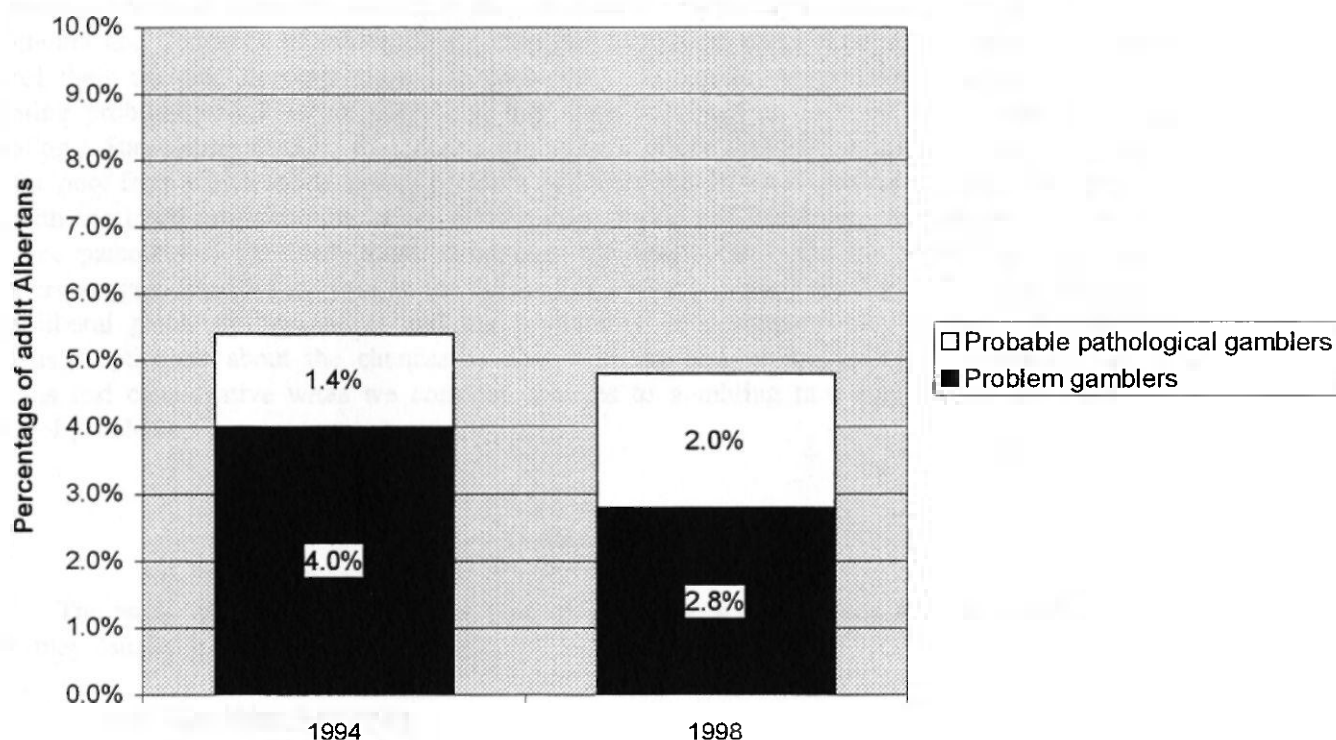
As illustrated in Figure 2, for 1998, in the past 12 months most (82.6%) adult Albertans were non-problem gamblers, 12.6% were non-gamblers, and 4.8% were gamblers with less severe or more severe gambling problems.

FIGURE 2

Prevalence Rates of Gamblers and Non-Gamblers by Survey Year



When compared to 1994, overall there is a decrease in 1998 in the total percentage of current problem gamblers and probable pathological gamblers combined, from 5.4% in 1994 to 4.8% in 1998. As shown in Figure 3, there are fewer adult Albertans in the “problem gambling” category than there were in 1994 (4.0% in 1994, 2.8% in 1998; the decrease is statistically significant at $p \leq .05$). Conversely, there are more adult Albertans in the “probable pathological gambling” category (1.4% in 1994, 2.0% in 1998). Although the increase in probable pathological gambling is not statistically significant, it is a pattern found in other replication studies.

FIGURE 3**Prevalence of Problem Gambling by Survey Year****Implications**

Albertans (82.6%) enjoy participating in various forms of gambling activities without difficulties. The decrease in the percentage of gamblers with less severe problems suggests that some of these gamblers may have made choices to gamble less or to gamble in less risky ways. Conversely, a small number appear to have progressed to more serious problems. Based on the 1996 adult Alberta population of 1.9 million, it is estimated that the number of adult Albertans with less severe gambling problems has decreased from 78,770 in 1994 to 55,139 in 1998. In contrast, it is estimated that the number of adult Albertans with more severe gambling problems has increased from 27,570 in 1994 to

39,385 in 1998. These changes have taken place in a climate that has generally seen an increase in the availability of gambling opportunities.

