Student Gambling Report, 2005

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AFM Research

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Addictions Foundation of Manitoba

The Addictions Foundation of Manitoba is responsible for providing rehabilitation and prevention services for Manitoba citizens relating to substance use and problem gambling. *The aim of our research is to better inform rehabilitation practice, public education, and health policy.* Research fostered by the foundation contributes to a better understanding of how individuals, families, and communities can most effectively respond to harm associated with substance use and problem gambling.

VISION:

Leading the way to an addiction free society

MISSION:

> *To contribute to the health and well being of Manitobans by reducing the harm associated with alcohol, other drugs and gambling through education, prevention, rehabilitation and research.*

VALUES:

- *We respect the dignity of each individual*
- *We are guided by ethical standards and integrity*
- *We are client centred in our service*
- *We endorse relationships with the self help community*
- *We contribute to the development and sustainability of healthy communities*
- *We encourage partnerships with other organizations*
- *We promote continuous improvement, life long learning, research and best practice*
- *We support early intervention and harm reduction*

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Executive Summary

As a recognized leader across Canada in problem gambling services, the Addictions Foundation of Manitoba (AFM) strives to meet the needs of Manitobans through research, direct rehabilitation, prevention, education and innovative programming services. The mandate of the AFM includes informing policy makers and the general public about the prevalence of problem gambling, while providing knowledge, support, prevention, and rehabilitative services to Manitobans. The purpose of this research is to present current information about the rates of gambling activity in Manitoba youth and to examine the implications of gambling on this population. This report provides an overview of the findings of 6673 students from junior and senior high schools. Although the focus of this report is on gambling and related behaviors, students were also asked questions about alcohol and drug use, parental monitoring, affected issues, delinquent behavior and recreational activities. A detailed report specific to alcohol and drug use is available through the AFM website (www.afm.mb.ca).

Summary of findings:

- In the preceding year, 38% of students in grades 7 to Senior 4 reported gambling in some form.

- Males reporting gambling significantly more than females.

- Cards, sporting events, and raffles/silent auctions were the most common forms of gambling activity followed by bingo, lottery tickets, computer/video games and scratch tabs/break opens.

- Students generally gamble at home and with their friends or family members although a small number are engaging in gambling activities in bars or casinos.

- Problem gambling was displayed by 2.3% of the sample as measured by the DSM-IV-MR-J with males being significantly more likely to display problem gambling behavior.

- Problem gamblers were more likely to have started gambling at a younger age.

- Problem gamblers were more likely to have consumed alcohol, to be heavy drinkers and to show signs of alcohol dependence.

- Problem gamblers were more likely to have used marijuana, smoked cigarettes, and used other illicit drugs.

- Problem gamblers had lower grades and a higher percentage were skipping class, failing school, and engaging in acts of delinquency.

- A higher percentage of problem gamblers had been prescribed medication for mental health and behavioral problems (depression, anxiety, ADHD, ADD, and eating disorders).

Introduction

Over the past several years we have seen debate over the pros and cons of gambling as a form of entertainment. On the one hand, gambling is viewed positively in that the majority of gamblers do so for fun, employment opportunities are created, and social/community programs are funded. On the other hand, gambling is viewed as a problem for a number of people (and their families and friends) with negative consequences.

In Canada, gambling generates a source of revenue for the provincial governments. For the year 2002, 18.9 million (75%) of Canadians 15 and over had gambled at some point during the year (Statistics Canada, 2003). According to the Canada West Foundation there are 87,000 gambling machines, 33,000 lottery ticket centres, 60 permanent casinos, 250 racetracks and teletheatres and 25,000 licensees permitting groups to run a variety of gambling activities in Canada (Azmier, 2005). Last year in Canada net gambling revenues were $6.3 billion and of that, Manitoba generated $245 million. Given the profits generated by the industry and the increase in gambling activity across Canada, analysts are beginning to have concerns about the impact of gaming. A recent Canada West Report concluded that Manitoba, Saskatchewan, and Alberta have the highest rates of at-risk gamblers (assessed as low, medium or high risk) and problem gamblers (Azmier, 2005).

Although gambling has been traditionally thought of as an adult behaviour, research demonstrates that it remains a popular activity amongst adolescents. It is now well substantiated that children and adolescents worldwide are engaging in gambling activity. Prevalence studies conducted in North America, Australia, New Zealand, and Europe confirm that youth gambling rates are on the rise (see Youth Gambling International for an overview). Statistics indicate that youth are much more likely to develop problems with gambling when compared to the adult population (American Psychiatric Association, 2001)[1]. Numerous studies have reported that adolescent problem gambling rates are anywhere from 2 to 5 times higher than adult estimates (Wiebe, Wynne, Stinchfield, & Tremblay, 2005). In a meta-analysis by Harvard Medical School the authors found rates of adolescent gambling problems to be more than double that of adults (Shaffer, Hall, & VanderBilt, 1997).

Prevalence of adolescent gambling activity has been measured across Canada with varying results (see Appendix A for an overview). Rates of adolescent gambling for the previous 12 months have ranged from 41% (The Alberta Youth Experiences Survey, 2002) to 65% (Newfoundland and Labrador Student Drug Use Survey, 2003). Correspondingly, reported rates of adolescent problem gambling have varied across provinces ranging anywhere from 3.8% (The Alberta Youth Experiences Survey, 2002) to 2.1%[2] (Nova Scotia Student Drug Use: Technical Report, 2002). In Manitoba 4,500 students were sampled in 2002 from a cross-section of high schools (Patton, et. al., 2002). Fifty percent of all students said that they had gambled or bet on something of value in the past 12 months. One in five students had played lotteries with 71% of those students being under 17 years of age. About 5% of females and 11% of males indicated that gambling had been a problem for themselves (3% indicated that it was a moderate or serious problem), while almost one fifth of the students reported that gambling was a problem for their friends. Males were about twice as likely to think that friends had a serious gambling problem.

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[1] It should be noted that problem gambling rates are measured with different instruments for adults and adolescents which could contribute, at least in part, to this disparity.

[2] Rates can be difficult to interpret because of combined prevalence rates (problem and at-risk) and differences in terminology associated with the various instruments (pathological vs. problem).

Approximately 15% of students thought that a family member's involvement had been a problem for them.

Research results across Canada have been fairly inconsistent due to the manner in which problem gambling has been operationally defined, methodological differences in sampling (telephone vs. survey), and the array of survey instruments that have been used to measure the construct (SOGS-RA, DSM-IV-J, GA-20). At present, any comparisons between prevalence rates should be interpreted with caution. Canadian researchers are in the process of developing the Adolescent Problem Gambling Index (APGI) to facilitate a better understanding of the consequences associated with the proliferation of gambling opportunities in Canada (Wiebe et al., 2005). The project is a collaboration between the Canadian Centre for Substance Abuse and six provincial agencies. The aim is to reconceptualize and operationally define the gambling construct, pilot the survey instrument, and test the reliability and validity of the measure. It is expected that this instrument will allow researchers to make reliable comparisons across provinces in the future.

While problem gamblers make up a small percentage of the total population, the effects of their gambling can negatively impact families and community. Problem gamblers are more likely to be depressed, involved in criminal activities, have substance abuse issues and be involved in many other risky behaviors. As the Crown Agency within the province mandated to provide services related to problem gambling, the Addictions Foundation of Manitoba has an important role in addressing the harm associated with gambling through research. It is intended that this report will add to the literature by presenting an overview of gambling activity in Manitoba for young adults between the ages of 11 and 19 years of age.

Method

A total of 640 schools, from both the public and private systems were included in the sampling framework. Schools with less than 100 students were removed because of concerns about anonymity. Schools were randomly selected based on a percentage of cases needed to achieve the desired sample size. From this selected sample one school no longer existed and four declined to participate. The final sample included public schools, schools within the French immersion program, francophone schools, independent schools (i.e., from the catholic school system), and private schools. French immersion schools were offered the opportunity to have the survey in French (one selected this option), and all francophone schools received the surveys in French.

Selected schools were asked to provide a list of classrooms. Classes were randomly selected and in cases where there were fewer than three classes per grade all of the students in that grade were tested.

Questionnaire Development.

The questionnaire (see appendix B) was based on previous surveys, additional concepts from the literature, and screening tools that have been used in other provinces and countries. One of the more important additions was the use of screening instruments to identify risk levels for alcohol and drug-related problems. In addition to direct measures of use and abuse, we were also interested in risk and protective factors, as these have been identified in the literature as influencing the level of involvement in addictive behaviors. The following list describes the measures referenced in this report.

Measures

Problem Gambling. The DSM-IV-MR-J (Fisher, 2000) was developed to measure problem gambling in adolescence and is based on the adult diagnostic criteria for pathological gambling defined by the Diagnostic and Statistical Manual for Mental Disorders-IV (American Psychiatric Association, 1994).

Alcohol Dependence. The Alcohol Use Disorders Identification Test (AUDIT) was developed by the World Health Organization (Babor et al., 2001) to identify people with hazardous and harmful patterns of alcohol consumption and/or alcohol dependence.

Cannabis Dependence. Cannabis dependence was measured using three indicators from the Ontario Student Drug Use Survey (Adlaf & Paglia, 2001). These refer to sustained daily use, uncontrolled use and unsuccessful efforts to cut down use.

Delinquent Behavior. In order to determine whether substance use (including alcohol) is a general indicator of children in trouble, we asked about a variety of delinquent behaviors. It has been suggested that underage alcohol use and other drug use may be part of an overall pattern of delinquent behavior that includes anti-social activities such as stealing, vandalism and a variety of other illegal acts (Jessor, Donovan & Costa, 1991; Jessor & Jessor, 1977),.

