

Gambling among Alberta youth: The Alberta Youth Experience Survey 2005

February 2007

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Alberta Alcohol and Drug Abuse Commission (AADAC)

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AADAC Research Services

The Alberta Alcohol and Drug Abuse Commission would like to acknowledge the students and staff of the participating schools.

Suggested citation

Alberta Alcohol and Drug Abuse Commission. (2007). *Gambling among Alberta youth: The Alberta Youth Experience Survey 2005*. Edmonton, Alberta, Canada: Author.

Citation of this source is appreciated.

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Executive summary

This report is developed from The Alberta Youth Experience Survey (TAYES) 2005 and presents survey results related to gambling behaviour among Alberta adolescents in grades 7 through 12. The analysis includes estimates of gambling among youth and harm experienced as a result of their gambling, a discussion of associated demographic characteristics, and risk and protective factors.

Gambling behaviour

- In 2005, 62.6% of Alberta youth participated in at least one gambling activity in the 12 months before the survey.
- The proportion of adolescents reporting past-year gambling has increased from 41.2% in 2002 to 62.6% in 2005.
- Alberta adolescents are more likely to gamble if they are male or if they are in grades 10 through 12.
- Region was not significantly related to levels of gambling participation among youth in Alberta.
- Across Canada, the prevalence of youth gambling ranges from a high of 65% in Newfoundland and Labrador (2003) to a low of 37% in Manitoba (2004). Alberta (2005) ranks second (63%), tied with Nova Scotia (2002).¹
- Youth who participated in TAYES 2005 most often reported playing cards for money (41.3%), followed by playing scratch tickets (35.0%), betting on sporting events (28.4), playing bingo (19.8%), and playing any other type of lottery (13.5%) within the 12 months before the survey.
- During the 12 months before the survey, most students participated in one or two types of gambling activities (59.6%). Fewer participated in three or four activities (29.9%), or five or more activities (10.5%).
- Most students reported participating in gambling activities several times per year (45.8%) or less than once a month (39.4%). Fewer students reported gambling about once a month (14.8%), and none of the students surveyed reported gambling about once a week or more.
- Most youth who gambled during the 12 months before the survey reported that they had first gambled before they were in Grade 7 (42.8%), or when they were in grades 7 to 9 (41.8%). Fewer students reported first gambling when they were in grades 10 to 12 (15.4%).

¹ Provincial results reflect findings from surveys conducted from 2002 to 2005.

- Compared with female students, males were more likely to gamble about once a month (19.3% versus 10.2%). Males were also more likely to participate in five or more gambling activities (14.1% versus 6.8%).
- The majority of adolescents who gambled in the 12 months before the survey were non-problem gamblers (87.6%). A small proportion (8.8%) met the South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA)² criteria for at-risk gambling and 3.6% met criteria for problem gambling.
- Substance use and peer substance use are some of the risk factors associated with gambling among youth, whereas parental monitoring is a protective factor.

Implications for prevention

- The TAYES 2005 results show an increase in participation in gambling activities among Alberta youth since 2002. Alberta has the second-highest youth gambling rate among provinces in which similar surveys have been conducted. This indicates a need to increase prevention efforts in Alberta in the area of gambling.
- Analyses of gambling behaviour revealed significant differences by gender and grade, demonstrating a need for gender- and age-specific prevention programming.
- Survey findings suggest that students at lower grade levels may not be fully aware of what constitutes gambling. Starting to gamble at an earlier age is a risk factor associated with hazardous gambling in later adolescence and adulthood (Felsher, Derevensky, & Gupta, 2004; Gerdner & Svensson, 2003; Magoon & Ingersoll, 2006). Prevention programming aimed at building awareness of gambling and its risks may be beneficial in delaying initiation into gambling activities.
- The literature reveals that many parents approve of and enable youth gambling (Felsher, Derevensky, & Gupta, 2003). Therefore, parents should be involved in the prevention, identification and treatment of problem gambling behaviour among adolescents.
- Because problem gambling is associated with high-risk behaviour, researchers suggest that programs designed to increase awareness about drug use among youth could be extended to include gambling (Delfabbro, Lahn, & Grabosky, 2006a; Dickson, Derevensky, & Gupta, 2002).
- Once youth who have gambling problems are identified, appropriate treatment must be available. Messerlian, Derevensky, and Gupta (2005) recommend educating primary health-care workers about youth who are at risk of developing a severe gambling problem.

² For a description of SOGS-RA and its rating criteria, please see the Appendix.

- Given the rise in gambling prevalence among youth in Alberta, continued monitoring of trends in youth gambling is important. Monitoring youth gambling behaviour over time will provide an indication of the effectiveness of prevention activities, and will assist in identifying emerging trends.

Introduction

In 2002, the Alberta Alcohol and Drug Abuse Commission (AADAC) initiated The Alberta Youth Experience Survey (TAYES) to provide a benchmark of current, relevant information measuring alcohol, tobacco, and illicit drug use and gambling activity among Alberta adolescents. The survey also collected information on risk and protective factors associated with substance use and gambling behaviour. The results were disseminated through a series of information sheets and published reports, which are available on AADAC's website, aadac.com.

The second iteration of TAYES was begun in 2005 in partnership with the University of Alberta's Addiction and Mental Health Research Laboratory. As in 2002, the survey measured substance use and gambling behaviour and associated risk and protective factors. To provide enhanced information, the survey instrument was updated and a complex sampling method was employed. Overall, 3,915 Alberta youth in grades 7 through 12 participated in the survey.

The purpose of this report is to summarize the TAYES 2005 findings related to gambling. Information related to youth gambling and results of youth surveys in other Canadian provinces supplement the TAYES 2005 findings in this report.

Topics explored in this report include gambling behaviour, problem gambling, and risk factors and protective factors associated with gambling. Also provided are results of analyses of the relationships between gambling and gender, grade and region. This prevalence and demographic information will assist AADAC, other government departments, schools and community agencies associated with Alberta youth in developing prevention programs, activities and policies to support Alberta youth.

The following questions are addressed:

Gambling behaviour

1. What percentage of adolescents have gambled during their lifetime?
2. What percentage of adolescents have gambled during the previous 12 months?
3. Has participation in gambling activities increased or decreased among Alberta youth?
4. How do gambling rates among Alberta youth compare with rates in other provinces?
5. In which grade do adolescents first gamble?
6. What kinds of gambling activities are youth participating in?

7. How many kinds of gambling activities do adolescent gamblers participate in?

8. How often do adolescents gamble?

Problem gambling

9. What percentage of youth who gamble show signs of hazardous or problem gambling?

10. What percentage of youth who gamble experience harm related to their gambling?

Risk and protective factors

11. What is the relationship between parental monitoring and participation in gambling activities?

12. What is the relationship between substance use and gambling behaviour?

13. What is the relationship between peer substance use and gambling behaviour?

14. Are there other factors associated with gambling among adolescents?

Methodology

This report is based on secondary analysis of the data collected for TAYES 2005. The methodology used for the survey is described in detail in *The Alberta Youth Experience Survey (TAYES) 2005: Summary Report* (AADAC, 2005a).

Survey design

For the administration of TAYES 2005, two questionnaire forms were created. For students in grades 7 through 9, the questionnaire consisted of 201 items that measured substance use, gambling behaviour, demographic characteristics, school and work involvement, parental monitoring, social network influences, and ego identity. Students in grades 10 through 12 completed the same form, but with 57 additional questions that measured perceived norms related to substance use, willingness to use substances, and orientation toward autonomy. The questionnaire was based on similar student surveys conducted across Canada and in the United States. The independent and co-varying measures explored in this report are derived from the risk and protective factor framework originated by Hawkins, Catalano, and Miller (1992) and Newcomb and Felix-Ortiz (1992).

Ethics

After the survey instrument and data collection protocol were finalized, ethics approval was obtained from the joint Health Research Ethics Board of the University of Alberta and Capital Health Authority, and the survey was conducted in compliance with the Freedom of Information and Protection of Privacy Act (1995). Active parental consent was needed for students to participate in the survey; students who did not obtain consent completed a mock survey including questions about substance use and personal skills. The names of participating students and their parents were kept confidential by the schools; research staff did not have access to these names at any time.