At one end of the spectrum of gambling behavior, the decline in gambling participation and the decline in the prevalence of problem gamblers suggests that more people are able to control their gambling behavior, assume responsibility for their actions and change their behaviors. If this is the case, brief interventions and clear information on how to recognize warning signs about gambling-related problems appear to be useful strategies.

It appears, as well, that some former problem gamblers have now become probable pathological gamblers over the past four years. This increase is consistent with the view of problem gambling occurring along a continuum of varying degrees of severity. Moreover, this parallels the progression observed in alcohol and other drug addictions. Typically in substance use addictions, when the amount and frequency of substance use increases over time, users experience a decreased ability to control their use and develop more life problems. A similar progression appears to occur with gambling problems, so it is not surprising that there has been an increase in probable pathological gambling. Speculating further, the decline in numbers of the less serious problem gamblers suggests that the pool from which more serious problem gamblers are drawn is getting smaller. This may mean that with continued programming in prevention, intervention and treatment, the number of more serious probable pathological gamblers might drop over the long term. On the other hand, the research literature suggests that the increase in the number of probable pathological gamblers may be related to more liberal gambling regulations and the availability of continuous-play games. We should be cautiously optimistic about the chances to deal with the less severe levels of problems, but more cautious and conservative when we consider changes to gambling that may impact the more severe levels of problems.

C. Gambling Activities

The study asked people about the type of gambling activities they engage in and about how much they usually spend on various activities.

1. Type of Gambling Activities

As shown in Figure 4, in 1998 the most frequently reported gambling activity for current Alberta gamblers is the purchase of Lotto 6/49 and other lottery products (75%), raffles or fund-raising (63%), and instant-win or scratch tickets (37%). Also of note is that, from 1994 to 1998, participation in gambling activities decreases significantly for every type of activity except for three:

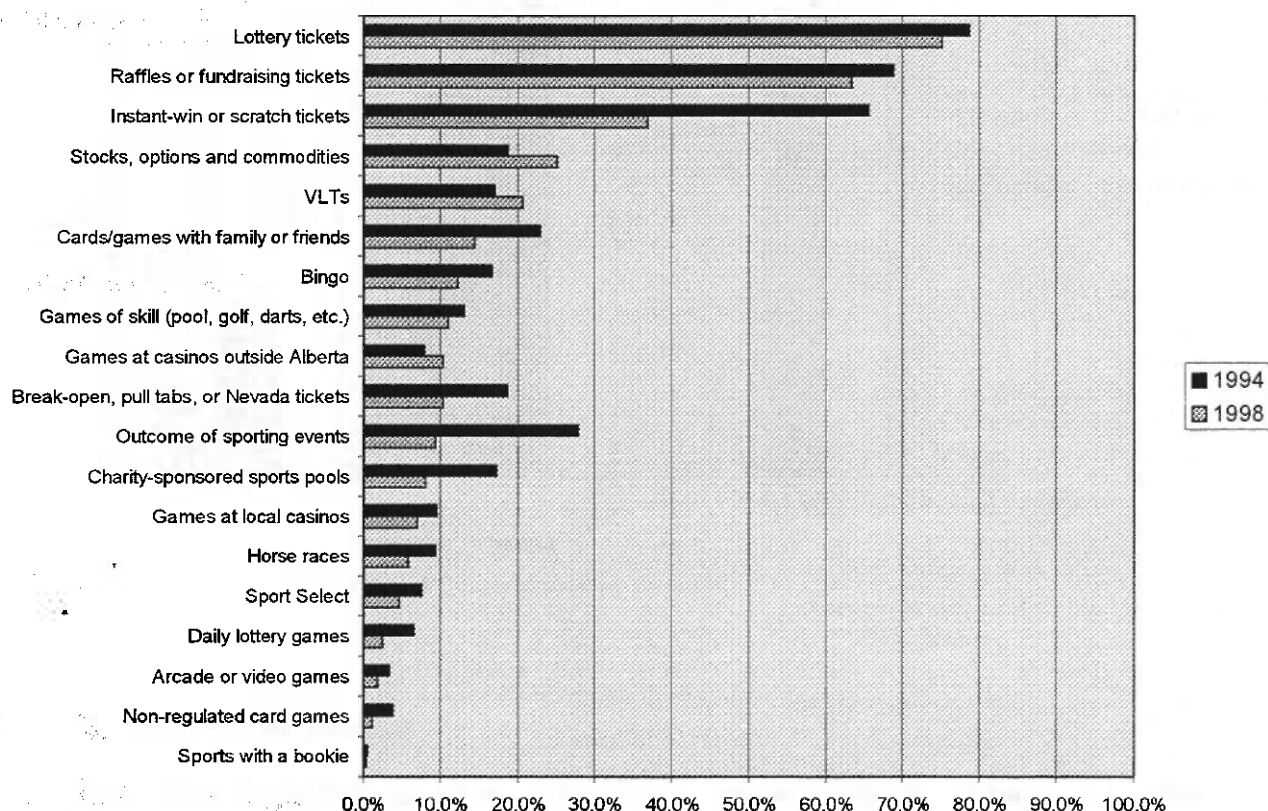
1. Gambling on stocks, options, and commodities (19% in 1994, 25% in 1998);
2. Games at casinos outside Alberta (8% in 1994, 10% in 1998); and
3. VLT play (17% in 1994, 21% in 1998).

