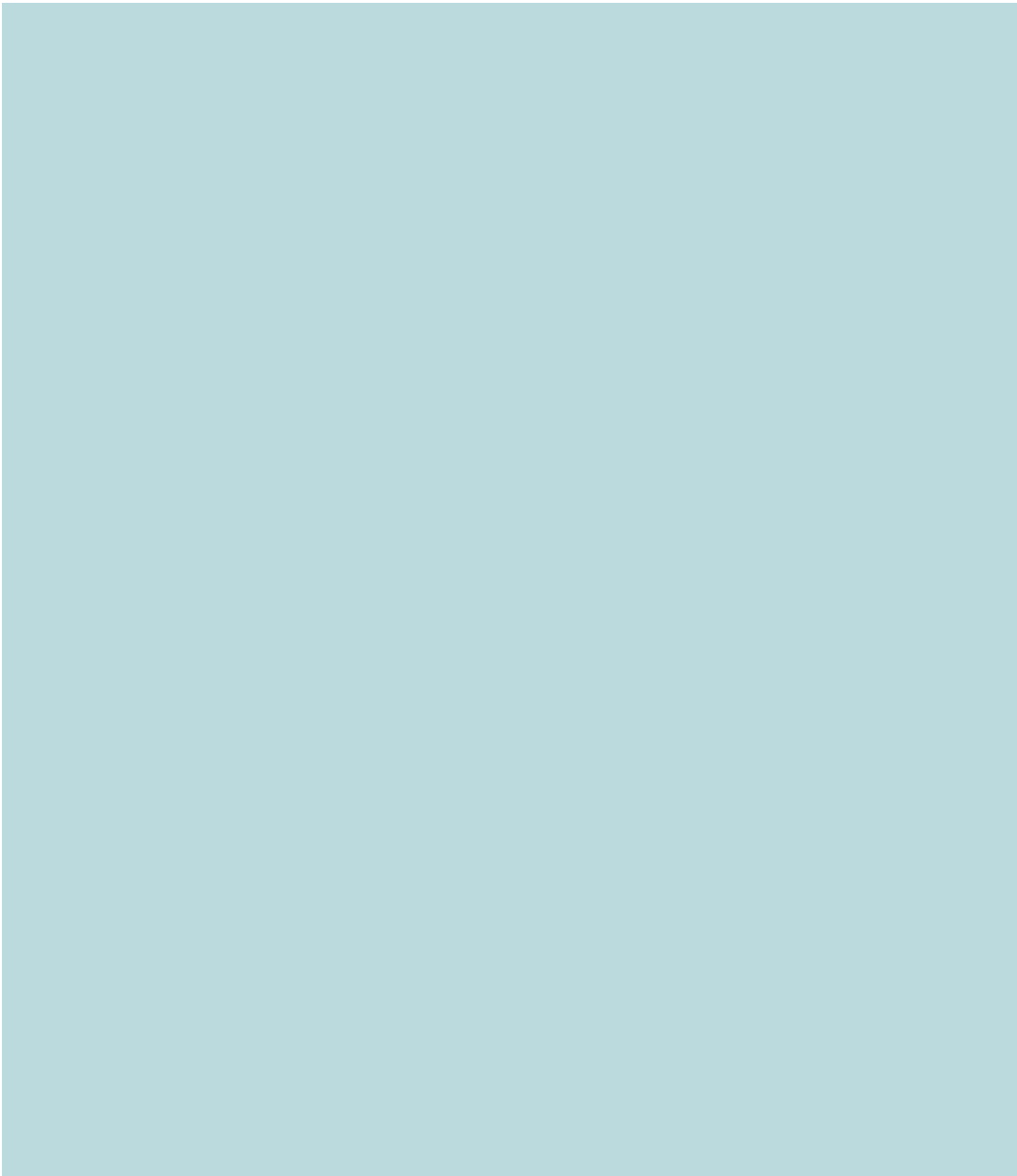


Alcohol use among Alberta youth: The Alberta Youth Experience Survey 2005



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January 2007

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Executive Summary

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

Alcohol use

- Results indicate that 63.4% of Alberta youth were current drinkers. Current drinkers are those who had consumed at least one alcoholic beverage (excluding sips) in the 12 months before the survey.
- The proportion of adolescents reporting past-year alcohol use has risen 7.1% since 2002. Almost two-thirds (63.4%) of Alberta students surveyed in TAYES 2005 were current drinkers versus 56.3% of students surveyed in TAYES 2002.
- There is a statistically significant relationship between past-year alcohol use and gender, grade, and living arrangement. Alberta adolescents are more likely to use alcohol if they
 - are male
 - are in grades 10 through 12
 - live with only one of their biological parents
- The proportion of adolescents consuming alcohol in Alberta is surpassed only by that in Quebec (69.0%). Youth in Ontario (62.0%), Manitoba (58.8%), Newfoundland and Labrador (58.0%), New Brunswick (53.0%), Nova Scotia (51.7%), and Prince Edward Island (49.0%) were less likely to have consumed alcohol in the previous year.¹
- Of current drinkers, most (59.6%) first consumed alcohol in grades 7 through 9.
- Over half (56.2%) of current drinkers report consuming alcohol at special events only or once a month or less.
- The quantity of alcohol consumed on drinking occasions is significantly related to gender and grade. Youth are more likely to drink higher quantities if they are male or in grades 10 through 12.
- Of adolescents who had consumed alcohol in the previous 12 months, 36.7% meet AUDIT² criteria for hazardous drinking.