Sample

The population for TAYES 2005 consisted of 3,915 students in public, Catholic and charter school systems in grades 7 through 12. The survey used a single-stage (school), stratified (by region) cluster sample design, with selection proportional to school size. Population estimates were based on 2003/2004 enrollment data from Alberta's Ministry of Learning. Boundaries for the public school authorities were used to delineate regions for sampling purposes. The Edmonton region included schools in the city of Edmonton and its greater metropolitan area; however, AADAC was able to obtain only limited access to high school students in this region. The North region consisted of schools in Grand Prairie, Fort McMurray, Peace River, Lac La Biche and Fort Assiniboine; the Central region consisted of schools located

between Edmonton and Calgary, and included schools in Red Deer, Ponoka, Banff and Lloydminster; and the South region comprised schools in Lethbridge, Medicine Hat and other areas south of Calgary. The Calgary region included schools within the greater Calgary metropolitan area, but access to students from these schools was denied. The survey did not, therefore, include respondents from Calgary and an analysis of the Calgary region is not provided. Overall, 19 schools from 12 school divisions participated in the survey.

Survey administration

After the survey instrument and data collection protocol were finalized, the survey was pre-tested with a small sample of adolescents enrolled in an AADAC Youth Services program. Surveys were subsequently administered at participating schools from October 2005 to March 2006. Over half (56%) of the eligible students in participating classrooms completed the survey, a response rate consistent with similar surveys using active parental consent. To identify misrepresentation in the completed surveys, the elimination protocol set forth in the 2003 Ontario Student Drug Use Survey (OSDUS) (Adlaf & Paglia-Boak, 2005) was used to identify and exclude cases that were deemed invalid.

Data analysis

Results reported are based on a weighted sample, which ensures proportionate representation from all areas of Alberta (with the exception of Calgary). The sample of 3,915 students represents over 285,000 students in grades 7 through 12 in Alberta. The weighting methodology is described in more detail in *The Alberta Youth Experience Survey (TAYES) 2005: Summary Report* (AADAC, 2005a).

Gambling behaviour was analyzed based on three factors: gender, grade or grade level, and region. Analysis by grade consisted of either individual grade levels or junior and senior high comparisons. Regional analysis compared the Edmonton, North, Central and South (excluding Calgary) regions.

To determine the relationships between variables, cross-tabulations with chi square tests were used. Statistical significance was designated at $p < .05$. In cases where chi square tests indicated a statistically significant relationship between variables, asterisks are included in the tables to indicate the level of significance (i.e., $p < .05$, $p < .01$, $p < .001$). However, only statistically significant bivariate analyses are described in this report. To determine statistical significance within bivariate relationships, confidence intervals (CI) were examined and comparisons were deemed statistically significant if overlap between categories did not occur. When comparisons within a bivariate relationship are statistically significant, confidence intervals are included in the reporting. “Don’t know” and not reported values are treated as missing values, which are not included in the analysis.

Research limitations and considerations

The methodological limitations of student drug use surveys are identified in the OSDUS (Adlaf & Paglia-Boak, 2005). Limitations specific to TAYES 2005 are identified below.

- Using a single-stage, stratified cluster sample design and subsequently weighting the final data set poses a potential risk to external validity. If the sample does not accurately represent the population, the weighting factor exaggerates the sampling discrepancy.
- TAYES 2005 results must be interpreted with caution because of limitations in sampling across Alberta. AADAC was unable to survey Calgary students and secured access to only a limited number of Edmonton high school students. As a result, the findings may not sufficiently represent Alberta students overall, and comparisons with the findings of TAYES 2002 and other surveys must be made with caution.
- The TAYES 2005 sample did not include youth not attending school or youth attending private, federal or provincial schools; therefore, results cannot be generalized to these populations of Alberta youth.
- Some subgroup sample sizes or estimates are too small to report. If a subgroup estimate is below 0.5%, the findings should be interpreted with caution. If the sample size is below 30 or if the coefficient of variation³ is greater than 16.5, the findings have been suppressed.

³ The stability or reliability of an estimate can be gauged by examining the coefficient of variation, which is the ratio of the standard error to its estimate. This gauge follows Statistics Canada guidelines for ensuring the presentation of statistically reliable data.

Background

Findings from the literature and from other Canadian student surveys provide a context in which to better understand TAYES 2005 results and a basis for comparison between Alberta results and those from other provinces. Results differing from national trends may be used to guide future programming in Alberta. Some information relevant to trends in youth gambling and risk and protective factors is presented in this background; additional information gathered from the literature is provided throughout the report.

Overview of trends in youth gambling

The study of gambling and gambling-related problems among youth has gained tremendous attention over the past decade as more young people are gambling and experiencing gambling-related problems (Magoon & Ingersoll, 2006; Messerlian & Derevensky, 2005; Messerlian et al., 2005). Although many forms of gambling are illegal for adolescents, youth gambling remains an accessible and socially acceptable behaviour that is frequently promoted in homes, schools, organized clubs and the media (Felsher et al., 2004; Magoon & Ingersoll, 2006; Poulin, 2000).

According to *The Mental Health and Well-Being Study of Ontario Students* (Adlaf, Paglia-Boak, Beitchman, & Wolfe, 2006) the most popular gambling activities reported among Ontario students in grades 7 through 12 were cards (32.7%), lottery tickets (18.5%), sports pools (17%), dice (14.7%) and bingo (8.6%). Students in grades 6 and 7 reported bingo and scratch tickets as the most desirable gambling activities, whereas students in grades 8 and 9 rated scratch tickets as their most desirable gambling activity (Felsher et al., 2004).

Among youth who gambled in the 12 months before the survey, the majority (86.3%) reported \$50 as the largest amount of money spent on gambling. About 7% reported spending between \$50 and \$99, 2.5% reported spending between \$100 and \$199, and 4.4% reported spending \$200 or more (Adlaf et al., 2006).

Risk and protective factors

“Risk factors are defined as life events or experiences that are statistically associated with an increase in problematic behaviours, such as problem gambling” (Hawkins et al., as cited in AADAC, 2005b, p. 15). Protective factors are life events or experiences that mediate the effect of exposure to risk factors (Rutter, as cited in Pollard & Hawkins, 1999). Protective factors are not merely the inverse of risk factors. It is the cumulative effect of risk factors that influences young people’s risk of engaging in problematic behaviour (Newcomb & Felix-Ortiz, 1992). According to DeWit and Silverman (1995), the greater the number of risk factors youth are exposed to in relation to protective factors, the greater the likelihood youth will participate in problematic behaviour.

There are additional factors associated with increased risk for problematic behaviour, including age or grade and gender. According to Messerlian et al. (2005), five interrelated factors influence gambling behaviour: intrapersonal, interpersonal, institutional, community, and public policy.

Intrapersonal

Intrapersonal factors are those related specifically to youth, such as gender, age, grade, and personality and mental health. The effect of these factors on gambling among youth is described below.

Gender

Male youth are more likely than female youth to report gambling activity. For example, males are significantly more likely than females to report heavy gambling (gambling at five or more venues in the previous 12 months), to display more symptoms of pathological gambling, and to lose more than \$100 in the previous year playing games of chance (Adlaf et al., 2006; Desai, Maciejewski, Pantalon, & Potenza, 2005). Male youth are also more likely than females to begin gambling at an earlier age; to play cards for money, play dice, bet in sports pools or buy sport lottery tickets; to play video gambling or slots; to bet money at casinos; and to bet over the Internet (Adlaf et al., 2006; Derevensky & Gupta, 2000). Females are more likely than males to purchase draw or scratch tickets (Desai et al., 2005; Felsher et al., 2004).

Age

Studies suggest that pathological gambling has been diagnosed in children as young as eight years old, and research indicates that the earlier youth begin gambling, the more likely they are to develop gambling problems in later adolescence and adulthood (Magoon & Ingersoll, 2006; Felsher et al., 2004; Gerdner & Svensson, 2003). Youth who begin gambling before the age of 10 are more likely to experience mental health problems and to be involved with the criminal justice system (Duhig, Maciejewski, Desai, Krishnan-Sarin, & Potenza, 2007; Desai et al., 2005).