The three gambling activities with the largest decrease in participation are:

1. Instant-win or scratch tickets (66% in 1994, 37% in 1998);
2. Outcome of sporting events (with family or friends) (28% in 1994, 9% in 1998); and
3. Charity-sponsored sports pools (17% in 1994, 8% in 1998).

FIGURE 4

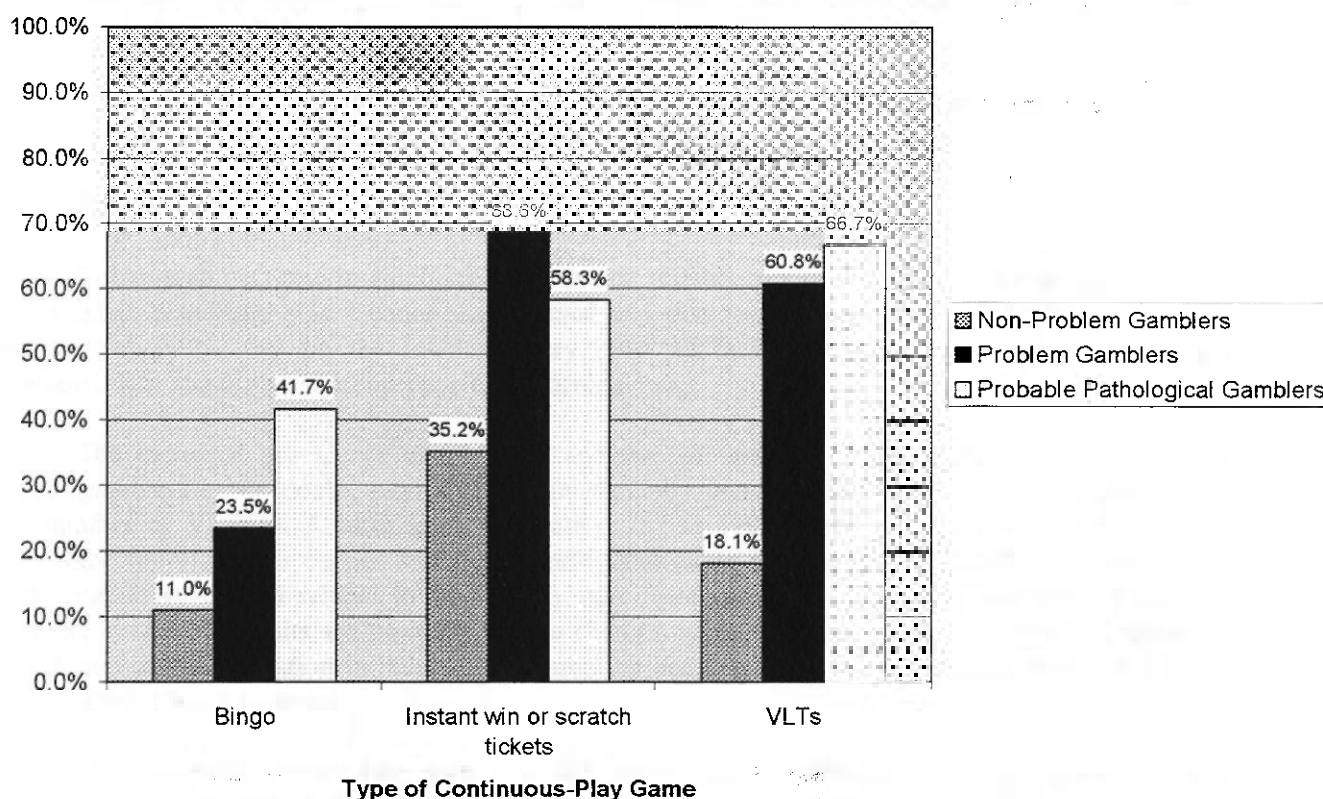
Current Gamblers' Gambling Activities by Survey Year



When looking at gambling activities for gamblers with problems, the study shows that gamblers with problems are more likely to engage in almost all forms of gambling asked about; and in particular, they are more likely to report participating in continuous-play forms of gambling. Continuous-play forms of gambling are those games that include repeated sequences of wager, play, and outcome (win or loss) within a relatively short period of time. Figure 5 shows the three most common continuous-play forms of gambling reported by gamblers with problems in the 1998 study by level of gambling problem. VLTs, instant-win or scratch tickets, and bingo are the three most common continuous-play games and clearly both problem gamblers and probable pathological gamblers participate more in these gambling activities than non-problem gamblers.