Questions were related to delinquent activities such as physical fights and shoplifting as well as more serious activities such as stealing cars or starting fires. Students were asked to indicate how often they had been involved in these activities, ranging from "never" to "often". A scale score was constructed by summing the frequency across the different items. Another version of the scale was obtained by summing any indication of having been involved in the activity in the past year.

Specific details about the data collection process are included in Appendix C. In brief, the sample schools were sent explanatory letters, with instructions for the administration of the questionnaires, and enough copies for the students that were listed in the selected classrooms. One school division required parental consent; therefore the appropriate forms were prepared and sent to the schools in that division. Instructions reinforcing the confidential and anonymous aspect of the survey were included for staff to read prior to administration of the instrument.

Description of the sample schools.

A total of 58 schools participated in the 2004 survey. In contrast with previous high school surveys in Manitoba, a larger proportion of the schools were from urban areas, reflecting the nature of the population distribution in the province. Table 1 shows the distribution of the schools and the proportion of the sample in various categories. Almost 58% of the students came from urban schools, in Winnipeg or Brandon. Although there are fewer urban than rural schools, these schools are larger and therefore encompass a larger proportion of the sample.

Table 1. Proportion of student sample by location, type, and AFM region

	Schools	Percent of sample
Location		
Rural	35	42.1
Urban	23	57.9
School Type		
Regular	44	76.4
Francophone	5	6.9
Immersion	6	12.2
Independent	3	4.4
AFM Region		
Winnipeg	46	82.7
Western	9	14.2
Northern	3	3.1

Validity Check.

A major concern when sampling illegal and potentially delinquent behavior is the accuracy (and therefore reliability) of the data provided. To encourage accurate responding each student was provided with an envelope to seal their questionnaire prior to returning it to the administrator. Instructions, both on the cover of the survey and those provided by the individual administering the survey emphasized the confidential nature of the information, however we also recognize that despite these precautions adolescents may not always provide this information reliably. Therefore a fictitious drug use item was included to help identify those students who were fabricating responses. Quabaline ("quabs", "zappers") was included in the list of drugs for this purpose. A total of 62 students reported using quabaline, and their survey responses are excluded from the analyses appearing in this report.

Description of the Sample.

A total of 6673 students participated in the survey and provided valid data[3]. A detailed breakdown of their grade, usual marks, age and gender is shown on Table 2. There are roughly an equal number of males and females, and the sample was stratified by grade to ensure equal representation of each grade level.

Table 2. Number of males and females in the sample, the percent of students in each grade level and reported marks.

	Males	Females	Total
	N = 3153	N = 3411	N = 6564
Grade level			
Grade 7	14.2	14.1	14.2
Grade 8	16.9	14.9	15.9
Senior 1	17.1	15.9	16.5
Senior 2	18.4	18.4	18.4
Senior 3	17.2	18.9	18.1
Senior 4	16.2	17.8	17.0
Usual Marks			
A (80% - 100%	37.4	48.5	43.0
B (70% - 79%)	32.7	30.3	31.5
C (70% - 69%)	20.7	14.8	17.8
D (50% - 59%)	7.7	5.5	6.6
F (below 50%)	1.5	0.8	1.2

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[3] The total sample size changes slightly for each analysis because of students missing individual questions.

There are roughly the same numbers of students in each grade in the sample, ranging from about 14% of the sample in grade 7 to just over 18% of the sample in Senior 2. The sample was stratified by grade level; however, the grade 7 and 8 classes tended to be smaller in size. Most of the students report that they do quite well in school, with almost ¾ scoring As and Bs on most of their courses. Females are more likely to score As than males, with almost 50% of females in the sample reporting that As are their usual marks.

Results

Students were asked if they had participated in a variety of gambling activities in the past 12 months. Specifically, students were asked if they had "bet money on the following things in the past 12 months". Response options ranged from not at all to daily. Students were asked about each activity individually in order to ensure that they considered the various possibilities prior to making a decision about whether or not they had gambled in the past year. Table 3 shows the percentage of males and females in each grade who had participated in any of the gambling activities in the past 12 months. As a whole, almost 38% said they had gambled in the past year. This is comparable to recent statistics out of Alberta with a similar methodology where 41.2% of Alberta youth (N=3,394) in grades 7-12 reported gambling in the past 12 months (Alberta Alcohol and Drug Abuse Commission, 2002).

When we look at the breakdown by gender we find that males are significantly more likely to gamble than females (45% vs. 30%). This is consistent with the fairly established trend in the literature that overall males tend to gamble more than females and is also consistent with Alberta's results where male youth participation in gambling was higher than females (53% vs. 32%). Figure 1 illustrates the percentage of students who had bet money on the various activities in the past year. Cards, sporting events, and raffles/silent auctions were the most common forms of gambling activity followed by bingo, lottery tickets, computer/video games and scratch tabs/break opens. Slots, VLTs and Internet gambling were the least prevalent. A more detailed breakdown of the gambling activities of male and female students in each grade is provided in Table 4. The overall gender and age effects are observed for a variety of different types of gambling. Males are much more likely to bet on things like video games, cards, and sporting events while females are more likely to bet on bingo or silent auctions. It is also apparent that gambling activity increased with age. The older adolescents are more likely to gamble than their younger cohort (43% vs. 31%). A closer examination shows that gambling on certain activities increases with age (cards for money, slots, VLTs, lottery tickets, scratch tabs/break opens). This trend is especially prominent between Senior 3 and Senior 4 where we see substantial increases in playing VLTs, slots, and lottery tickets. Participation in other activities remains fairly consistent (Internet, video games, dice).

Table 3. Percent of males and females in each grade who have gambled in the past 12 months.

	Males	Females	Total
Grade level			
Grade 7	39.2	23.3	31.3
Grade 8	42.7	29.5	36.1
Senior 1	44.4	29.7	37.1
Senior 2	46.6	30.3	38.5
Senior 3	47.1	30.1	38.6
Senior 4	49.9	36.0	43.0
Total	45.0	29.8	37.4

Figure 1. Percent of students who have bet money on various activities in the past 12 months.
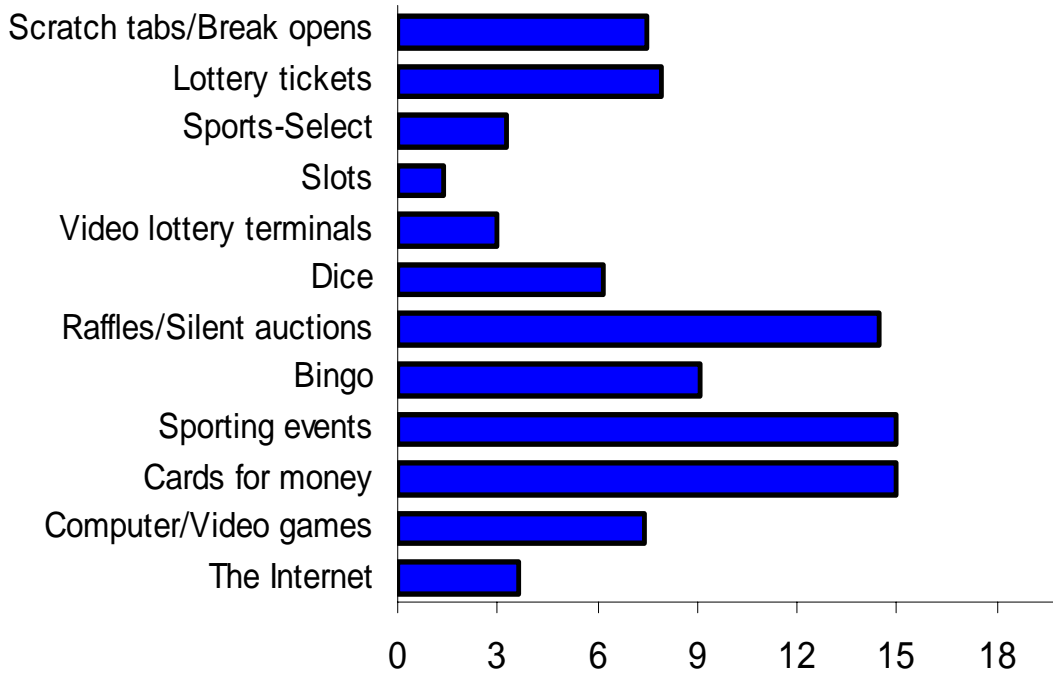
Table 4. Percent of male and female students in each grade who gambled on various activities in the past year.

Activity	Grade 7	Grade 8	Senior 1	Senior 2	Senior 3	Senior 4
Males						
The Internet	5.5	6.0	4.6	4.6	2.8	4.8
Computer/Video games	11.9	13.5	14.6	12.1	9.8	10.6
Cards for money	15.2	16.7	18.7	21.4	23.1	26.9
Sporting events	19.7	23.8	21.2	22.8	23.3	23.8
Bingo	11.4	8.5	10.8	7.0	6.2	7.8
Raffles/Silent auctions	15.4	15.4	11.7	17.2	15.9	14.4
Dice	8.1	8.8	7.9	10.5	9.6	8.2
Video lottery terminals	1.7	1.5	3.1	2.6	4.5	10.2
Slots	1.0	1.3	1.0	1.4	2.6	5.6
Sports-Select	3.6	5.0	5.2	4.6	7.4	10.0
Lottery tickets	6.9	9.8	6.9	7.0	9.3	11.4
Scratch tabs/Break opens	5.0	8.3	6.9	6.5	10.0	10.0
Females						
The Internet	3.0	3.9	1.9	2.6	2.5	1.7
Computer/Video games	3.5	5.1	2.3	3.4	2.4	2.0
Cards for money	4.6	8.7	10.3	11.9	9.9	9.0
Sporting events	9.3	9.8	7.5	9.0	7.4	6.5
Bingo	8.7	11.6	10.5	9.0	10.4	8.3
Raffles/Silent auctions	10.4	13.8	14.8	13.9	11.8	19.2
Dice	3.0	5.1	4.1	4.2	3.6	1.5
Video lottery terminals	0.4	1.0	0.8	0.5	2.5	6.8
Slots	0.2	0.4	0.0	0.3	0.9	3.0
Sports-Select	1.1	0.8	0.6	0.5	0.9	1.3
Lottery tickets	3.5	7.1	6.8	6.1	7.5	12.9
Scratch tabs/Break opens	3.3	6.5	7.0	6.8	8.5	10.3

Gambling Initiation

Table 5 gives a breakdown by gender for the age at which students first begin to gamble. Almost 10% of students report gambling before the age of 10 and close to 30% of students have gambled by the time they turn 15. The average age at which students begin to gamble is 13.4 years. It should also be noted that close to half the sample is under 15 years of age, so the numbers represented here underestimate the proportion of the sample who will have gambled by the time they reach the age of majority. What is vital to this information is the knowledge that gambling at an earlier age increases the risk of developing a gambling addiction (Derevensky & Gupta, 2004). These results underscore the need to begin gambling education and prevention at an early age.