Grade

Research indicates that youth in higher grades (grades 10, 11 and 12) are more likely than those in younger grades (grades 7, 8 and 9) to report having played cards for money, bet in sports pools, purchased sports lottery tickets and other lottery tickets, and participated in casino gambling. Youth in higher grades are also more likely to report gambling once a week or more (Adlaf et al., 2006). Although youth in higher grades report more gambling behaviour, the prevalence of problem gambling does not differ among students in grades 7, 9, 10 and 12, but remains uniform among adolescents under the age of 19 (Poulin, 2000).

Personality and mental health

Research suggests that youth problem gamblers are more likely to be impulsive, excitable, extroverted and anxious (Kaufman, 2004). They have lower self-discipline, are more likely to take risks, and have poor coping skills (Delfabbro et al., 2006a; Derevensky & Gupta, 2000). Compared with non-gambling youth, gambling youth have an increased risk of developing an alcohol or other drug addiction, are more likely to report suicide ideation and attempts, and report poorer overall health (Messerlian et al., 2005; Gerdner & Svensson, 2003). Females are more likely to gamble if they have experienced dysphoria or depression during their lifetime (Desai et al., 2005). Youth gamblers are more likely than non-gamblers to report major negative life events preceding their gambling behaviour, and are more likely to use less task-focused coping and more avoidance-focused coping when faced with stressful situations (Gupta, Derevensky & Marget, 2004). Wolin & Wolin (1993) also discuss coping in terms of resiliency. Their research indicates that resiliency (i.e., the ability to adapt successfully despite risk and adversity) acts as a protective factor.

Interpersonal

Interpersonal factors include the impact of adolescents' family, friends and peers on the adolescents' gambling behaviour. The effect of these factors on gambling among youth is described below.

Role of family

Research suggests that social support affects gambling behaviour among youth. Most parents (90%) of youth who gamble are aware their child is gambling, and approve of and enable the gambling (e.g., by buying items such as scratch tabs and lottery tickets). The majority of Ontario students who had gambled report being introduced to gambling by their parents and guardians. Furthermore, 86% of youth who report gambling once a week or more report gambling with their parents. These students report that their parents purchase scratch tickets (77%), lottery draws (50%) and sport tickets (23%) for them, which is cause for concern because some of these youth were assessed as having serious gambling problems (Felsher et al., 2003).

Impact of parental gambling

Youth who report gambling within the previous year are more likely than non-gambling youth to report that their parents participate in gambling activities (Delfabbro et al., 2006a; Felsher et al., 2003; Derevensky & Gupta, 2000). Furthermore, the frequency of adolescent gambling is related to parents' gambling frequency and problems, and youth with serious gambling problems are more likely to report that their father has a severe gambling problem (Vachon, Vitaro, Wanner, & Tremblay, 2004)

Parental practices

Parental practices also play a role in gambling behaviour. For instance, low parental monitoring and inadequate disciplinary practices are associated with frequent gambling behaviour among youth (Felsher et al., 2003). Increased attachment to parents (through emotional support, involvement, trust, warmth and nurturing), higher levels of parental monitoring and supervision, and increased parental engagement act as protective factors and are associated with lower levels of and abstinence from gambling behaviour. Rankin and Kern (as cited in AADAC, 2003), state that “positive parent/child attachments result in fewer delinquent behaviours because the child does not want to jeopardize the established relationship” (p. 19). Youth who report a lack of trust and communication with their parents are more likely to report participating in gambling activities (Magoon & Ingersoll, 2006).

Youth report that when they have difficulty purchasing gambling tickets because they are too young, their parents readily help them out. Felsher et al. (2003) note that the majority of youth (70%) report receiving lottery tickets from an adult or parent. Youth who were classified as pathological gamblers are most likely to report receiving lottery tickets as gifts, which suggests that parents are unaware of the seriousness of their child’s gambling or are less likely to view gambling as addictive.

Role of friends and peers

When parental influences are low, peers have a significantly greater likelihood of influencing participation in gambling behaviour (Magoon & Ingersoll, 2006). Most youth gamblers are actively involved in leisure activities and report having a well-developed group of friends; however, youth gamblers also report being socially isolated from their peer group and not being liked by the majority of their classmates (Delfabbro et al., 2006a; Derevensky & Gupta, 2000).

Role of the institution, community and public policy

The risk and protective factors associated with the community (the relationships, standards and networks that tie people, groups and institutions together) include social norms, media, community resources, and availability and accessibility. In communities where gambling or “gaming” is perceived as a legitimate form of entertainment and a popular form of recreation, youth are more likely to participate, both legally and illegally, in this behaviour. Conversely, when education and prevention take place, youth may change their positive attitudes about gambling and games of chance (Lavoie & Ladouceur, 2004).

The risk and protective factors associated with public policy (local, provincial and federal policies and laws that regulate actions and practices) include federal and provincial policies on age restrictions, enforcement, advertising and legislation (Messerlian et al., 2005). Although high school students are aware of the legal age limits associated with various gambling venues, almost all (94%) report not being afraid of being caught purchasing lottery tickets underage (Messerlian et al.).

Gambling behaviour

This section presents results on the gambling-related behaviour of Alberta youth. Included are estimates of current and lifetime gambling, the grade at which youth first gambled, the number of gambling activities in which youth participated, and frequency of gambling. These findings are further described, where differences are statistically significant, by three factors: gender, grade and region. Comparisons with TAYES 2002 and other provincial results, where possible, are also included.

Prevalence of gambling

Prevalence of lifetime gambling

More than half of the youth surveyed (59.2%) reported gambling at some point during their lifetime. This rate is lower than the percentage of youth surveyed (62.6%) who reported participating in any of the eight gambling activities during the 12 months before the survey. This discrepancy suggests that students in younger grades were not fully aware of activities that are considered gambling activities, or did not consider the activities they participated in to be gambling related. As with current gamblers, the percentage of students who had gambled during their lifetime increased by grade.

Grade: The percentage of youth who gambled during their lifetime increased by grade, as shown in Table 1. Less than half (41.2%) of Grade 7 students reported gambling in their lifetime, compared with 47.4% of Grade 8 students, 51.7% of Grade 9 students, 61.1% of Grade 10 students, 63.6% of Grade 11 students and 71.6% of Grade 12 students.

Gender: Significantly more male students (70.1%; CI 62.5% to 76.7%) than female students (49.8%; CI 43.7% to 55.9%) reported gambling during their lifetime.

Region: Region was not a significant factor in determining the prevalence of lifetime gambling among Alberta youth.

TABLE 1: Percentage of all adolescents reporting gambling during their lifetime, by gender, grade and region

	Gambled during the lifetime	Never gambled
Total	59.2	40.8
Gender***		
Male	70.1	29.9
Female	49.8	50.2
Grade**		
Grade 7	41.2	58.8
Grade 8	47.4	52.6
Grade 9	51.7	48.3
Grade 10	61.1	38.9
Grade 11	63.6	36.4
Grade 12	71.6	28.4
Region		
Edmonton	61.8	38.2
North	53.4	46.6
Central	59.5	40.5
South	47.8	52.3
Calgary	NA	NA

*p<.05; ** p<.01; *** p≤.001

NA: not available

Note: Percentages may not total 100% because of rounding.

Prevalence of current gambling

For the purpose of this study, adolescents were classified as “current gamblers” if they had indicated that they participated in any of the eight gambling activities surveyed (i.e., betting online, playing cards for money, playing scratch tickets, betting on sporting events, playing video lottery terminals, playing Sport Select, playing bingo, or playing any other lottery) within the 12 months before the survey.

Almost two-thirds (62.6%) of adolescents reported participating in at least one gambling activity in the 12 months before the survey. This estimate of current gamblers corresponds to about 178,503 Alberta youth in grades 7 through 12. The remaining 37.4% of all respondents were non-gamblers. Analysis did not reveal statistically significant differences by region.

Gender: As shown in Table 2, males (68.6%; CI 63.0% to 73.8%) were significantly more likely than females (57.5%; CI 53.5% to 61.4%) to report gambling in the year before the survey.