FIGURE 5

Percentage Who Bet on Continuous-Play Games by Level of Problem Gambling



2. Expenditures on Gambling

Cash spent on gambling activities is an indication of interest and involvement in gambling¹. Both studies asked people how much money they spent on various gambling activities in a typical month. From 1994 to 1998, average monthly spending actually decreases for 13 of the 20 gambling activities asked about, which is consistent with the decrease in participation in many gambling activities. Average monthly spending increases from 1994 to 1998 for only seven gambling activities: VLTs; games at casinos outside Alberta; games at local casinos; sports with a bookie; outcome of sporting events (i.e., with friends, family); card games in card rooms; and Sport Select. Over the same period, the number of VLTs has increased from 1,767 to 5,957; a number of changes to in-province casino regulations have increased betting limits, hours of operation and players access to funds. Similar steps to increase the attractiveness of other gambling products (horse racing, bingo and charity gambling) have also occurred where expenditures have declined.

¹ This use of expenditure information is common in the literature on problem gambling. Also, see Chapter III. Research Issues.

In the 1998 study, the average monthly spending patterns vary considerably between non-problem gamblers and probable pathological gamblers. Not surprisingly, probable pathological gamblers spend more on average each month on almost every type of gambling activity. The difference is most noticeable for wagering on VLTs: probable pathological gamblers wager \$381.50 on average each month, whereas, non-problem gamblers wager \$3.14.

Together, current problem and probable pathological gamblers represent 4.8% of the sample, yet they contribute 17% of the total amounts spent on gambling.

Implications

The overall decrease in gambling participation reflects continued change in the gambling scene. It is possible that disposable income has declined and that people spend less on gambling activities. Another possibility may be that public outcry over VLTs has increased awareness of the risks associated with gambling, so more people are turning away.

The increased prevalence of VLT use and the increased expenditures on VLTs among adult Alberta gamblers is, no doubt, related to the substantially increased availability of this product. The total number of VLTs in Alberta increased from 1,767 in 1992-93 to 5,957 as of September, 1997. The number of VLTs was capped at 6,000 in 1995 after initial plans called for 8,000 machines. Some of the regulatory reform related to casino play *may* have resulted in increased spending in casinos; however, the casino results are mixed (e.g., the changes in expenditure are not statistically significant, adult Albertans' participation in local casino gambling has declined while their participation in casinos outside Alberta has increased).

Study findings corroborate other research suggesting a relationship between continuous-play games and problem gambling. Continuous-play games appear to pose some risk for development or maintenance of problem gambling. Among these games, VLTs appear to be more closely related to problem gambling than other continuous-play games.

Consistent with the decrease in participation, there appears to be a decline in spending on several gambling activities; however, the gambling activities that increased in expenditures were VLTs and gambling at casinos both outside Alberta and locally. Not unlike people with alcohol problems who account for a large share of alcohol expenditures, problem gamblers and probable pathological gamblers account for more of the expenditures on gambling, in particular for continuous-play games such as VLTs. The higher expenditures on gambling likely place stress on the problem gambler's family, work, and emotional life.

D. Behavior of Gamblers

The 1998 study findings support the findings from other research, including the 1994 study that links an early gambling experience with problem gambling. For most gamblers, their first experience with gambling was playing cards or board games for money with family or friends during childhood or

adolescence. However, compared to non-problem gamblers, probable pathological gamblers were more likely to have had this experience when they were 10 years of age or younger.

The most common reason reported for gambling by all three groups of gamblers (non-problem, problem, and probable pathological) was "to win money" followed by "for entertainment or fun". However, non-problem gamblers were more likely to report gambling to support worthy causes. As well, most gamblers (all three groups) were more likely to report gambling with others than alone. Of note is that probable pathological gamblers were more likely to report gambling with friends or co-workers than were the other two groups of gamblers.

1. Problem Gambling Behavior

The SOGS-R was used to identify individuals with gambling problems based on their reported dysfunctional behavior. Such behavior includes: chasing gambling loses by returning to play another day; spending more time and money than planned; lying about winnings; hiding evidence of gambling from family members; missing work because of gambling; and borrowing from a variety of sources to finance gambling or to pay gambling debts.