Table 5. Percentage of students and the age at which they first gambled

	Male	Female
Before age 10	11.1	7.7
11	5.5	3.4
12	6.4	4.4
13	5.8	3.4
14	4.3	2.4
15	4.1	2.0
16	2.6	1.6
17	1.2	0.7
18 or older	0.6	0.8
Did not gamble in past 12 months	58.5	73.7

Gambling Context

As part of our efforts to understand the social context of gambling we asked students where they usually gamble and who they usually gamble with. Table 6 illustrates that the majority of students gamble at home and very few students are skipping class to gamble. Table 7 outlines who the students usually gamble with. Most students gamble with their friends and to a lesser degree with parents and family members. The percentages reflect a significant gender difference with almost 24% of male students gambling with friends compared to only 10% of females. Very few students report gambling on their own. While the tendency for adolescents to gamble with others may seem promising, research has shown that problem gamblers are more likely to have parents and friends who gamble (Gupta & Derevensky, 1998b).

Table 6. Percent of students and where they usually gamble[4].

	Males	Females	Total
At home	24.4	16.8	20.7
At school during breaks	6.6	1.9	4.3
At school-when skipping class	0.5	0.4	0.5
At work	1.5	0.7	1.1
In bars	1.9	1.4	1.7
At the casino	0.8	0.6	0.7
Other	3.5	1.4	2.5
Did not gamble in past 12 months	60.8	70.7	65.8

Table 7. Percent of students and who they usually gamble with

	Males	Females	Total
Alone	1.3	1.0	1.2
With their friends	23.8	9.8	16.8
With their parents	7.6	7.8	7.7
With other family members	5.7	5.4	5.6
Other	2.7	1.9	2.3
Did not gamble in past 12 months	58.9	74.2	66.6

VLTs and Slots

Table 4 illustrates that by Senior 4, approximately 10% of males and 7% of females have played VLTs. Additionally, 5.6% of males and 3.0% of females have played slot machines. While some of these students have already turned 18, there are still a proportion of them who are gambling in casinos or bars while underage. Figures 2 and 3 summarize the percentage of students who are under 17, 17 years of age, and 18 or older who have played VLTs. By the time students are 17 years old, some have already played VLTs and slots. In terms of gambling in general, at age seventeen, 41% of students have gambled. By the time students turn 18, that number jumps to 56%. We can see from the following figures that the jump is due, in part, to a substantial number of students gambling on VLTs and slots.

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[4] The total sample size changes slightly for each table because of students missing individual questions.

Figure 2. The percent of males and females who are under 17 years of age, 17, and 18 or older who play VLTs.
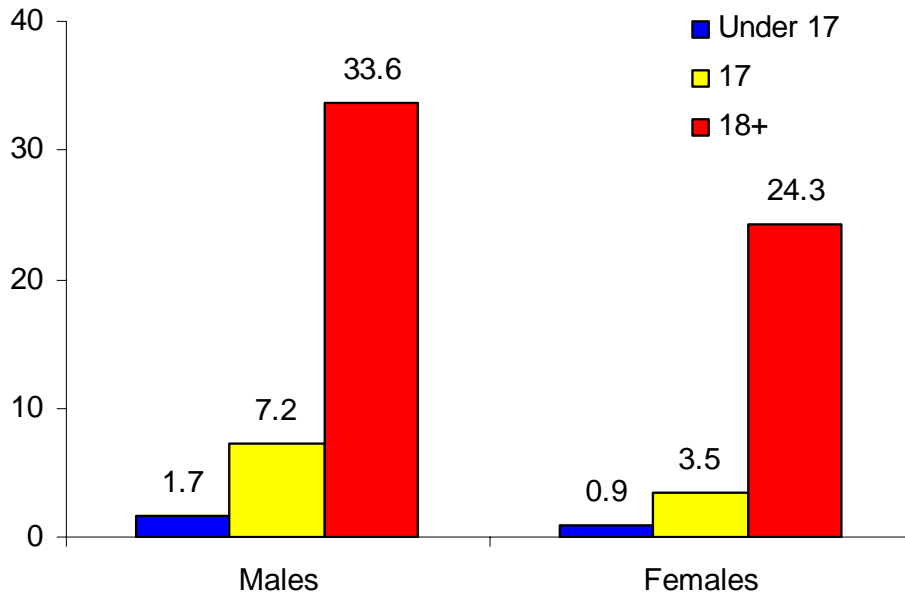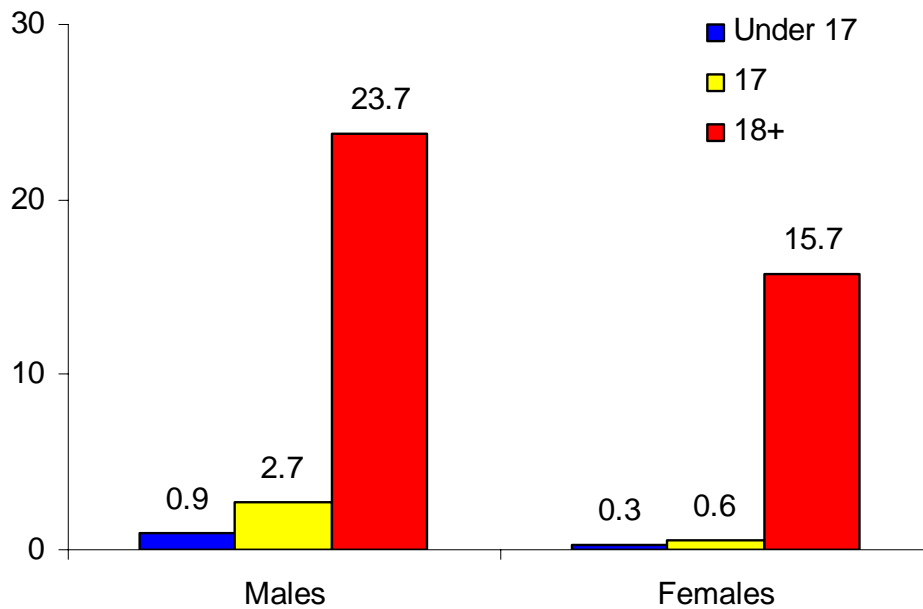

Figure 3. The percent of males and females who are under 17 years of age, 17, and 18 or older who play slots.
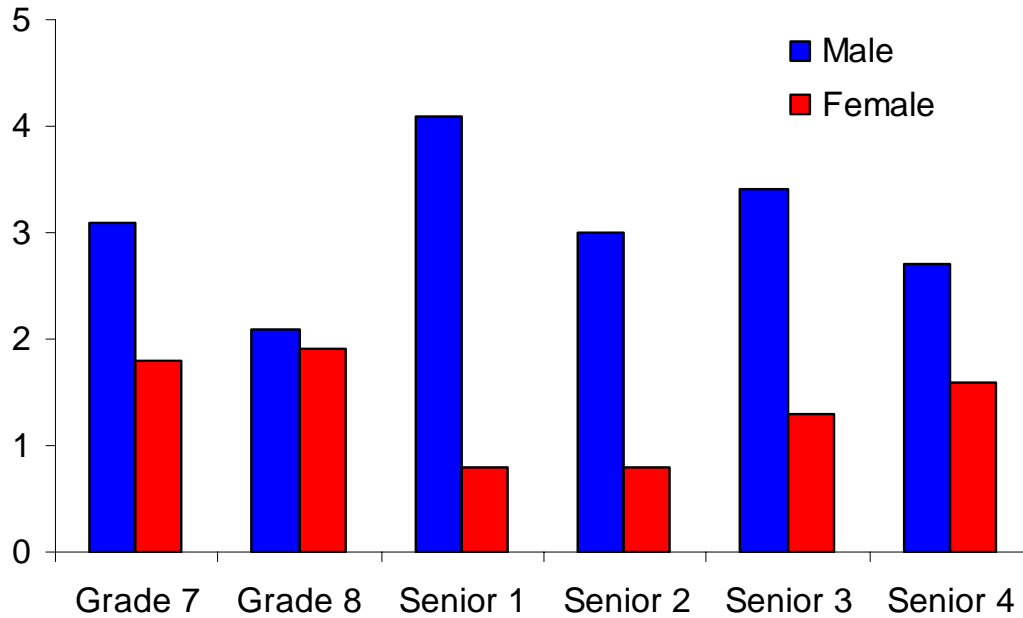
Problem Gambling

A primary concern for adolescents who gamble is the unintended consequence of developing a gambling problem. Studies have demonstrated that between 4.4% and 7.4% of adolescents are already beginning to exhibit gambling problems (Wiebe et al., 2005). In fact, adolescent problem gambling rates are generally higher than those reported for adults. The American Psychiatric Association asserts that high school and college students show the highest problem gambling rates (American Psychiatric Association, 2001). Nova Scotia reported that the proportion of individuals who are classified as at-risk gamblers declines substantially with age. The percentage of 19-24 year olds who are considered to be at risk for developing problems is 1.5 times higher than 25-30 year olds and 4 times higher than adults over the age of 45 (Schrans & Schellinck, 2004).