TABLE 2: Past-year gambling among all adolescents, by gender, grade and region (as percentages)

	Current gambler	Non-gambler
Total	62.6	37.4
Gender**		
Male	68.6	31.4
Female	57.5	42.5
Grade**		
Grade 7	47.9	52.2
Grade 8	55.6	44.4
Grade 9	60.9	39.1
Grade 10	65.8	34.2
Grade 11	65.7	34.3
Grade 12	67.7	32.4
Region		
Edmonton	62.1	37.9
North	64.6	35.4
Central	64.4	35.6
South	53.0	47.0
Calgary	NA	NA

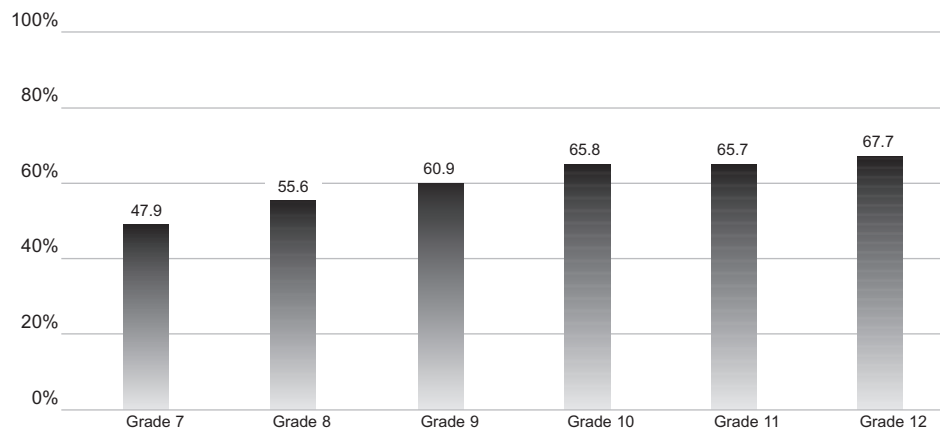
*p<.05; ** p<.01; *** p≤.001

NA: not available

Note: Percentages may not total 100% because of rounding.

Grade: The percentage of current gamblers increased by grade, as shown in Figure 1. Almost half the students in Grade 7 (47.9%) reported gambling in the past year, whereas 55.6% of Grade 8 students, 60.9% of Grade 9 students, 65.8% of Grade 10 students, 65.7% of Grade 11 students, and 67.7% of Grade 12 students reported gambling in the past year.

FIGURE 1: Percentage of all adolescent who reported participating in at least one gambling activity in the past 12 months, by grade



Prevalence of gambling activities

Similar to the results of an Ontario student survey (Adlaf et al., 2006), the TAYES 2005 study shows that the gambling activity youth most often reported taking part in was playing cards for money (41.3%), followed by playing scratch tickets (35.0%), betting on sporting events (28.4), playing bingo (19.8%) and playing any other type of lottery (13.5%) within the 12 months before the survey. Fewer youth reported playing video lottery terminals (VLTs) (5.9%), playing Sport Select (5.2%) and betting online (4.7%).

TABLE 3: Alberta youth participating in gambling activities during the past year, by grade level (as percentages)

Gambling activity	Overall	Grades 7-9	Grades 10-12
Played cards for money***	41.3	29.5	47.7
Played scratch tickets	35.0	33.1	35.9
Bet on sporting events*	28.4	24.6	30.5
Played bingo	19.8	23.1	18.0
Played any other lottery*	13.5	10.6	15.0
Played VLTs	5.9	5.7	6.0
Played Sport Select	5.2	3.8	5.9
Bet online	4.7	3.5	5.4
All gambling activities combined†	62.6	55.6	66.4

*p<.05; ** p<.01; *** p<.001

† Note: Students may have reported participating in more than one gambling activity.

The most popular gambling activities among students in grades 7 through 9 were playing scratch tickets (33.1%) and playing cards for money (29.5%), whereas the most popular gambling activities among students in grades 10 through 12 were playing cards for money (47.7%) and playing scratch tickets (35.9%).

Grade level: As shown in Table 3, there was a relationship between grade and participation in some gambling activities. Students in grades 10 through 12 were more likely than students in grades 7 through 9 to report participating in the following activities during the 12 months before the survey:

- playing cards for money (47.7% [CI 44.4% to 51.0%] versus 29.5% [CI 26.2% to 33.0%])
- betting on sporting events (30.5% [CI 29.2% to 31.9%] versus 24.6% [CI 21.4% to 28.0%])
- playing any other lottery (15.0% [CI 13.5% to 16.6%] versus 10.6% [CI 9.0% to 12.5%])

Gender: As shown in Table 4, gender was a significant factor in the prevalence of many gambling activities. Males were more likely than females to report past-year participation in most gambling activities, including the following:

- playing cards for money (males 52.1% [CI 43.9% to 60.2%] versus females 32.0% [CI 25.9% to 38.9%])
- betting on sporting events (males 38.5% [CI 34.6% to 42.5%] versus females 19.8% [15.9% to 24.3%])
- playing any other lottery (males 17.8% [CI 13.6% to 23.1%] versus females 9.7% [CI 8.4% to 11.2%])
- playing Sport Select (males 8.1% [CI 5.9% to 11.1%] versus females 2.7% [CI 2.1% to 3.4%])
- betting online (males 7.6% [CI 4.9% to 11.7%] versus females 2.2% [CI 1.4% to 3.5%])

Playing bingo was the one gambling activity in which a significantly higher percentage of females (22.1%) than males (17.2%) participated.

TABLE 4: Alberta youth participating in gambling activities during the past year, by gender (as percentages)

Gambling activity	Overall	Male	Female
Played cards for money***	41.3	52.1	32.0
Played scratch tickets	35.0	35.6	34.4
Bet on sporting events***	28.4	38.5	19.8
Played bingo*	19.8	17.2	22.1
Played any other lottery**	13.5	17.8	9.7
Played VLTs	5.9	6.7	5.3
Played Sport Select***	5.2	8.1	2.7
Bet online*	4.7	7.6	2.2
All gambling activities combined†	62.6	68.6	42.5

*p<.05; ** p<.01; *** p≤.001

† Note: Students may have reported participating in more than one gambling activity.

Region: Region was not a significant factor in determining the prevalence of each of the gambling activities.

TABLE 5: Alberta youth participating in gambling activities during the past year, by region (as percentages)

Gambling activity	Overall	Edmonton	North	Central	South
Played cards for money	41.3	43.3	33.8	42.6	32.5
Played scratch tickets	35.0	32.2	40.8	37.5	31.4
Bet on sporting events	28.4	27.7	27.8	29.5	29.7
Played bingo	19.8	17.5	28.7	19.8	21.5
Played any other lottery	13.5	13.8	12.7	13.8	S
Played VLTs	5.9	5.7	S	6.8	S
Played Sport Select	5.2	6.0	S	4.8	S
Bet online	4.7	5.5	S	4.2	S
All gambling activities combined [†]	62.6	62.1	64.6	64.4	53.0

*p<.05; ** p<.01; *** p≤.001

S: Estimate suppressed because of unacceptably high sampling variability.

[†] Note: Students may have reported participating in more than one gambling activity.

Comparisons with TAYES 2002 results

As detailed in Table 6 and Figure 2, the overall rate of past-year participation in gambling activities has increased substantially from TAYES 2002 (41.2%) to TAYES 2005 (62.6%).