In terms of problem gambling behavior, in the 1998 study, both groups of gamblers with problems scored highest on spending more time or money gambling than intended; going back another day to win money that was lost; and claiming to be winning when they were losing. As well, probable pathological gamblers were more likely than non-problem gamblers to have had problems with the law (although this is a relatively small percentage), and to have experienced one of five dissociative states, such as losing all track of time or feeling like another person while gambling. Although it is apparent that many probable pathological gamblers (53%) are aware that their gambling is causing them problems, few (22%) claimed they have ever wanted help to stop gambling, and fewer still (11%) have sought help.

Comparing the SOGS-R items for both studies shows that from 1994 to 1998, significantly fewer problem gamblers spent more time or money gambling than intended; more felt guilty about gambling; fewer borrowed from their spouse or partner; and more obtained cash withdrawals on credit cards.

Implications

Early exposure to gambling, especially for probable pathological gamblers, suggests that efforts to prevent an early gambling experience might prevent the onset of later problems with gambling. This finding is consistent with that in alcohol and drug addiction research and supports early intervention efforts and a focus on youth, especially for prevention programs. It is also interesting to note that more problem gamblers feel guilty about their gambling and fewer are borrowing from their partners. Together with the finding that few problem gamblers have sought help, it might suggest that many problem gamblers are aware that they have a gambling problem, but feel ambivalent toward getting help.

E. Alcohol, Tobacco and Drug Use

Non-problem gamblers are over 1½ times more likely than non-gamblers to be both frequent (i.e., weekly or daily) and heavy drinkers (i.e., 3 or more drinks/session). Compared to non-problem gamblers, probable pathological gamblers are about 1½ times more likely to be both frequent and heavy drinkers. As well, probable pathological gamblers are 2 times more likely than non-problem gamblers to be smokers.

Implications

This is consistent with the research literature that suggests some association between substance use problems and gambling problems. Moreover, it suggests that treatment of gamblers needs to consider the possibility of multiple addictions.

F. Profile of Probable Pathological Gamblers

When the 1998 findings for the two most divergent groups of gamblers are compared (i.e., non-problem gamblers compared to probable pathological gamblers), an interesting profile emerges of the gambler with more severe problems.

In comparison with non-problem gamblers, current probable pathological gamblers are more likely to:

- be male; be single, divorced or separated; be under 30 years of age; be Aboriginal in ethnic origin; have an annual household income under \$20,000; live with at least one other person under age 18; be Catholic; be unemployed; and have lower education.

In terms of gambling activities, probable pathological gamblers are more likely than non-problem gamblers to:

- play all types of gambling activities; play continuous-play games such as VLTs; play VLTs, local casinos and instant-win or scratch tickets on a weekly basis; spend 3 or more hours at a gambling session, have higher average monthly expenditures on VLTs and casinos; have their first gambling experience at 10 years of age or younger; play cards or board games for money with family or friends as their first experience; and gamble with friends or co-workers.

In terms of general health, compared to non-problem gamblers, probable pathological gamblers are more likely to:

- report being generally or very unhappy or dissatisfied with their lives; admit feeling anxious, worried, upset or depressed almost always or most of the time in the past 12 months; smoke daily; be heavy drinkers; have difficulties with family or friends related to their substance use; and have driven impaired.

Implications

This evidence suggests that probable pathological gamblers are characterized by a complex pattern of social, behavioral, and health concerns. What is not clear is the extent to which these patterns overlap or which ones are truly important for programming purposes. Analyses of the characteristics of the different sub-groups of gamblers is useful for identifying potential high-risk groups to target preventive and educational problem gambling awareness programs. It is also important to ensure the development of effective treatment services for problem gamblers. For example, the association between probable pathological gambling and early exposure to gambling suggests that it is important to target parents and other key people around youth in gambling prevention efforts. To identify the most pertinent risk factors, additional analyses of both the 1994 and 1998 studies are needed.

CHAPTER III

RESEARCH ISSUES

Succinctly put, this study was designed, first to determine the prevalence of gambling and problem gambling among adult Albertans and second, to compare the results to the 1994 study in order to determine what changes had occurred. Two key themes emerged in the course of AADAC's discussion of the study results, their meaning and program implications.

First, the answers provided by the study prompted new questions. The nature of the questions shifted from "what are the facts?" to "what are the connections between gambling activities, people, families and communities?" Second, in interpreting the results, staff had considerable discussion about the definition of gambling, expenditures on gambling and how to match clinical observations about problem gamblers with observations based on standardized instruments like the SOGS.

The study of gambling and problem gambling has evolved in the past four years and, in AADAC's view, needs to evolve considerably further if it is to remain a useful tool for program development and review. This section reviews the research issues and experience with one focus to improving future research and another to providing best advice on how to use the currently available information.