At present, few measures exist to measure adolescent problem gambling. The DSM-IV-MR-J is based on the adult diagnostic criteria for pathological gambling defined by the Diagnostic and Statistical Manual for Mental Disorders-IV (American Psychiatric Association, 1994). The instrument consists of 9 items derived from the DSM-IV. The items measure dimensions of tolerance, escape, chasing, preoccupation, withdrawal, deception, loss of control, illegal acts, and risking job/education/relationships. Some of the items are modified for relevance with the youth population (for example, the adolescent measure asks about illegal acts like stealing money instead of embezzlement or fraud). The measure has also been modified from its original version of dichotomous response options (yes/no) to a multiple response format (never/once or twice/sometimes/often). The measure has acceptable reliability (0.75) and validity, and the readability of the questions has been scored at 4.8 (indicating that a fourth to fifth grade student would be able to understand the questions). The items are assigned a value of "1' or "0" in accordance with the DSM-IV responses in a clinical setting. A score of four or higher classifies the individual as a problem gambler. The items have been found to effectively differentiate social and problem gamblers. The DSM-IV-J (dichotomous response options) has been shown to be a conservative measure of problem/pathological gambling when compared to the South Oaks Gambling Screen-Revised for Adolescent and the Gamblers Anonymous measure (Derevensky and Gupta, 2000). Prevalence rates reported here must be interpreted accordingly.

Table 8. Percent of students who fall into DSM-IV-MR-J categories for social and problem gambling.

	Males	Females	Total
Social gambler	39.4	25.9	32.7
Problem gambler	3.1	1.4	2.3
Did not gamble in past 12 months	57.5	72.8	65.2

Figure 4. Percent of male and female problem gamblers by grade

From Table 8, it can be seen that 2.3% of students are classified as problem gamblers with males being significantly more likely to display problem gambling behavior. Students who did not gamble were significantly younger but there were no significant age differences between social gamblers and problem gamblers. Again, it should be noted that of the current measures the DSM-IV-MR-J gives the most conservative estimate. Correspondingly, these rates may be comparably lower to prevalence studies using the SOGS-RA or GA-20 criteria. Quebec is the only other province to use the DSM-IV-J to measure problem gambling and they reported comparable rate of 2.3%. In Alberta, it was found that problem gambling behavior was displayed by 3.8% of the sample using the SOGS-RA and 5.7% of adolescents demonstrated hazardous gambling patterns (Alberta Alcohol and Drug Abuse Commission, 2002).

In Manitoba, problem gamblers reported that in the past 12 months, 91% found themselves thinking about gambling or planning to gamble; 63% needed to gamble with more and more money to get the amount of excitement they wanted; 85% had spent much more money than they planned to on gambling; 71% gambled to escape problems; 92% reported chasing loses; 80% had lied to someone close to them about their gambling; 73% had borrowed money to gamble; and for 68% of them, gambling had led to an argument with family or friends.

Problem Gambling Correlates

Age

Research has revealed that developing a gambling problem is highly correlated with the age at which the individual begins to gamble. Adolescents who begin gambling at an early age (approximately 10 years old) are more likely to be problem gamblers when compared with age-matched peers who gamble but demonstrate few gambling related problems (Derevensky & Gupta, 2004). Table 9 shows that problem gamblers are much more likely to have started gambling at a younger age when compared to social gamblers. More than 50% of problem gamblers initiated gambling activity before the age of 12 years compared with 40% of social gamblers.

Table 9. Age at which students first gamble by DSM-IV-MR-J category.

	Social	Problem
Before age 10	27.0	36.4
11	12.9	18.2
12	16.3	9.1
13	13.7	12.1
14	10.1	6.1
15	8.9	9.1
16	6.4	2.3
17	2.8	2.3
18	1.8	3.8
19 or older	0.1	0.8

In addition to the negative consequences inherent in developing a gambling addiction, it is also substantiated that adolescent problem gamblers are at an increased risk for developing a range of multiple addictions (Shaffer & Korn, 2002; Engwall, Hunter, & Steinberg, 2004). The following series of tables describe other patterns of addictive behaviours as they relate to gambling activity. In order to reflect the sample as a whole, percentages are given as a proportion of the entire sample as opposed to a percentage of those who gambled. It should be noted that some of these patterns may reflect the significant age difference between gamblers and non-gamblers with gamblers being older on average. It should also be noted that there is not a significant age difference between social gamblers and problem gamblers (both categories of gamblers are approximately 15 year of age). Therefore, although the tables describe all students, in cases where age is a covariate, discussions will focus primarily on students who reported gambling in the past 12 months.

Alcohol

The majority of studies support the findings that problem gambling and alcohol use are highly correlated in the adult population (Potenza et al., 2004; Abbott, Williams, & Volberg, 2004; Kausch, 2003). Among the college population problem gamblers are significantly more likely to be heavy drinkers and to suffer adverse consequences as a result of alcohol consumption (Engwall, Hunter, & Steinberg, 2004). Studies examining students in a similar age cohort (grades 7-12) have also found alcohol use and dependence to be associated with problem gambling behaviour (Hardoon, Gupta, & Derevensky, 2004; Kaufman, 2004).

Table 10 reveals that a higher percentage of problem gamblers have consumed alcohol, both in their lifetime and in the past year. In both cases, approximately 12% more problem gamblers have consumed alcohol when compared to social gamblers of the same age. When we examine more problematic drinking patterns such as percent consuming 5 or more, and 8 or more drinks on one occasion the percentage rises to a 25% increase.

To evaluate these consequences, 6 of the 10 items that form the Alcohol Use Disorders Identification Test (AUDIT) were included in the questionnaire. The AUDIT is a measure that has been developed by the World Health Organization, and has been widely used in surveys on alcohol use to indicate alcohol dependence or abuse. Although we did not use the full scale, responses were prorated in order to ascertain the established cut-off scores. High scores indicate alcohol-related problems that suggest the need for an assessment or counselling-type intervention. Problem gamblers score significantly higher on average on the AUDIT when compared to social gamblers.

Table 10. Alcohol use and abuse by gamblers and non-gamblers.

	Did not gamble in past 12 months	Social Gambler	Problem Gambler
	N=4067	N=2010	N=136
% who ever consumed alcohol	61.2	82.7	94.1
% who consumed alcohol in the past year	52.4	74.7	86.4
Percent drinking more than 5 drinks on one occasion.	32.4	52.6	76.3
Percent drinking more than 8 drinks on one occasion.	21.4	38.9	64.3
Mean AUDIT score	4.1	7.2	13.8

Cannabis, cigarettes, and other drugs

Problem gambling has also been associated with marijuana use, cigarette smoking, and drug use. One study found that of a cohort of adolescents seeking treatment for marijuana abuse, 22% had a gambling problem (Petry & Tawfik, 2001). This is significantly higher than prevalence in the general population indicating a correlation between gambling activity and marijuana use. In our sample, lifetime rates of marijuana use in problem gamblers were more than double that of non-gamblers. When considering gamblers as a group, the rates jump from less than 40% in social gamblers to almost 70% in problem gamblers. The rates of past year use are similarly discordant with 33% of social gamblers using cannabis in the past year compared to 56% of the age-matched group of problem gamblers.

A recent report documented that more than 40% of problem gamblers who called a gambling helpline reported smoking cigarettes (Potenza et al., 2004). In our sample, 68% of problem gamblers reported smoking in the past year compared to only 34% of social gamblers. Again, this represents double the rate of cigarette smoking in this age-matched category of gamblers.

Numerous studies into youth gambling have investigated the relationship between problem gambling and drug use. Researchers have noted that there are commonalities in the psychosocial variables that may act as a precursor to engaging in various forms of escapist behaviors. More specifically, Jacob's General Theory of Addictions (Jacobs, 1986; 1989) argues that vulnerable individuals engage in behaviors that will produce a dissociative state. The theory has been supported by empirical evidence demonstrating that adolescent problem and pathological gamblers report higher levels of dissociation and are more likely to have commorbid addictions like substance use (Gupta and Derevensky, 1998a). More specifically, the study determined a cause-effect relationship between a need to escape and gambling severity. Further studies have similarly concluded that adolescent problem gambling and drug abuse share similar etiological characteristics (Winters and Anderson, 2000). In our study it was determined that problem gamblers were more than twice as likely to have used drugs in the past year with 50% of problem gamblers reporting drug use in the past 12 months compared to 23% of social gamblers.

Table 11. Percent of non-gamblers and gamblers using cannabis, smoking cigarettes and using other drug.

	Did not gamble in past 12 months	Social Gambler	Problem Gambler
	N=4067	N=2010	N=136
Percent using cannabis ever	24.5	38.6	69.1
Percent using cannabis in past year	20.5	32.5	55.7
Percent smoking in past year	19.9	34.1	67.9
Percent using other drugs	11.9	22.8	50.4

Scholastic achievement

Pathological gambling has been found to be negatively correlated with grade point average among college students (Lesieur, Cross, Frank, et al., 1991). Consequently, we were interested in finding out whether gambling would have an effect on the student's usual grades. In this analysis we are able to compare all three groups because age would not factor in as a covariate. Non-gamblers are more likely to excel academically than social gamblers and much more likely to get higher grades than problem gamblers. Close to 80% of non-gamblers report usual grades of either A's or B's when compared to approximately 55% of problem gamblers. The converse is true when you examine lower grades. Only 6% of non-gamblers report receiving D's and F's compared to about 23% of problem gamblers. Whether or not this is a cause and effect relationship or a third variable influence, these results should raise serious concerns for parents and teachers alike about the adverse consequences of participating in gambling activities.