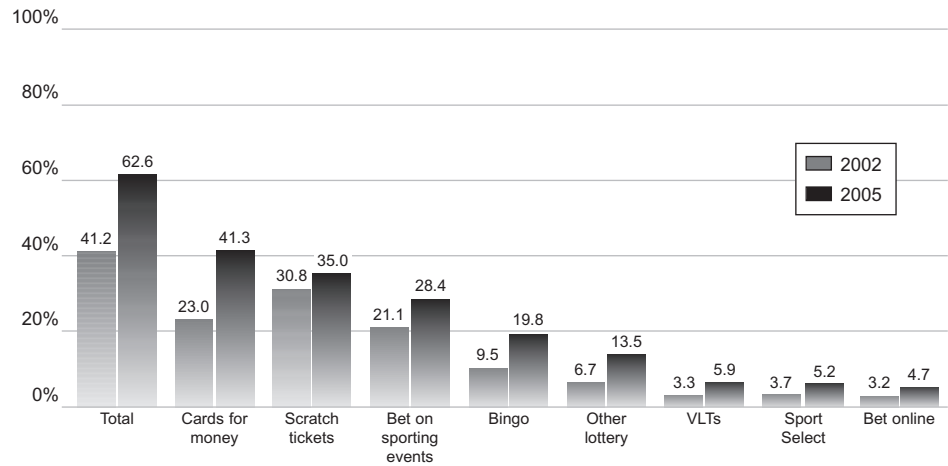
TABLE 6: Alberta youth participating in gambling activities during the past year, for 2002 and 2005 (as percentages)

Gambling activity	2002	2005
Played cards for money	23.0	41.3
Played scratch tickets	30.8	35.0
Bet on sporting events	21.1	28.4
Played bingo	9.5	19.8
Played any other lottery	6.7	13.5
Played VLTs	3.3	5.9
Played Sport Select	3.7	5.2
Bet online	3.2	4.7
All gambling activities combined [†]	41.2	62.6

[†] Note: Students may have reported participating in more than one gambling activity.

The greatest rate increase in youth participation in gambling activities from 2002 to 2005 was seen in playing cards for money, with 23.0% of adolescents in 2002 and 41.3% of adolescents in 2005 reporting past-year engagement in this activity. Other gambling activities that demonstrated substantially increased rates of past-year participation included playing bingo (up 10.3 percentage points), betting on sporting events (up 7.3 percentage points), and playing other lotteries (up 6.8 percentage points).

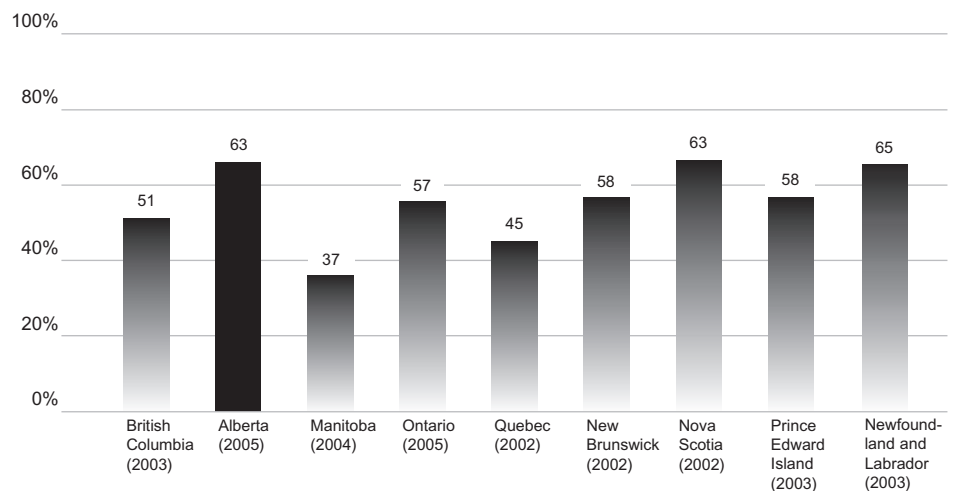
FIGURE 2: Percentage of youth participating in selected gambling activities, for 2002 and 2005



Comparisons with results from other provinces

As shown in Figure 3, the percentage of youth who reported gambling at least once in the 12 months before the survey was relatively high in Alberta as compared with rates in other provinces.⁴ Across Canada, the prevalence of gambling among youth ranged from a high of 65% in Newfoundland and Labrador (2003) to a low of 37% in Manitoba (2004). Alberta (2005) ranks second (63%), tied with Nova Scotia (2002).

FIGURE 3: Percentage of youth participating in selected gambling activities, for 2002 and 2005



Sources: Adlaf, Paglia-Boak, Beitchman, & Wolfe, 2006; Dubé, Traoré, & Tremblay, 2006; Mackay, Patton, & Broszeit, 2005; McCreary Centre Society; Liu et al., 2003; Poulin, 2002; Poulin, Martin, & Murray, 2005; Van Til & Poulin, 2002.

⁴ Because comparisons are made using the most recently available results from other provinces collected in 2002 through 2005, cross-provincial comparisons must be made with caution.

Patterns of gambling

Grade at which youth first gamble

Among students who reported gambling during their lifetime, the highest percentage reported first gambling or betting on things for money or possessions before Grade 7 (42.8%), followed by grades 7 through 9 (41.8%). Fewer students reported first gambling between grades 10 and 12 (15.4%). The analysis did not reveal statistically significant differences by gender and region.

TABLE 7: Grade at which youth first gambled, as reported by youth indicating gambling during their lifetime, by gender (as percentages)

	First gambled before Grade 7	First gambled in grades 7 to 9	First gambled in grades 10 to 12
Total	42.8	41.8	15.4
Gender			
Male	47.9	37.6	14.6
Female	36.6	46.9	16.5

Note: Percentages may not total 100% because of rounding.

Number of gambling activities during the past 12 months

In TAYES 2005, students were asked about the number of gambling activities they had participated in during the previous 12 months; the activities surveyed were betting online, playing cards for money, playing scratch tickets, betting on sporting events, playing video lottery terminals, playing Sport Select, playing bingo, or playing any other lottery. Of students who reported gambling during the previous year, most had participated in one to two types of gambling activities (59.6%); fewer students had participated in three to four activities (29.9%) or five or more activities (10.5%). The analysis did not reveal statistically significant differences by grade level and region.

TABLE 8: Number of past-year gambling activities, by gender and grade level (as percentages of current gamblers)

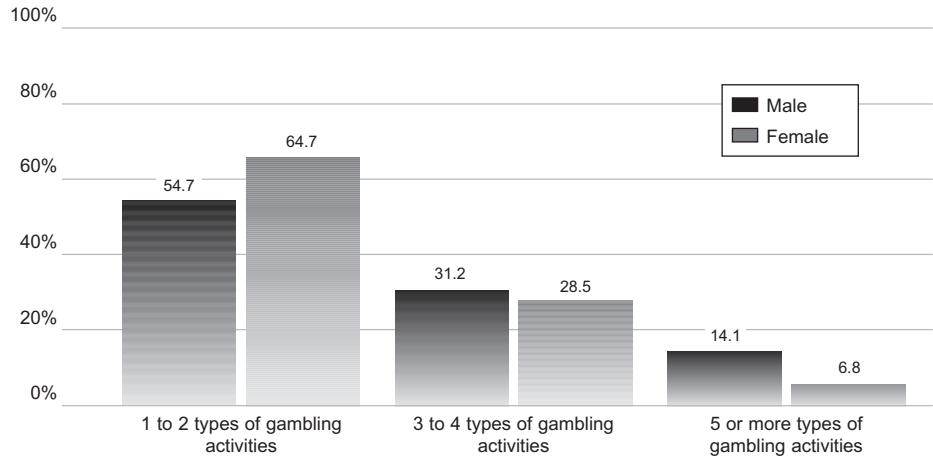
	1 to 2 types of gambling activities	3 to 4 types of gambling activities	5+ types of gambling activities
Total	59.6	29.9	10.5
Gender***			
Male	54.7	31.2	14.1
Female	64.7	28.5	6.8
Grade level			
Grades 7-9	61.0	29.4	9.6
Grades 10-12	59.0	30.1	10.9

*p<.05; ** p<.01; *** p<.001

Note: The number of gambling activities was calculated based on whether youth reported participating in any of the eight gambling activities surveyed within the 12 months prior to the survey.

Gender: Of students who had gambled during the previous year, significantly more male students (14.1%; CI 12.5% to 16.0%) than female students (6.8%; CI 5.3% to 8.7%) reported participating in five or more gambling activities.