A. Findings Needing Further Research

From a program perspective, section "F. Profile of Probable Pathological Gamblers" raises questions of which factors listed in the profile are important and which ones help us assess the connections we need to understand. While program staff can use the profiles as a useful starting point in developing, targeting and refining programs, a lot of staff effort in sorting out which of the many factors identified are important can be reduced by identifying "risk factors." The first step in this task is to identify a useful model about gambling problems and the simplest second step is to re-analyze the existing data using, to the extent possible, the model. A third, long-term step, is to conduct new research.

Politzer and associates (1992) suggested the use of an "epidemiological model" to organize research for gambling addictions. The model was originally developed to organize health research into physical disease and has long been used in addictions and mental health research. It has also provided a helpful framework for programming (e.g., *Prevention in AADAC: A Vision for Success*). Politzer, et al.'s article provides a useful starting point for organizing problem gambling research, and should also be considered as "best advice" for program and policy development purposes. Epidemiological frameworks identify three main components:

- **agents** (e.g., bacteria, viruses, genetic code for physical disease; ethanol for alcohol addiction and gambling products for gambling addiction);
- **hosts** (i.e., the affected person's biological, psychological and social makeup); and
- **environments** (the environments that the agents and hosts share, including micro-settings like the man-machine interface on electronic and mechanical gaming devices, gambling settings, family and other social relationships and the wider network of policies and programs).

Typical epidemiological findings show that focusing on agents alone, hosts alone, or environments alone is not useful. The most useful research and program implications are found in the interaction among agents, hosts, and environments.

Risk factor analysis is used to identify elements in agents, hosts and environments that show higher or lower odds of acquiring a disease or condition. We can do two things by identifying the aspects of hosts, agents and environments that are most closely related to problem gambling. First, we can use the information to target programs to those in highest need of services. The situations, behaviors and characteristics of people identified as "at risk" are only tools for searching out those at higher risk and must be accompanied by sound assessment. Second, we can use the information to develop better research to understand how different risk factors can be moderated so that services are less likely to be needed. Some initial aspects of risk factor analysis can be conducted on the currently available data from the Wynne study.

Future research will have to be designed to establish the causal links to gambling addiction among agents, hosts and environments. Causal research is often experimental. Laboratory research such as that under way at Dalhousie University and the University of Calgary (both are examining aspects of VLT play) provide other aspects of risk research as does the Alberta Gaming and Liquor Commission's recently-announced research into slowing the speed of VLT play. It would be highly useful if similar studies could be done with other forms of gambling as the "agent."

The adoption of an epidemiological framework for gambling research can be a long-term matter. As a first step, AADAC supports re-analyzing the 1994 and 1998 Alberta prevalence study research within an epidemiological framework. It also encourages the work of independent researchers in this area.

Staff also had discussion about the apparent discrepancy between declining prevalence of gambling and problem gambling and the increase in Alberta Gaming and Liquor Commission (AGLC) revenue from gaming. Adult Albertans' expenditures on gambling show increases or decreases for the kinds of games regulated by AGLC, but the respondents' self-reported estimates of expenditures are very different from AGLC revenue figures. Surveys of the public about spending on alcohol and drugs typically underestimate real spending. Wynne (1998) notes a similar pattern in gambling research. It should be pointed out that both the 1994 and 1998 studies assessed a wide variety of gambling activities that do not provide revenue to the government, and that expenditure information in the study was not intended designed to compare to government revenue. The discrepancy may be of some interest and may be worthy of future research.

B. Definitions and Research Development

Clear definitions of terms are key to developing the specific questions asked on questionnaires. Specific questions, in turn, are key to collecting data that are comparable across individuals in a study and across studies, and that can be meaningfully interpreted by program staff.

AADAC staff had an internal discussion about whether "stocks, options and commodities" should be considered a form of gambling. In the 1994 and 1998 research, gambling on stocks, options and commodities was included near the end of a list of other activities that people could gamble money

on. Interviewers were told to record regular buying and selling of stock in tandem with following the stock market regularly and often acting on "hot tips" as a gambling activity, but to exclude regular contributions to RRSPs or mutual funds.

AADAC's research staff reviewed the internal discussion with Wynne Resources, and a definition of gambling activities was incorporated in the Methodology section of Part II of the full report entitled *Adult Gambling and Problem Gambling in Alberta, 1998* (Wynne Resources Ltd & AADAC, 1998). Wildman (1998) notes that "gambling includes such activities as playing slot machines" but excludes "crossing the street and getting married" and that stock market and real estate speculation may occupy a "grey area" about which little is known. Peoples' perceptions of what constitutes a "gambling activity" vary; for instance, some might consider the purchase of stocks to be a form of investment rather than gambling per se. Clearly, some observers consider some forms of "playing the market" to be gambling. The Council on Compulsive Gambling of New Jersey's website (www.800gambler.org/stmgamb.htm) describes a pattern of stock, bond, and futures market purchasing that self-reported problem gamblers view as a form of gambling, not investment. Part of that pattern of investment is focused on the "action" in market play. In particular, "investment goals are unclear; they are in it for the feeling it gives them as they experience the highs and lows and struggles surrounding the play." Just as clearly, most Chambers of Commerce would resist describing "playing the market" as a form of gambling.