In addition to poor academic performance, adolescent problem and pathological gambling has been shown to result in increased behavioral problems and delinquency (Hardoon, Gupta, & Derevensky, 2004). A 1999 study found that problem gamblers were more likely to be suspended, fail a class or fail a year of school (Ladouceur, Boudrealy, Jacques, & Vitaro, 1999). Therefore, we also asked about truancy and participation in various acts of delinquency such as stealing a car, starting a fire, shoplifting, and fighting. Of the non-gamblers 40% had skipped a class compared to more than 70% of problem gamblers. Social gamblers fall somewhere in the middle with 54% having skipped a class. The same pattern is true of failing classes. Twenty percent of non-gamblers reported failing a class compared to 61% of problem gamblers and 27% of social gamblers. A mean score of delinquency was created from the total of specific acts reported. Problem gamblers had engaged in more than five times the number of delinquency acts as their non-gambling classmates and three times as many delinquency behaviors as social gamblers.

Table 12. Usual grades, truancy, and delinquency behavior in gamblers and non-gamblers.

	Did not gamble in past 12 months	Social Gambler	Problem Gambler
	N=4067	N=2010	N=136
Usual Grades			
A	46.3	40.9	18.9
B	30.4	33.2	34.8
C	16.8	17.6	22.7
D	5.7	6.9	18.2
F	0.8	1.4	5.3
Percent skipping class	38.9	53.8	71.5
Percent failing class	20.5	27.3	61.0
Average number of delinquency acts	2.7	4.9	14.8

Mental health/behavioral problems

In the adult population problem gambling has been linked to a variety of psychiatric disorders including mood disorders (49.6%), anxiety disorders (41.3%) and personality disorders (60.8%) (Petry, Stinson, & Grant, 2005). It has also been reported that one-quarter of problem gamblers have suffered a major depressive episode at some point in their lives, and one fifth have contemplated suicide in the past 12 months (Marshall & Wynne, 2003). The Canada Safety Council approximates that 180-360 suicides each year in Canada are a result of gambling addiction (Messerlian, 2005). In fact, due to the recent media coverage and increased public concern over gambling related deaths coroners across Canada have agreed to record whenever gambling is cited as a factor in suicides.

Adolescent problem gamblers report increased levels of depressive symptomology when compared to social gamblers and non-gamblers (Derevensky & Gupta, 2004). Moreover, youth pathological gamblers have higher rates of suicidal ideation and suicide attempts (Nower, Gupta & Derevensky, 2003) and exhibit a number of mental health problems (Hardoon, Gupta, & Derevensky, 2004). Problem gambling has also been linked to binge eating and greater attempts to control weight (Engwall, Hunter, & Steinberg, 2004).

Consequently, we asked students if they had ever been prescribed medication for one or more of a particular set mental health/behavioral problems (depression, anxiety, ADHD, ADD, and eating disorders)[5]. Approximately 10% of students who had not gambled in the past 12 months had been prescribed medication for one of the aforementioned categories compared to 12% of social gamblers and 36% of problem gamblers. In terms of a breakdown, 4.5% of non-gamblers had been prescribed medication for depression and 2.4% had been prescribed medication for anxiety. Problem gamblers had much higher rates, where 18.4% had been prescribed medication for depression and 10% for anxiety. In other words, for both depression and anxiety, problem gamblers were four times as likely to have been affected. Figure 5 illustrates the percentage of students in each gambling category who reported experiencing the specific mental health concerns. In all cases, problem gamblers were more likely to experience mental health issues when compared to social gamblers and non-gamblers.

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[5] It should be noted that this refers solely to the number of students who had been prescribed medication. Undoubtedly, this underestimates the number of students who had experienced mental health issues or sought other forms of treatment.

Figure 5. Percentage of students in each gambling category who report being prescribed medication for a mental health concern.
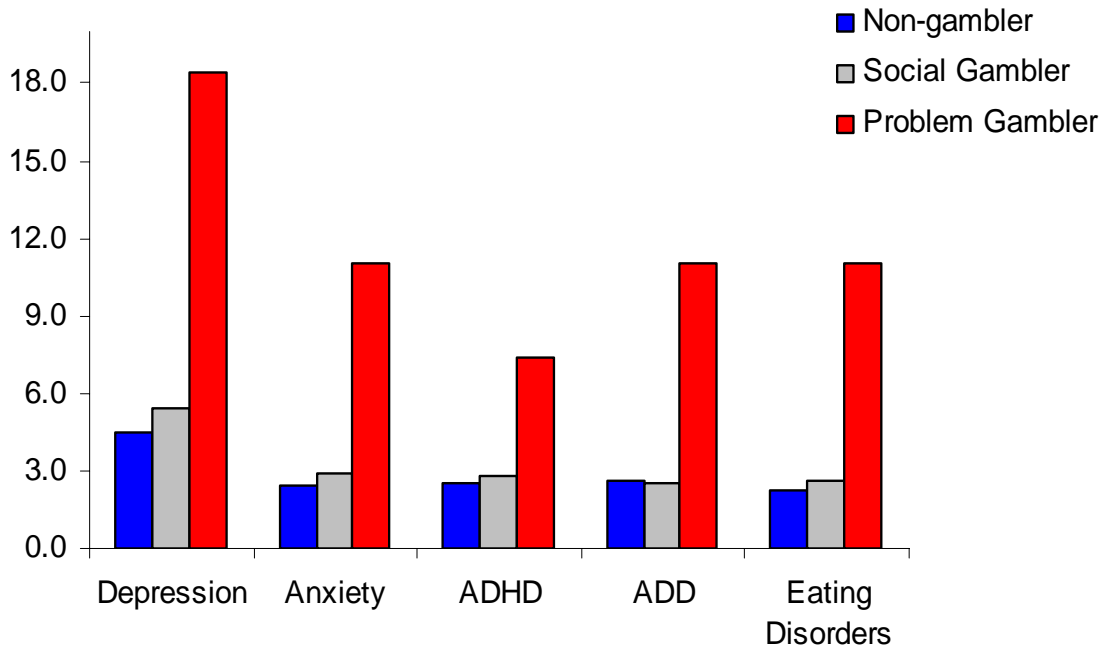
Affected Youth

The students were asked about concerns over someone else's (mother, father, caregiver, close relative, friend) gambling. Almost 1000 students (15%) had been affected by someone else's gambling in the past 12 months. Female students were more likely to report concerns about someone else's gambling (17%) than were males (12%). Students were generally affected by more than one person's gambling. For example, if a student was concerned about dad's gambling they were also likely to be concerned about mom.

A strong correlation has been found between parental gambling activity and related adolescent involvement. Consequently, we looked at the percentage of gamblers vs. non-gamblers affected by a parent's gambling. We found that problem gamblers were approximately eight times more likely to worry about a parent's gambling when compared to non-gamblers. They were also ten times more likely to worry about a friend's gambling. In addition to being at increased risk of developing a gambling problem, affected youth may suffer a number of adverse consequences. Studies have shown that adolescents who have a parent experiencing a gambling problem report heightened feelings of insecurity and an increased need for acceptance (Lesieur & Rothschild, 1989). Studies have also reported that perceived family and peer support emerge as protective factors in the development of gambling problems (Hardoon, Gupta, & Derevensky, 2004). Correspondingly we found that problem gamblers scored lower on scales of perceived familial

support and parental monitoring. Gamblers were more likely to endorse statements like "I wish my family were different" and "most other people are closer to their family than I am" and to disagree with statements like "I rely on my family for emotional support". Problem gamblers also scored lower on perceived peer support and were more likely to disagree with statements like "my friends give me the moral support I need". Interestingly, social gamblers scored significantly lower than non-gamblers on measures of parental support and monitoring. In other words, gamblers as a group are scoring lower on parental support and provision of structure which are both protective factors linked to positive outcomes in adolescent development.

Table 13. Percent of students affected by someone else's gambling

	Non-Gamblers	Social Gamblers	Problem Gamblers
Mother's gambling	2.4	5.7	19.8
Father's gambling	2.6	4.1	21.1
Close relative's gambling	6.3	10.1	30.7
Close friend's gambling	3.0	6.5	29.7

Limitations

Prior to generalizing the results of a study it is important to note the possible limitations of the research.

Prevalence

Gambling prevalence rates can be influenced by the manner in which questions are posed. In this study we chose to ask about specific gambling activities individually. The rate of gambling involvement was therefore a percentage of students who responded in the affirmative to participation in any one of these activities. Undoubtedly, the rates would differ from generating prevalence from simply asking the question "have you gambled in the past 12 months", and would differ again if the question was "have you bet money or anything of value in the past 12 months". Asking students about individual behaviors forces them to consider activities that may not have come readily to mind and to consider activities that may not have been regarded as gambling.

Comparisons

Due to the current lack of reliable and valid standards to measure adolescent problem gambling comparisons with other studies are difficult to make. Consequently, we are not able to compare these results with other studies, both longitudinally within Manitoba or with recent empirical data collected in North America. The prevalence estimates of adolescent gambling vary widely and results should be interpreted cautiously. As was previously mentioned, Canadian researchers are in the process of developing and testing the Adolescent Problem Gambling Instrument (APGI) which will provide a consistent measure for researchers to measure problem gambling in the adolescent population in the future.