FIGURE 4: Number of gambling activities among young who gambled in the past 12 months, by gender



Frequency of gambling during the past 12 months

In TAYES 2005, students were asked how often they had participated in each of the eight gambling activities during the previous 12 months. Of students who reported gambling during the previous year, most had participated in some of the eight gambling activities several times per year (45.8%) or less than once a month (39.4%). Fewer students reported gambling about once a month (14.8%), and none of the students surveyed reported gambling about once a week or more. The analysis did not reveal statistically significant differences by grade level.

TABLE 9: Frequency of past-year gambling, by gender, grade level and region (as percentages of current gamblers)

	Several times per year	Less than once per month	About once a month	About once a week	Daily or almost daily
Total	45.8	39.4	14.8	—	—
Gender**					
Male	41.5	39.2	19.3	—	—
Female	50.1	39.7	10.2	—	—
Grade level					
Grades 7-9	42.9	42.9	14.2	—	—
Grades 10-12	47.0	37.9	15.1	—	—
Region**					
Edmonton	49.1	34.5	16.4	—	—
North	46.4	42.6	10.9	—	—
Central	40.8	45.0	14.2	—	—
South	47.8	38.7	S	—	—
Calgary	NA	NA	NA	—	—

*p<.05; ** p<.01; *** p≤.001

NA: not available

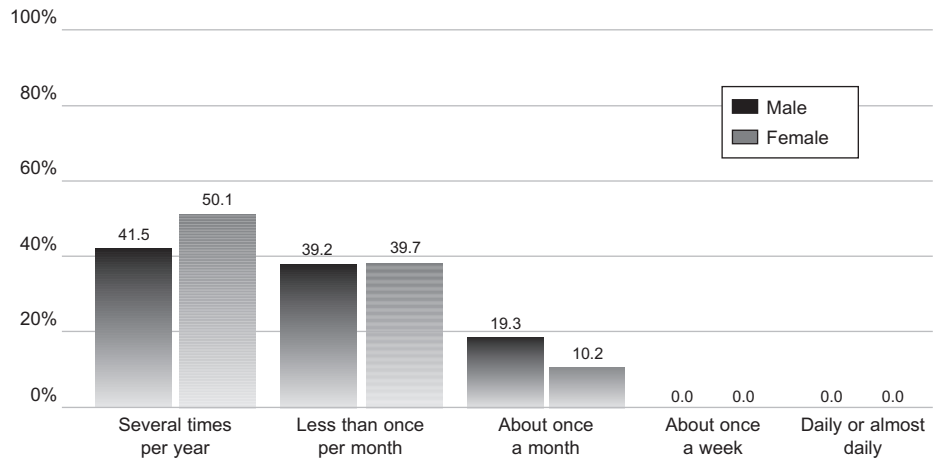
S: Estimate suppressed because of unacceptably high sampling variability.

Note: Percentages may not total 100% because of rounding.

Region: Analysis showed a significant relationship between region and how frequently youth gambled during the 12 months before the survey. Among youth who had gambled in the previous 12 months, students from the Central region (40.8%) were less likely to report that they had gambled only several times per year than students in the Edmonton (49.1%), South (47.8%) and North (46.4%) regions. On the other hand, students from the North region were less likely to report gambling about once per month (10.9%) than students from the Edmonton region (16.4%) and Central region (14.2%).

Gender: Significantly more male students (19.3%; CI 15.6% to 23.7%) than female students (10.2%; CI 8.8% to 11.8%) reported gambling about once a month or more. More female students (50.1%; CI 44.1% to 56.2%) than male students (41.5%; CI 38.0% to 45.1%) reported gambling only several times a year.

FIGURE 5: Frequency of gambling among youth who gambled at least once in the past 12 months, by gender



Problem gambling

Problem gambling among youth is associated with psychological, behavioural, social, academic and legal difficulties. For example, youth with gambling problems are more likely to have a lower self-image and to suffer from anxiety, depression, and problems controlling anger and impulsiveness (Gerdner & Svensson, 2003). Youth problem gamblers are preoccupied with gambling, have poorer academic performance, neglect their academic commitments (e.g., attending school), and drop out of school at an earlier age. Youth who are classified as at-risk or problem gamblers participate in criminal and delinquent behaviour, report lying to friends and family about the nature and extent of their gambling problem, and have disrupted or strained family and peer relationships more often than non-gamblers (Delfabbro et al., 2006a; Messerlian et al., 2005; Dickson, Derevensky, & Gupta, 2004).

Though there are several instruments designed to measure problem gambling among non-clinical youth populations, the South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA) is used in Canadian research to determine hazardous youth gambling behaviour (Poulin, 2000). The SOGS-RA was designed as a method of screening for at-risk and problem gambling among youth (Winters, Stinchfield, & Fulkerson, 1993). Results from the 1998 Student Drug Use Survey in the Atlantic Provinces show that among youth in Nova Scotia, New Brunswick, Newfoundland and Labrador, and Prince Edward Island, 3.8% meet the narrow SOGS-RA criteria for at-risk gambling, and 2.2% are classified as problem gamblers (Poulin, 2000).

The SOGS-RA was included in the TAYES 2005 questionnaire to determine hazardous or problem gambling. The SOGS-RA includes 12 questions about potential problems related to gambling; questions are scored at one point each for affirmative answers, to a maximum score of 12, consistent with the narrow problem gambling definitions⁵ of the screen.⁶ Scores of zero or one categorize students as having no problem gambling behaviour, scores of two or three indicate “at-risk” gambling behaviour, and scores of four or higher indicate “problem” gambling. At-risk gamblers are defined as those who gamble frequently with one problem OR who gamble less frequently with two or more problems. “Problem” gamblers are defined as youth who gamble daily OR gamble weekly with two or more problems.⁷

⁵ The narrow criteria used here are based solely on the SOGS-RA total score, whereas the broad criteria include higher scores for daily and weekly gambling with lesser requirements for evidence of gambling-related harm.

⁶ Winters, Stinchfield, and Fulkerson provide both “broad” and “narrow” criteria for at-risk and problem gambling. To increase the precision of the findings, TAYES 2005 results include the “narrow” definitions only.

⁷ For a summary of the South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA), see the Appendix.

Hazardous or problem gambling

As shown in Table 10, the majority of current gamblers were categorized as being non-problem gamblers (87.6%), according to SOGS-RA criteria. A small proportion met SOGS-RA criteria for hazardous (at-risk) (8.8%) and problem (3.6%) gambling. The analysis did not reveal statistically significant differences by gender.

Region: Current gamblers in the North region (94.7%; CI 92.6% to 96.2%) were significantly more likely to be classified as non-problem gamblers than those in the Central (89.0%; CI 85.8% to 91.6%), South (87.1%; CI 80.0% to 92.0%) and Edmonton (84.9%; CI 81.7% to 87.6%) regions. Because the percentage of students who met the criteria for at-risk and problem gambling was small, regional comparisons were not possible for these categories.

Grade level: Levels of hazardous gambling did not vary by grade level; 87.7% of current gamblers in grades 7 through 9 and 87.6% of current gamblers in grades 10 through 12 met non-problem gambling criteria. Similarly, 8.4% of current gamblers in grades 7 through 9 and 9.0% of current gamblers in grades 10 through 12 met SOGS-RA criteria for at-risk gambling. Because the percentage of students who met the criteria for problem gambling was small, comparisons by grade level were not possible for this category.

TABLE 10: Current gamblers classified at different levels of at-risk or problem gambling according to the SOGS-RA, by gender, grade level and region (as percentages)

	Non-problem gamblers [gamble with a score of 0 or 1 out of 12 possible problems]	At-risk gamblers [gamble frequently with one problem OR gamble less frequently with two or more problems]	Problem gamblers [gamble daily OR gamble weekly with two or more problems]
Total	87.6	8.8	3.6
Gender			
Male	84.3	11.6	4.1
Female	91.1	5.9	3.1
Grade level			
Grades 7-9	87.7	8.4	S
Grades 10-12	87.6	9.0	3.5
Region**			
Edmonton	84.9	10.9	4.2
North	94.7	S	S
Centra	89.0	7.6	3.4
South	87.1	S	S
Calgary	NA	NA	NA

*p<.05; ** p<.01; *** p≤.001

NA: not available

S: Estimate suppressed because of unacceptably high sampling variability.