Having raised the issue of definitional clarity with "stocks, options and commodities," it is important to point out that a number of other useful clarifications to gambling prevalence instruments should be addressed. For instance, "gambling in casinos" includes a range of other gambling activities and a careful analysis of gambling prevalence instruments could point out other issues. The extent of activities covered also presents challenges; for example, new research (Schaefer and Aasved, 1997) describes a form of gambling among sports card collectors. From an epidemiological and addictions programming perspective, the amount of "action" in an activity is an important element of gambling (Politzer, et al., 1992) but this element has not yet been incorporated into gambling prevalence research instruments.

AADAC's best advice on interpreting the prevalence of gambling on stocks, options and commodities is that the current research lacks a common agreement on where gambling ends and other forms of risk-taking begin, and the research community needs to address the issue. Including this particular question has a minimal effect on estimates of the prevalence of participation in gambling and no effect at all on estimates of the prevalence of problem gambling. However, longer or shorter lists of "gambling activities" are likely to result, respectively, in higher or lower rates of gambling. The broader issue raised by the discussion is that the gambling prevalence instruments currently in use are "first generation" tools. While they have served well in advancing the field, the new information we require for programming will require new tools.

A second round of discussion of the results surrounded making sense of "expenditure" information collected in the surveys. A number of researchers have used different methods to estimate the proportion of total gambling expenditures contributed by problem and probable pathological gamblers. This measure is important because it helps gauge the extent to which different types of gambling activity in different kinds of settings are attractive to problem and probable pathological gamblers. This information, in turn, is useful in setting policy and regulations. Wynne (1998), Lesieur

(1997) and Grinols (cited in Lesieur, 1997) all provide estimates of the proportion that "problem gamblers" contribute to total gambling expenditures. However:

- some estimates include *gambling on stocks, options and commodities*;
- some include all "problem gamblers" (anyone with a SOGS score of 3 or more; that is, Problem Gamblers and Probable Pathological Gamblers); and
- it is unclear whether the three approaches count expenditures on the same gambling activities.

A journal article written by Blaszczynski et al., (1997) critiques the use of survey items on gambling expenditures like those used in the 1994 and 1998 studies. This article was received by AADAC on May 27, 1998, too late to be considered in Wynne's report. The researchers provided university students with five vignettes describing different gambling expenditure patterns of a fictional person. Gambling expenditure estimates based on the vignettes varied considerably. Some students considered only the original investment, others considered the original investment minus residual holdings at the end of the session (the more accurate estimate of the direct costs of gambling to the gambler), others factored in winnings (some added winnings, some subtracted them) and so on. The financial accuracy of expenditure information gathered in this way is clearly suspect. However, this research seems to imply that very heavy gamblers underestimate their expenditures on gambling more than less heavy gamblers do. In alcohol and other drug addiction research, some under-reporting of substance use is noted and under-reporting appears to be higher among very light and very heavy users. Future studies that include expenditures on gambling should first re-develop the questions that Blaszczynski et al. find inaccurate and then test the degree to which under-reporting is related to the intensity and frequency of gambling.

CHAPTER IV

RECOMMENDATIONS

AADAC has the mandate to co-ordinate, monitor, and oversee the provision of prevention and treatment services in the area of gambling. In 1994, discussions between Alberta Lotteries and Gaming and AADAC resulted in four strategies being identified to address problem gambling in Alberta: (a) education and prevention; (b) treatment; (c) training; and (d) research. The study implications and suggested recommendations are outlined below in terms of these four strategies.

A. Recommendations for Education and Prevention

Recommendation 1: In order to ensure public awareness and understanding, AADAC should continue to develop, deliver, and enhance its general awareness and education programming on problem gambling.

Rationale: Participation in gambling activities has declined significantly since 1994. In part, this may be due to an increase in general awareness of the risks associated with gambling as a result of public attention to the issue of VLTs and due to AADAC's education and prevention efforts over the past few years. To maintain or further increase the level of awareness, it is important for AADAC to continue its education and prevention efforts. Furthermore, the results support other study findings linking early gambling experience with later development of gambling problems. This suggests that family environment is important in the early socialization of children to gamble. AADAC prevention efforts could target parents and other key influencers of youth about the risks of early exposure to gambling and focus on building resilient youth whom later become addiction-free adults.