At-risk gamblers

North American studies have reported that an estimated 9.9% to 14.2% of adolescence are at-risk of developing gambling problems (Weibe et al., 2005). The DSM-IV-MR-J allows for only two categories of gamblers (social and problem). Unfortunately, the measure did not provide an estimate for the number of adolescents in our sample who may be at-risk for developing a gambling problem.

Summary and Conclusions

As a whole, almost 38% of adolescents in our sample reported gambling in the past year. Males are significantly more likely to gamble than females and gambling activity increases with age. By Senior 4, approximately 10% of males and 7% of females have played VLTs and 5.6% of males and 3.0% of females have played slot machines. Some of these students are underage. The majority of students gamble at home, with their friends and to a lesser degree with parents and family members. The average age at which students begin to gamble is 13.4 years. Ten percent of students reported gambling before the age of 10 and close to 30% of students have gambled by the time they turn 15. By the age of 18 that number rises to 56%.

There is a dearth of research looking into the course of gambling behavior across time once individuals reach the age of majority. In response to this need, the Addictions Foundation of Manitoba in collaboration with Manitoba Lotteries and the Manitoba Gaming Control Commission have agreed to fund a longitudinal study that will follow a cohort of young adults (18-20 years of age) for a 5 year period. The objectives include (but are not limited to) ascertaining the patterns of continuity and discontinuity in gambling behaviors, identifying risk and resiliency factors that predict gambling activities, and impacting future changes in gambling legislation and public attitudes.

Based on the DSM-IV-MR-J, it was determined that 2.3% of students in our sample were problem gamblers. Compared to social gamblers, those who met the criteria for problem gambling were more likely to have started gambling at a younger age. While the problem gambling figure may appear to be low, from a population standpoint this translates into thousands of adolescents. It should also be reiterated that these rates may underestimate the number of problem gamblers. Derevensky and Gupta (2000) found that only 3.4% of their sample (mean age=18.5 years) met the criteria for problem gambling using the Fisher measure, but that number jumped to 5.3% and 6% using the SOGS-GA and GA 20 Questions respectively.

A concern for service providers in the addictions area is the emerging research demonstrating that adolescents are not likely to seek help for gambling problems. Chevalier and Griffiths (2004) have raised more than 20 speculative reasons why this appears to be the case including: denial of a problem, lack of or inappropriate treatment programs, and adolescents not satisfactorily comprehending the screening instruments (see Chevalier and Griffiths for a complete overview). It could also be argued that gambling problems are less observable than other addictions such as substance abuse. Similar to the adult population, gambling problems may be concealed given the lack of overt signs or may present concomitantly with other issues.

Gambling activity is routinely conceptualized as being highly correlated with a constellation of addictive behaviors. Not surprisingly, our sample of problem gamblers was significantly more likely to consume alcohol, smoke cigarettes, and use illegal drugs. Specifically, a higher percentage of problem gamblers had consumed alcohol, both in their lifetime and in the past year. When compared to social gamblers, problem gamblers were more likely to exhibit problematic drinking patterns as measured by consuming 5 or more, and 8 or more drinks on one occasion. Correspondingly, problem gamblers scored significantly higher on the Alcohol Use Disorders Identification Test when compared to social gamblers. In terms of marijuana use,

lifetime rates of use in problem gamblers were more than double that of non-gamblers. The rates of past year use were similarly discordant with 56% of problem gamblers using cannabis in the past year compared to 33% of the age-matched group of social gamblers. Problem gamblers were also twice as likely to smoke cigarettes and use illicit drugs with 50% of problem gamblers reporting drug use in the past 12 months compared to 23% of social gamblers.

Concomitant with the increase in gambling opportunities this generation will be exposed to, there needs to be a focus on identifying the risk factors linked to gambling problems among youth. Consistent with other studies, problem gambling tended to present with a variety of difficulties. In this sample, non-gamblers were more much likely to excel academically when compared to social gamblers and reported obtaining much higher grades than problem gamblers. Close to 80% of non-gamblers report usual grades of either A's or B's when compared to approximately 55% of problem gamblers. Conversely, only 6% of non-gamblers report receiving D's and F's compared to about 23% of problem gamblers. Of the non-gamblers, 40% had skipped a class compared to more than 70% of problem gamblers. Twenty percent of non-gamblers reported failing a class compared to 61% of problem gamblers and 27% of social gamblers. In addition, problem gamblers had engaged in more than five times the number of delinquency acts as their non-gambling classmates and three times as many delinquency behaviors as social gamblers.

In examining mental health and behavioral problems, problem gamblers were significantly more likely to report being prescribed medication for a variety of diagnoses including depression and anxiety. It was also discovered that problem gamblers were at least eight times more likely to worry about a parent's or friend's gambling when compared to non-gamblers. Consistent with other studies, problem gamblers scored lower on scales of perceived familial support, peer support and parental monitoring. Further studies are required to determine why problem gamblers are at risk for exhibiting a host of issues in order to identify what underlying factors could be responsible for an overall susceptibility. In examining the predictive antecedents of the problem, we will better be able to implement effective strategies for prevention and treatment.

The Addictions Foundation of Manitoba has been offering programs since 1994 focused at educating our youth about gambling. "Keeping Your Shirt On" is a program offered in schools that seeks to inform youth about how gambling works, the problems created from gambling, and resources available for assistance. In 2003 AFM partnered with Manitoba Lotteries to develop a gambling prevention program called "It's Your Lucky Day". The program was integrated into the grade 7 and 8 curriculum to expose students to how gambling works, common myths surrounding gambling, and educates students about recognizing the signs of problem gambling. Through the course of this program it was discovered that many young people do not understand concepts like randomness or house advantage (Lemaire, deLima, & Patton, 2004). However, after participating in the program understanding of these, and other key concepts, significantly increases. This program continues to evolve and be evaluated.

At present, there is concern that the rapid expansion of gambling may come at social costs. From a public health perspective, empirically based strategies will be necessary to ensure that gamblers are informed, protected, and have access to appropriate resources. The future direction of the AFM will include designing comprehensive and effective approaches for preventing and treating problem gambling. This work will undoubtedly require the support of allied professionals and

caregivers who have a stake in the prevention of problem gambling amongst youth, and in effectively intervening with adolescents who show signs of problem gambling and/or show signs of being at risk for developing a gambling problem. No one agency or "system" can effectively address this issue, however, the collective and cooperative work of many systems will increase the chances of success.

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Appendix A

Provincial Gambling Reports: Summary Table

Province	Year	Report	Sample	Prevalence Rate (past 12 months)	Prevalence Measure	Problem Gambling Rate	Problem Gambling Measure
Alberta	2002	The Alberta Youth Experience Survey	N=3,394 Grades 7-12	41.2%	Asked about 8 separate activities	3.8% problem and 5.7% hazardous	SOGS-RA
British Columbia	2003	Adolescent Health Survey III	N=30,500 Grades 7-12	51%	Asked about 6 separate activities\n\nYouth asked how often they gambled for money	Problem gambling not measured	N/A
Ontario	2003	OSDUS-The Mental Health and Well Being of Ontario Students	N=6,616 Grades 7-12	56%	Report indicates that they were asked about 10 activities Summary is broken down by how many activities they gambled on	3.5% pathological (i.e. positive to 4 or more)	SOGS-RA
Quebec	2002	Quebec Survey of Tobacco Use in High School Students	N=4,800 Secondary 1 to 5	51%	Report indicates that they were asked about 10 activities	7.1% (combined problem, 2.3%) & at-risk, 4.8%)	DSM-IV-J
New Brunswick	2002	New Brunswick Student Drug Use Survey 2002: Technical Report	N=4,532 Grades 7, 9, 10, and 12.	58%	Report indicates that they were asked about 8 activities	Problem gambling not measured	N/A
Prince Edward Island	2002	PEI Student Drug Survey	N=2,416 Grades 7, 9, 10 and 12	58%	Report indicates that they were asked about 8 activities	4.4% (combined problem & at-risk)	SOGS-RA
Newfoundland and Labrador	2003	Student Drug Use Survey	N=2,539 Grades 7, 9, level I and III	65%	Report indicates that they were asked about 8 activities	3% at-risk and 1% problem	SOGS-RA
Saskatchewan	N/A[6]						
Manitoba	2005	Youth Gambling Report	N=6,673 Grades 7-12	38%	Asked about 12 activities	2.3% problem	DSM-IV-MR-J
Nova Scotia	2002	Nova Scotia Student Drug Use: Technical Report	N=4, 247 Grades 7, 9, 10, and 12	63.3%	Report indicates that they were asked about 8 activities	3% at-risk and 2.1% problem	SOGS-RA

[6] Have not measured adolescent gambling

Appendix B

Survey Instrument

1) You are: ○ Male ○ Female

2) How old are you now?

○ 11 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 ○ 19 or older

3) The majority of your courses are:

○ Grade 7 ○ Grade 8 ○ Senior 1 ○ Senior 2 ○ Senior 3 ○ Senior 4

4) Please shade which category best represents the marks/grades you usually get in school.

○ A (80% to 100%) ○ B (70% to 79%) ○ C (60% to 69%) ○ D (50% to 59%) ○ F (fail/below 50%)

5) If you wanted to, how easily could you get

	easily	not very easily	don't know
ALCOHOL?	○	○	○
MARIJUANA?	○	○	○
OTHER DRUGS?	○	○	○

6) How many of your friends

	none	a few (1 or 2)	some (less than 1/2)	about 1/2	most (more than 1/2)
DRINK ALCOHOL?	○	○	○	○	○
SMOKE MARIJUANA?	○	○	○	○	○
USE OTHER DRUGS?	○	○	○	○	○

7) Have you ever consumed alcohol? ○ Yes ○ No ☞ *[if no, go to question 20]*

8) How old were you when you first consumed alcohol? (Not a sip of your parent's drink or alcohol used for religious purposes)

○ Before age 10 ○ 11 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 ○ 19 or older

9) How often do you consume alcohol?