Note: Percentages may not total 100% because of rounding.

Gambling-related harm

Analyses of individual SOGS-RA items indicate which youth are experiencing harm or negative consequences associated with gambling. These items include problems such as arguments with family and friends or problems at work or school as a result of their betting, arguments with family or friends because of money spent on gambling, borrowing money or stealing something in order to bet or cover gambling debts, and skipping or being absent from school or work because of betting activities.

As shown in Table 11, few current gamblers reported experiencing the signs of gambling-related harm outlined in SOGS-RA items: 3% reported experiencing problems such as arguments with family and friends or problems at school or work as a result of their betting; 2% reported having arguments with family or friends because of money spent on gambling. Fewer claimed that they had borrowed money or stolen something in order to bet or cover gambling debts (1.7%), or that they had skipped or been absent from school or work due to betting activities (1.5%).

The analysis did not reveal statistically significant differences by grade level. Because the percentage of students who reported experiencing gambling-related harm was small, comparisons by gender and region were not possible.

TABLE 11: SOGS-RA items indicating signs of gambling-related harm in the past 12 months, by gender and grade level (as percentages of current gamblers)

	Total	Gender		Grade level	
		Male	Female	7-9	10-12
Total problems, such as arguments with family and friends or problems at school or work	3.0	3.7	S	4.2	2.4
Arguments with family or friends because of money spent on gambling	2.0	2.5	S	S	2.1
Borrowed money or stolen something in order to bet or cover gambling debts	1.7	S	S	S	S
Skipped or been absent from school or work due to betting activities	1.5	S	S	S	S

S: Estimate suppressed because of unacceptably high sampling variability.

Risk and protective factors

This section presents results regarding selected risk and protective factors, and their relationship with gambling behaviour. As stated previously, risk and protective factors are life events or experiences that are associated with problematic behaviour. Analyses of TAYES 2005 data indicate that substance use, peer risk behaviour and parental monitoring are associated with gambling behaviour among Alberta youth. The results of the analyses are provided below.

Current substance use

Types of problem behaviour are more likely to cluster than to occur in isolation (AADAC, 2003). The literature reveals that youth gamblers are three to four times more likely to drink alcohol on a weekly basis, use other drugs or smoke than youth who seldom or never gamble (Duhig et al., 2007; Delfabbro et al., 2006a). Furthermore, current gamblers have an increased risk of developing an alcohol or other drug addiction (Messerlian et al., 2003).

As shown in Table 12, youth who had used alcohol, tobacco, cannabis, or other illicit drugs in the previous 12 months were significantly more likely than non-users to have participated in gambling activities.

- Those who had used illicit drugs (excluding cannabis) were far more likely to be current gamblers (79.1%; CI 76.1% to 81.8%) than to be non-gamblers (20.9%; CI 18.3% to 23.9%).
- A higher percentage of those who had used cannabis were current gamblers (74.4%; CI 68.7% to 79.4%) than non-gamblers (25.6%; CI 20.6% to 31.3%).
- Those who had used tobacco in the previous 12 months were more likely to be current gamblers (74.2%; CI 66.8% to 80.4%) than to be non-gamblers (25.6%; CI 19.6% to 33.2%).
- Those who had used alcohol in the previous 12 months were far more likely to be gamblers (73.5%; CI 71.7% to 75.2%) than to be non-gamblers (26.5%; CI 24.8% to 28.3%).

TABLE 12: Youth gambling and substance use (as percentages of current gamblers)

	Respondent is a non-gambler	Respondent is a current gambler
Total	37.4	62.6
Survey respondent		
Used drugs (excluding cannabis)***	20.9	79.1
Used cannabis***	25.6	74.4
Used tobacco*	25.6	74.2
Used alcohol***	26.5	73.5
Respondent's closest friend #1		
Used drugs*	26.6	73.4
Used alcohol***	28.2	71.8
Respondent's closest friend #2		
Used drugs*	25.1	74.9
Used alcohol***	27.8	72.2

*p<.05; ** p<.01; *** p≤.001

Peer risk behaviour

When parental influences are low, peers have a significantly greater likelihood of influencing the participation of youth in gambling behaviour (Magoon & Ingersoll, 2006). Furthermore, gambling activity is associated with other high-risk behaviour undertaken with peers who have similar attitudes and circumstances (Delfabbro et al., 2006a).

As shown in Table 12, youth who associated with friends who engaged in high-risk behaviour were more likely to be current gamblers than to be non-gamblers. For example, youth who indicated that their closest friend used illicit drugs were more likely to be gamblers (73.4%; CI 61.8% to 82.4%) than to be non-gamblers (26.6%; CI 17.6% to 38.2%). Similarly, if their closest friend used alcohol, they were more likely to be gamblers (71.8%; CI 70.2% to 73.4%) than to be non-gamblers (28.2%; CI 26.6% to 29.8%).

Parental monitoring

Research indicates that parental practices are related to youth gambling behaviour. Increased attachment to parents, higher levels of parental monitoring and supervision, and increased parental engagement act as protective factors and are associated with lower levels of gambling behaviour (including not gambling at all). Low parental monitoring and inadequate disciplinary practices are associated with frequent gambling behaviour among youth (Felsher et al., 2003).

The TAYES 2005 questionnaire included four questions related to parental monitoring of adolescents. As shown in Table 13, non-gamblers reported

higher levels of parental monitoring across all four measures. More non-gamblers (91.3%) than current gamblers (84.8%) reported that their parents know where they are after school. A greater proportion of non-gamblers (88.9%; CI 84.2% to 92.4%) than current gamblers (76.9%; CI 68.8% to 83.4%) reported that their parents know whom they are with when they go out at night. Far more non-gamblers (88.3%; CI 83.8% to 91.7%) than current gamblers (73.5%; CI 66.4% to 79.6%) reported that their parents know where they are when they go out at night. More non-gamblers (67.5%; CI 60.7% to 73.5%) than current gamblers (54.1%; CI 47.4% to 60.6%) reported that when they go out on weekend nights, they have to be home at a set time.

TABLE 13: Percentage of all adolescents, current gamblers and non-gamblers reporting high levels of parental monitoring

	Overall	Non-gamblers	Current gamblers
My parents know where I am after school**	87.3	91.3	84.8
When I go out at night, my parents know who I am with***	81.5	88.9	76.9
When I go out at night, my parents know where I am**•	79.2	88.3	73.5
When I go out on weekend nights, I have to be home by a set time***	59.2	67.5	54.1

*p<.05; ** p<.01; *** p≤.001

Note: Percentages may not total 100% because of rounding.

Summary

This brief TAYES 2005 report explores the prevalence of gambling and gambling-related harm among Alberta youth. It provides current information on prevalence of adolescent gambling and associated risk factors.

- Almost two-thirds (62.6%) of Alberta youth reported participating in at least one gambling activity in the 12 months before the survey, an increase of 21.4 percentage points since 2002.
- Across Canada, the prevalence of youth gambling ranges from a high of 65% in Newfoundland and Labrador (2003) to a low of 37% in Manitoba (2004). Alberta (2005) ranks second (63%), tied with Nova Scotia (2002).
- Fewer Alberta youth reported gambling during their lifetime (59.2%) than reported gambling during the 12 months before the survey (62.6%); this suggests that some youth may not be aware of all of the activities that constitute gambling.
- Over half of the adolescents surveyed (59.6%) reported participating in one or two gambling activities during the previous 12 months, and most reported gambling several times per year (45.8%) or less than once per month (39.4%).
- Male students participated in more gambling activities and gambled more often than female students.
- Most youth reported first gambling before they were in Grade 7 (42.8%) or when they were in grades 7 through 9 (41.8%).
- Few Alberta students met the SOGS-RA criteria for at-risk gambling (8.8%) and fewer were classified as problem gamblers (3.6%). Grade and gender were not significant factors in determining at-risk or problem gambling among youth.
- Few students (3.0% or less) reported experiencing gambling-related harm associated with their friendships and social life, family, school or work, and finances.
- Youth who reported using substances in the previous year were more likely to be current gamblers than to be non-gamblers.
- Youth who reported having close friends who had used substances in the previous year were more likely to be current gamblers than to be non-gamblers.
- Though most Alberta youth reported high levels of parental monitoring (from 87.3% to 59.2% across the items measuring parental monitoring), non-gamblers reported higher levels of monitoring than did current gamblers.