Recommendation 2: For those at risk for developing gambling problems, AADAC should continue education and prevention initiatives that support early recognition, intervention, and referral.

Rationale: Although not statistically significant, an increase in the percentage of gamblers with more serious gambling problems is revealed in the study. To prevent gamblers from developing problems, and to prevent those who already have problems from developing more severe problems, it is important for AADAC to educate those at risk for problems as well as those in a position to recognize, intervene and refer individuals for help. For example, findings indicate that those with more severe gambling problems often gamble with friends or co-workers. In view of this, AADAC might develop prevention initiatives with staff in employee assistance programs in the workplace. As well, server intervention programs have been well received in the gaming industry in Alberta and, in the hospitality industry, they have demonstrated their effectiveness in reducing alcohol problems.

B. Recommendations for Treatment

Recommendation 3: AADAC should continue to ensure there are a range of treatment interventions available to match the level of gamblers' treatment needs.

Rationale: The study reveals that gamblers with more serious problems are aware that they have a gambling problem and may even feel guilty about their gambling, yet they are reluctant to seek treatment. Recognizing such ambivalence, AADAC should continue development of a self-directed gambling treatment strategy that is currently underway. Combined with early intervention, this may help some problem gamblers to take action at an earlier stage of problem development, thereby preventing their gambling problems from becoming more serious.

Recommendation 4: AADAC should continue to screen all clients for multiple addiction problems and ensure an integrated approach to treatment services.

Rationale: The study shows that pathological gambling is often accompanied by heavy use of alcohol, tobacco and, to a lesser extent, other drugs for some individuals. Furthermore, AADAC treatment figures indicate that, for some clients, gambling problems are sometimes not revealed until later in treatment, suggesting these clients do not recognize or disclose their gambling problems at admission. An integrated approach to treatment would help to ensure that multiple addiction problems do not go undetected. In this way, substance use and gambling would be considered at all points in the treatment process, from admission to discharge.

C. Recommendations for Training

Recommendation 5: AADAC should continue to target education and training strategies that support early recognition, intervention, and referral for those at risk for developing gambling problems.

Rationale: AADAC has played a role in assisting, educating, and training those who can intervene at the community level. Individuals at risk for, or already experiencing, problems can be readily identified, effectively supported, and appropriately referred by those in a position to recognize gambling problems in the course of their day-to-day work. Staff in gaming venues, financial institutions, human services, health care, workplace, and employee assistance programs, as well as family members, can (and already do) serve as contact points for information, intervention, and referral for those with gambling problems.

D. Recommendations for Research

Recommendation 6: AADAC recommends the adoption of an epidemiological framework for gambling research. As a first step, AADAC supports re-analysing the 1994 and 1998 Alberta prevalence study research within an epidemiological framework, and we also encourage the work of independent researchers in this area. AADAC recommends that this framework be used to guide policy and program development.

Rationale: The epidemiological framework has been widely used in health, mental health, and addictions research and programming. It has also been recommended by gambling research professionals for investigations of problem gambling. Furthermore, this replication study has highlighted some demographic, behavioral and other characteristics that may be important in identifying risk factors or high-risk groups to potentially target prevention and treatment efforts. However, these characteristics need further exploration to ensure that they are true risk factors

and not simply flags for underlying risk factors. The public and research consumers seem to expect research comparable to that found in other addictions. Because the gambling research field is young, it cannot meet these expectations without substantial support and time. The results of this report provide a descriptive overview of the findings and are a beginning in this vein.

Recommendation 7: AADAC recommends the review and refinement of the research methodology and instruments to measure problem gambling in the general population before the next prevalence study in 2002 or 2003. Because this work will take time, and policy and program decisions need to be made now, AADAC also recommends a "best advice" approach to interpreting the current gambling research.

Rationale: In the gambling research field there is inconsistency in measurement of gambling activities. In the 1998 study, this inconsistency is most obvious for the gambling activity of stocks, options, and commodities, but other gambling activities are also ambiguous. For example, wagering on games of skill, cards or board games, and outcome of sports events, are each open to interpretation as to whether or not a specific practice within the category is, in fact, "gambling." This stems from differing or ambiguous definitions of gambling. What is needed, then, is a consensus in the gambling field on a definition of gambling which would facilitate clearer and more consistent operationalization of gambling activities for studying gambling. Related to this, many research instruments used in gambling and problem gambling research are "first generation" instruments that can be improved. In view of this, specific recommendations are as follows:

- AADAC recommends that future gambling studies should clearly define gambling and gambling activities.
- AADAC should support the recommendations made by Blaszczynski et al., (1997) on revising gambling expenditure information and recommends improved expenditure questions in any future research studies.
- AADAC should continue to support the development of a Canadian gambling prevalence instrument.

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