○ I tried drinking once, but never did it again ○ About once a week

○ I have tried drinking 2 or 3 times ○ 2-3 times a week

○ A few times a year ○ Everyday

○ About once a month ○ More than once each day

○ 2-3 times a month

10) In the LAST 12 MONTHS have you consumed alcohol? ○ Yes ○ No *[if no, go to question 20]*

11) When you are drinking, how much do you usually drink? (A drink refers to a bottle of beer, a 5 oz glass of wine, a cooler or 1 1/2 shots of hard liquor)

○ 1 to 2 drinks ○ 3 to 4 drinks ○ 5 to 6 drinks ○ 7 to 9 drinks ○ 10 or more drinks

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12) How often in the LAST 12 MONTHS have you had five or more drinks on one occasion?

O Never   O Less than once a month   O About once a month   O About once a week   O Daily or almost daily

13) How often in the LAST 12 MONTHS have you had eight or more drinks on one occasion?

O Never   O Less than once a month   O About once a month   O About once a week   O Daily or almost daily

14) How often during the LAST 12 MONTHS has drinking alcohol caused you to miss out on the following?

	Never	less than once a month	about once a month	about once a week	daily or almost daily
Going to school	O	O	O	O	O
An important family commitment	O	O	O	O	O
An important commitment to a friend	O	O	O	O	O
A homework assignment or school deadline	O	O	O	O	O
Going to work	O	O	O	O	O

15) How often during the LAST 12 MONTHS have you been unable to remember what happened the night before because you had been drinking?

O Never   O Less than once a month   O About once a month   O About once a week   O Daily or almost daily

16) How often in the LAST 12 MONTHS have you driven within an hour of drinking two or more drinks of alcohol?

O Never   O 1-2 times   O 3-4 times   O 5-6 times   O 7 or more times

17) Has a relative or friend or a doctor or other health care worker been concerned about your drinking or suggested you cut down?

O No   O Yes, but not in the last 12 months   O Yes, during the last 12 months

18) Have you been in a counselling program during the LAST 12 MONTHS because of your alcohol use?

O Yes   O No

19) How do you get alcohol? (you may choose more than one).

O Buy alcohol myself from liquor stores, restaurants or bars

O Have parents who get alcohol for me

O Have friends buy alcohol for me

O Have an older brother/sister who get alcohol for me

O Have friends who get alcohol for me

O Get alcohol from around the house without my parents knowing

20) Do you have a drivers licence?   O Yes   O No

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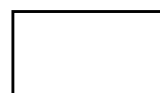
21) In the LAST 12 MONTHS have you ridden in a car with a driver who had been drinking?

O Never   O Once or twice   O 3-5 times   O 6 or more times

22) In the PAST 12 MONTHS have you been worried about...

Your mother's drinking?	O Yes O No	A close relative's drinking?	O Yes O No
Your father's drinking?	O Yes O No	A close friend's drinking?	O Yes O No
Your caregiver's drinking?	O Yes O No		

23) At the present time, do you smoke cigarettes?

O Everyday   O Occasionally   O Not at all

24) Have you ever smoked a whole cigarette?   O Yes   O No   ☞ *[if no, go to question 34]*

25) How old were you when you had your first cigarette?

O Before age 10   O 11   O 12   O 13   O 14   O 15   O 16   O 17   O 18   O 19 or older

26) Have you ever smoked cigarettes daily?   O Yes   O No

27) Have you smoked at least 100 cigarettes in your life?   O Yes   O No

28) In the LAST 12 MONTHS have you smoked cigarettes?   O Yes   O No   ☞ *[if no, go to question 34]*

29) In the past MONTH did you smoke cigarettes?   O Yes   O No   ☞ *[if no, go to question 34]*

30) In the past MONTH did you smoke everyday?   O Yes   O No

31) How many cigarettes do you usually smoke in A WEEK?

O Less than 1   O 1 to 4   O 5 to 9   O 10 to 19   O 20 to 39   O 40 to 59   O 60 or more

32) Would you consider yourself a regular smoker?   O Yes   O No

33) How soon after you wake up do you smoke your first cigarette?

O Within 5 minutes   O 6-30 minutes   O 31-60 minutes   O More than 60 minutes

☞ **34) Have you used Cannabis (also called Marijuana, "Grass", "Pot", Hashish, "Hash", Hash Oil)?**

O Yes   O No

O I don't know what Cannabis is

O I have heard of Cannabis but have never tried it   } ☞ *[if any of three, go to question 47]*

35) How old were you when you first used Cannabis?

O Before age 10   O 11   O 12   O 13   O 14   O 15   O 16   O 17   O 18   O 19 or older

36) How often do you use Cannabis?

O I tried cannabis once, but never did it again   O About once a week

O I have tried cannabis 2 or 3 times   O 2-3 times a week

O A few times a year   O Everyday

O About once a month   O More than once each day

O 2-3 times a month

37) In the LAST 12 MONTHS, have you used Cannabis?   O Yes   O No   ☞ *[if no, go to question 47]*

38) How much money do you usually spend on Cannabis in a MONTH?

O $0   O Less than $10   O $10-$19   O $20-$29   O $30-$39   O $40-$49   O $50 or $99   O $100 or more

39) When you buy Cannabis, how much would you usually buy at one time?

O I don't buy cannabis   O 1-2 grams   O 1/8 of an ounce   O 1/4 of an ounce   O 1/2 of an ounce   O 1 ounce

**40) Thinking back over your whole life, has there ever been a period when you used Cannabis every
day or almost every day for least a month?**

O Yes   O No

41) In the LAST 12 MONTHS have you tried to *stop* using Cannabis but found that you couldn't stop?

O Have never tried to stop   O Have tried to stop but found I could not   O Have been able to stop when I wanted to

42) In the LAST 12 MONTHS have you tried to *cut down* on your use of Cannabis?

O Have never tried to cut down   O Have tried to cut down but found I could not   O Have been able to cut down

43) How often during the LAST 12 MONTHS has smoking Cannabis caused you to miss out on the following?

	Never	less than once a month	about once a month	about once a week	daily or almost daily
Going to school	O	O	O	O	O
An important family commitment	O	O	O	O	O
An important commitment to a friend	O	O	O	O	O
A homework assignment or school deadline	O	O	O	O	O
Going to work	O	O	O	O	O

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44) Has a relative or friend or a doctor or other health care worker been concerned about your Cannabis use or suggested you cut down?

○ No ○ Yes, but not in the last 12 months ○ Yes, during the last 12 months

45) Have you been in a counselling program during the LAST 12 MONTHS because of your Cannabis use?

○ Yes ○ No

46) In the LAST 12 MONTHS have you driven after using Cannabis?

○ Never ○ Once or twice ○ 3-5 times ○ 6 or more times

☞ **47) In the LAST 12 MONTHS have you ridden in a car with a driver who had been using Cannabis?**

○ Never ○ Once or twice ○ 3-5 times ○ 6 or more times

48) How often have you used any of the following drugs in the LAST 12 MONTHS?

	Never	less than once a month	about once a month	about once a week	daily or almost daily
Magic Mushrooms	○	○	○	○	○
Cocaine	○	○	○	○	○
Crack	○	○	○	○	○
Ecstasy	○	○	○	○	○
Other Club Drugs (GHB, Ketamine)	○	○	○	○	○
Hallucinogens (LSD/Acid)	○	○	○	○	○
Steroids	○	○	○	○	○
Stimulants (Speed, amphetamine)	○	○	○	○	○
Methamphetamine (Ice, Crystal Meth.)	○	○	○	○	○
Quabaline (quabs, zappers)	○	○	○	○	○
Inhalants	○	○	○	○	○
Other People's Prescriptions	○	○	○	○	○
Heroin	○	○	○	○	○
AXE	○	○	○	○	○
OxyContin	○	○	○	○	○
Salvia	○	○	○	○	○

49) Have you ever been prescribed medication for one or more of the following? (check more than one if it applies)

○ Attention deficit hyperactivity disorder (ADHD)   ○ Anxiety

○ Attention deficit disorder (ADD)   ○ Eating Disorders

○ Depression

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Page 5

	strongly agree	agree	don't know	disagree	strongly disagree
50) When I am not at home my parents know where I am	O	O	O	O	O
51) When I am not at home my parents know who I am with	O	O	O	O	O
52) When I am not at home my parents know what I am doing	O	O	O	O	O
53) When I go out on weekends I have to be home by a set time	O	O	O	O	O
54) If my parents found out that I was using marijuana they would be upset	O	O	O	O	O
55) If my parents found out that I was drinking alcohol they would be upset	O	O	O	O	O
56) My family gives me the moral support I need	O	O	O	O	O
57) Most other people are closer to their family than I am	O	O	O	O	O
58) I rely on my family for emotional support	O	O	O	O	O
59) My family and I are very open about what we think about things	O	O	O	O	O
60) My family is sensitive to my personal needs	O	O	O	O	O
61) Members of my family are good at helping me solve problems	O	O	O	O	O
62) I wish my family were much different	O	O	O	O	O
63) My friends give me the moral support I need	O	O	O	O	O
64) Most other people are closer to their friends than I am	O	O	O	O	O
65) I rely on my friends for emotional support	O	O	O	O	O
66) My friends and I are very open about what we think about things	O	O	O	O	O
67) My friends are sensitive to my personal needs	O	O	O	O	O
68) My friends are good at helping me solve problems	O	O	O	O	O
69) I wish my friends were much different	O	O	O	O	O

70) In the PAST 12 MONTHS have you been worried about...