Discussion

Findings from TAYES 2005 show that grade and gender are the primary factors related to gambling. As well, survey and literature findings indicate that there are several risk and protective factors associated with gambling, including substance use, peer risk behaviour and parental monitoring. Overall, TAYES results reflect current trends in youth gambling as indicated by other research across Canada.

Grade

Grade was associated with some aspects of gambling behaviour. This finding is consistent with the research literature (Adlaf et al., 2006). As grade increases, there are statistically significant increases in rates of both past-year and lifetime gambling. Students in grades 10 through 12 were more likely than those in grades 7 through 9 to play cards for money, bet on sporting events, and play any other lottery. However, grade was not a significant factor related to the number of gambling activities, gambling frequency or the level of harm experienced with gambling.

Gender

Males reported higher rates of lifetime and past-year gambling than females. Among gamblers, males participated in more gambling activities and gambled more often than female students. For example, males were more likely than females to play cards for money, bet on sporting events, play Sport Select, bet online, and play any other lottery. These findings are consistent with the research literature (Adlaf et al., 2006; Derevensky & Gupta, 2000). Although the literature suggests that male youth were also more likely to begin gambling at an earlier age (Adlaf et al.; Derevensky & Gupta), analysis of the TAYES 2005 data did not reveal a significant association between gender and the grade at which youth first gambled.

Region

Of the three demographic factors analyzed, region had the fewest associations with gambling; the one exception was in regard to the SOGS-RA classification of hazardous or problem gambling. Current gamblers in the North region were significantly more likely to be non-problem gamblers than those in the Central, South and Edmonton regions.

Substance use and gambling

According to TAYES 2005 results, youth who had used tobacco, illicit drugs or alcohol during the 12 months before the survey were significantly more likely to be current gamblers than to be non-gamblers. This is consistent with findings reported in the literature, which show that gambling among youth is

associated with other risk-taking behaviour, including substance use (Duhig et al., 2007; Poulin, 2002). Researchers report that youth gamblers are three to four times more likely than youth who seldom or never gamble to drink alcohol on a weekly basis, to use other drugs or to smoke (Duhig et al.; Delfabbro et al., 2006a). As stated by Delfabbro, Lahn, and Grabosky (2006b), gambling is a form of high-risk behaviour that is undertaken with peers who have similar attitudes and circumstances.

Parental monitoring

Non-gamblers were more likely than current gamblers to report higher levels of parental monitoring across the four TAYES 2005 questionnaire items that measured level of monitoring. These survey findings are supported by findings in the literature. For instance, research indicates that low levels of parental monitoring are associated with frequent gambling behaviour among youth (Felsher et al., 2003). Furthermore, youth who report a lack of trust and communication with their parents are more likely to report gambling behaviour (Magoon & Ingersoll, 2006). As well, when parental influences are low, peers have a significantly greater likelihood of influencing youth participation in gambling (Magoon & Ingersoll).

Implications for prevention

The findings in this report provide current, relevant information about gambling among Alberta youth that is necessary for designing prevention programming. Because gambling is becoming increasingly common among Alberta adolescents (an increase of 21.4 percentage points in the rate of current gambling since 2002), the results emphasize the need to target prevention programming efforts in the area of gambling.

Although causality has not been established for the risk and protective factors discussed in this report, the findings identify areas for consideration in regard to prevention. For example, the associations between grade and indicators of problem gambling demonstrate a need to focus on grade-specific prevention programming. Since almost half of students in Grade 7 (47.9%) reported gambling in the previous year, prevention efforts at the elementary level may be beneficial. Furthermore, survey findings suggest that students at lower grade levels may not be fully aware of what constitutes gambling activities. Because the age at which youth first gamble is also a risk factor for hazardous gambling in later adolescence and adulthood (Magoon & Ingersoll, 2006; Felsher et al., 2004; Gerdner & Svensson, 2003), prevention programming aimed at awareness of gambling and its risks may be beneficial. The literature reveals that many parents approve of and enable youth gambling (Felsher et al., 2003). Because age at which youth first gamble is a risk factor for hazardous gambling, prevention programming directed toward parents may also be beneficial in terms of increasing their awareness of these and other risk factors. Felsher et al. (2003) recommend that because parents tend to perceive adolescent gambling as a socially acceptable behaviour, they should be involved in the prevention, identification and treatment of problem gambling behaviour among adolescents.

Analysis of gambling behaviour also revealed significant differences by gender. These findings demonstrate a need for gender-specific prevention programming. Survey results revealed that males tend to begin gambling at an earlier age, participate in more gambling activities and gamble more frequently than females.

TAYES 2005 survey results indicate that substance use, substance use among peers and participation in gambling are associated. Because problem gambling is associated with high-risk behaviour, researchers suggest that programs designed to increase awareness about drug use among youth should be extended to include gambling (Delfabbro et al., 2006a; Dickson et al., 2002).

Although few youth met the criteria for problem gambling and few reported experiencing harm associated with gambling, the literature states that youth who have gambling problems need to be identified and to have access to appropriate treatment (Messerlian et al., 2005). Researchers further suggest that primary health-care workers be educated about youth who are at risk for developing a severe gambling problem (Messerlian et al.).

Given the recent change in gambling prevalence among youth in Alberta, continued monitoring of trends in youth gambling is important. Monitoring youth gambling behaviour over time will provide an indication of the effectiveness of prevention activities, and will assist in more quickly identifying emerging trends.

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Appendix

South Oaks Gambling Screen-Revised for Adolescents

The South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA) is an adaptation of the South Oaks Gambling Screen (for adults) customized to evaluate at-risk and problem gambling behaviour in adolescents (Winters et al., 1993). The test was included in the TAYES questionnaire to determine at-risk and problem gambling behaviour. SOGS-RA scores are calculated by summing responses for the twelve questions. Scores may range from zero to 12, with scores of zero or one representing no problem gambling behaviour, scores of two or three representing at-risk gambling behaviour, and scores of four or higher representing problem gambling behaviour.

The questions, response categories and scoring criteria are as follows:

Question 47

In the last 12 months, how often have you gone back another day to try to win back the money you have lost?

Response	Score
Every time	1
Most of the time	1
Some of the time	0
Never	0

Question 49a

In the last 12 months, when you were betting, have you ever told others you were winning money when you really weren't winning?

Response	Score
Yes	1
No	0

Question 49b

In the last 12 months, have you ever gambled more than you had planned to?

Response	Score
Yes	1
No	0

Question 49c

In the last 12 months, has anyone criticized your betting or told you that you had a gambling problem, regardless of whether you thought it was true or not?

Response	Score
Yes	1
No	0

Question 49d

Has your betting in the last 12 months ever caused any problems for you such as arguments with family and friends or problems at school or work?

Response	Score
Yes	1
No	0

Question 49e

In the last 12 months, have you ever felt badly about the amount of money you bet or about what happens when you bet money?

Response	Score
Yes	1
No	0

Question 49f

In the last 12 months, have you ever felt like you would like to stop betting money but didn't think you could?

Response	Score
Yes	1
No	0

Question 49g

In the last 12 months, have you ever hidden any betting slips, IOUs, lottery tickets, money that you've won, or other signs of gambling from family and friends?

Response	Score
Yes	1
No	0

Question 49h

In the last 12 months, have you had arguments with family or friends because of the money you spend on gambling?

Response	Score
Yes	1
No	0

Question 49i

In the last 12 months, have you borrowed money to bet and not paid it back?

Response	Score
Yes	1
No	0

Question 49j

In the last 12 months, have you borrowed money or stolen something in order to bet or to cover gambling debts?

Response	Score
Yes	1
No	0

Question 49k

In the last 12 months, have you ever skipped or been absent from school or work due to betting activities?

Response	Score
Yes	1
No	0



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