Your mother's drug use?　O Yes　O No　　A close relative's drug use?　O Yes　O No

Your father's drug use?　O Yes　O No　　A close friend's drug use?　O Yes　O No

Your caregiver's drug use?　O Yes　O No

2123

71) In the LAST 12 MONTHS, how often did you bet money on the following things? and if you have bet money on these things please indicate how much you spend in a week.

	not at all	several times a year	less than once a month	about once a week	daily or almost daily	How much do you spend in a week?
The Internet	O	O	O	O	O	$ [ ][ ][ ]
Computer/Video games	O	O	O	O	O	$ [ ][ ][ ]
Cards for money	O	O	O	O	O	$ [ ][ ][ ]
Sporting events	O	O	O	O	O	$ [ ][ ][ ]
Bingo	O	O	O	O	O	$ [ ][ ][ ]
Raffles(e.g., Silent Auctions)	O	O	O	O	O	$ [ ][ ][ ]
Dice	O	O	O	O	O	$ [ ][ ][ ]
Video lottery terminals (VLT's) in a lounge or bar	O	O	O	O	O	$ [ ][ ][ ]
Video lottery terminals (VLT's) in a casino	O	O	O	O	O	$ [ ][ ][ ]
Sport Select (e.g., Over-under, Pro-Line)	O	O	O	O	O	$ [ ][ ][ ]
Lottery tickets (e.g., Lotto 6-49, Super 7, Scratch & Win)	O	O	O	O	O	$ [ ][ ][ ]
Scratch tabs/Break Opens (e.g., Nevada)	O	O	O	O	O	$ [ ][ ][ ]

☞ ***If you answered "not at all" to ALL of these questions then skip to question 86***

72) How old were you when you first gambled?

O Before age 10   O 11   O 12   O 13   O 14   O 15   O 16   O 17   O 18   O 19 or older

73) Who do you usually gamble with?

O Alone   O With your friends   O With your parents   O With other family members   O With other people

74) Where do you usually gamble?

O At home   O At work   O On the street

O At school-during breaks   O In bars

O At school-when skipping class   O At the Casino

75) In the LAST 12 MONTHS how often have you found yourself thinking about gambling or planning to gamble?

O Never   O Rarely   O Sometimes   O Often

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76) In the LAST 12 MONTHS have you needed to gamble with more and more money to get the amount of excitement you want?

○ Yes   ○ No

77) In the LAST 12 MONTHS have you ever spent much more than you planned to on gambling?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

78) In the LAST 12 MONTHS have you felt bad or fed up when trying to cut down or stop gambling?

○ Never   ○ Rarely   ○ Sometimes   ○ Often   ○ Never tried to cut down

79) In the LAST 12 MONTHS how often have you gambled to help you escape from problems or when you are feeling bad?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

80) In the LAST 12 MONTHS after losing money gambling, have you returned another day to try and win back the money you lost?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

81) In the LAST 12 MONTHS has your gambling ever led you to lie to... (someone close to you, family and friends, anyone)

○ Never   ○ Rarely   ○ Sometimes   ○ Often

82) In the LAST 12 MONTHS have you borrowed money to gamble?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

83) In the LAST 12 MONTHS have you ever taken money without permission from friends or family to spend on gambling?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

84) In the LAST 12 MONTHS has your gambling ever led to arguments with family, friends or others?

○ Never   ○ Rarely   ○ Sometimes   ○ Often

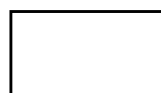**85) In the LAST 12 MONTHS has your gambling ever led to missing school?**

○ Never   ○ Rarely   ○ Sometimes   ○ Often

☞ **86) In the PAST 12 MONTHS have you been worried about...**

Your mother's gambling?	○ Yes ○ No		A close relative's gambling?	○ Yes ○ No	
Your father's gambling?	○ Yes ○ No		A close friend's gambling?	○ Yes ○ No	
Your caregiver's gambling?	○ Yes ○ No				

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87) In the LAST 12 MONTHS how often have you been involved in the following things?

	never	rarely	sometimes	often
A physical fight	○	○	○	○
A group fight	○	○	○	○
Injuring someone seriously enough to require medical attention	○	○	○	○
Shoplifting	○	○	○	○
Deliberately damaging someone else's property	○	○	○	○
Stealing a car	○	○	○	○
Riding in a stolen car	○	○	○	○
Running away from home	○	○	○	○
Carrying a weapon to school	○	○	○	○
Failing a grade (having to repeat a grade)	○	○	○	○
Failing a class	○	○	○	○
Breaking a window	○	○	○	○
Starting a fire	○	○	○	○
Skipping a class	○	○	○	○
Skipping a day of school	○	○	○	○
Stealing from a friend or family member	○	○	○	○
Being arrested by the police	○	○	○	○

88) In the LAST WEEK, how many hours have you spent doing the following:

	0-1	2-3	4-5	6-7	8-9	10+
Playing sports	○	○	○	○	○	○
Watching T.V./Movies	○	○	○	○	○	○
Playing Video Games	○	○	○	○	○	○
Doing school work	○	○	○	○	○	○
Surfing/Chatting on the Internet	○	○	○	○	○	○
Going out with friends (e.g. movies, mall, parties)	○	○	○	○	○	○
Talking on the phone	○	○	○	○	○	○
Working at a job	○	○	○	○	○	○

Thank you ☺

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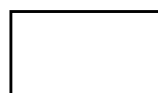
Appendix C

Data Collection Procedures

Data Collection Process.

After the sample schools had been selected a letter was sent to both the school principal and the school division, usually the superintendent. A previous letter had been sent to all superintendents within the province, indicating that this work was underway and requesting their participation in the event that a school from the division was selected. At that time many positive responses were received, often with suggestions as to how to facilitate the process within specific school divisions (e.g., by providing the name of the chair of the ethics review committee who would need to review the request prior to allowing contact with students). Schools were then contacted by a research assistant and asked to provide a list of classes and the number of students in each grade. At that time the entire grade was selected (if there were less than two classes in a grade), or classes were randomly selected from the lists that were provided by the school administration. Additional contact with the schools enabled us to determine how many surveys to send, and these were couriered with return instructions. Almost all of the data was collected in October and November 2004, with some (n = 10) schools providing data in January 2005, usually because they required some extra steps to allow parental consent.

In most cases the school counselor administered the survey. In addition to providing instructions via telephone, written instructions were included as follows:

> "The students are to answer the survey by filling in the bubble that corresponds to their answer. They can use a pen or pencil, although a pencil is preferred, in case they need to change an answer. There are 9 pages to the survey, they should try to work quickly and not think too much about each answer. Once they have completed the survey they should put it in the envelope that has been provided, and seal it.

> Please ask the students to not talk with each other and not to look at each other's survey. This is an anonymous survey, and the information is confidential. If they have any questions about the meaning of a question, the teacher/counselor may help, although we would prefer that teachers not circulate in the classroom, again to promote honest responding and maintain confidentiality.

> If a student does not wish to complete the survey they can do some other quiet activity, such as read.

> The teacher should read the following script out loud to the students to help explain why we are conducting this research:

> ***"Every few years the Addictions Foundation of Manitoba conducts surveys of schools to see what students are doing. Your class has been selected for the 2004 year. This survey has a lot of questions about alcohol, drug use and gambling. The information that you provide will be used to help AFM plan services in the future. If you do not wish to answer the survey could you please indicate this at the top of the survey and sit quietly until the rest of the class is finished.***

All of your responses and those of your classmates will be entered into a computer by machine, and summarized with all of the other schools that are participating in this survey. There are over 60 participating schools and over 5,000 students providing AFM with information. NO ONE will see your individual data, and no information about any student could ever be shared with your teachers or the school principal. Please be truthful in your responses.

You are asked to use a pencil or pen to complete the questionnaire. Please make your marks on the survey clear. Once you have completed the survey put it in the envelope provided and seal it. Your teacher will return all of the school data to the Addictions Foundation.

Thank you very much for helping us."

Similar instructions to the students were also included on the cover of the survey:

"This survey is designed to measure student alcohol, drug and gambling behavior. There are no right or wrong answers. You are to complete the survey by filling in the bubble next to the choice in PENCIL. If you do not wish to answer any question just leave it blank. If you do not wish to answer all of the questions please read quietly until everyone else is finished. This survey is confidential. No one will see your individual responses.
DO NOT WRITE YOUR NAME IN THE BOOKLET
Please make sure that the bubbles are filled in completely, and place the finished survey in the envelope provided. Seal it and return it to the person administering the survey."

Consent.

As the instructions for both administration of the survey by school counselors and to the individual students emphasized the private and confidential nature of their responses, we felt that parental consent was not required. All of the school divisions except one agreed, and for the one school division a consent form and letter explaining the nature of the survey to the parents was prepared. Consistent with our concerns, only about half of these students participated with parental consent. However, comparison of the responses of students with this school division with others did not reveal any systematic differences.

Accuracy of the results.

To help ensure that the results are accurate, attention was paid to the following:

1. Sample size – almost 10% of all of the students in the province were surveyed.

2. School selection – schools were randomly selected from the pool of schools in the province, including for the first time, private schools, independent schools, francophone schools (provided with the survey in French) and French immersion schools (who were provided with the survey in the language of their choice).

3. Anonymity – procedures were put into place to emphasize confidentiality and anonymity of individual responses.

4. Standardized administration – procedures were consistent across schools, with written instructions provided to school administrators and staff.

5. Validity – random responding was identified and data from students that were suspicious (e.g., daily use of a variety of substances, use of a fictitious substance) were not included in the analysis.