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

² For a summary of the Alcohol Use Disorders Identification Test (AUDIT), see the Harmful Use section and the Appendix.

Implications for prevention

- Because TAYES 2005 results indicate that youth alcohol consumption increased by 7.1% since 2002 and Alberta alcohol use levels are surpassed only by Quebec in cross-provincial comparisons, the results emphasize the need to strengthen resources in the area of alcohol prevention.
- When examining the relationships between risk factors and substance use, grade was the most important factor associated with alcohol use. These findings demonstrate a need for age-specific, ongoing prevention programming.
- Prevention programming directed toward parents may also be beneficial in informing them of the importance and effectiveness of parental supervision in relation to adolescent alcohol use.
- Programming aimed at denormalizing adolescent alcohol use and perceptions of easy availability of alcohol may be effective at reducing alcohol use among Alberta's youth.

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 corporate website at <http://corp.aadac.com/research/>.

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. In order 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 alcohol use. Topics explored are prevalence of consumption, harmful use, and risk factors associated with alcohol use. The following questions are addressed:

Alcohol Use

1. What percentage of adolescents drink alcohol?³
2. Is consumption of alcohol increasing or decreasing among Alberta youth?
3. How do consumption levels among Alberta youth compare to levels in other provinces?
4. What proportion of adolescents have drunk alcohol in their lifetime?
5. In which grade do adolescents first drink alcohol?
6. How often do adolescents drink alcohol?
7. What quantity of alcohol do adolescents drink?

Harmful Use

1. What proportion of youth participated in binge drinking in the past month?
2. What percentage of adolescents meet AUDIT criteria for hazardous drinking?
3. How many symptoms of alcohol dependence do Alberta youth experience?
4. What types of alcohol-related harm do adolescents experience?

³ For the purpose of this investigation, adolescents were classified as "current users" or "current drinkers" if they had consumed at least one alcoholic beverage in the previous 12 months, excluding sips.

5. What percentage of Alberta adolescents have had contact with health care personnel as a result of alcohol use?
6. What proportion of Alberta youth have had contact with law enforcement as a result of their alcohol use?
7. How many adolescents have participated in treatment programs for their alcohol use?

Risk Factors

1. What is the relationship between levels of parental monitoring and alcohol use and non-use?
2. What is the relationship between youth perceptions of ease of access to alcohol and alcohol use and non-use?
3. Is there a relationship between attendance at raves and outdoor parties and alcohol consumption?

In addition to presenting results associated with prevalence of use, this report discusses the relationships between alcohol use and gender, grade, region, and living arrangement. Furthermore, the summary examines the association between several risk factors and alcohol use and non-use. By exploring alcohol use among Alberta youth and associated risk factors and demographic information, AADAC, other government departments, schools, and community agencies associated with Alberta youth are better able to inform prevention and programming activities and policies in support of Alberta's youth.

Background

Findings from other Canadian student surveys provide a context in which to better understand TAYES 2005 results. By providing a frame of reference for Alberta adolescent alcohol use, comparisons to the prevalence of use, hazardous drinking behaviour, and associated risk factors of other provinces may be made. Furthermore, Alberta results differing from national trends. These differences can instruct programming in Alberta.

Youth Trends

Canadian student surveys consistently identify that the most commonly used substance among youth is alcohol (Adlaf & Paglia-Boak, 2005; McCreary Centre Society, 2004; Patton & Brosveit, 2005; Liu, Jones, Grobe, Balram & Poulin, 2003; Poulin, Martin & Murray, 2005; Poulin, 2002; and Van Til & Poulin, 2002). In recent reporting, researchers offer divergent estimations of alcohol use trends among Canadian youth. Although some results show evidence of a decreasing trend in alcohol consumption (McCreary Centre Society, 2004; Poulin, 2002; and Adlaf & Paglia-Boak, 2005), others suggest that alcohol consumption rates are unchanging (Patton & Brosveit, 2005;

Liu, et al., 2003; Poulin et al., 2005; Van Til & Poulin, 2002; and Perron & Loiselle, 2003). Conversely, in 1995, Health Canada proposed that although alcohol use among youth declined during the preceding two decades, there were indications that the trend was reversing.

Canadian research also shows that fewer than half of current drinkers exhibited binge drinking behaviour in the month before being surveyed (Adlaf & Paglia-Boak, 2005; and Patton & Brosveit, 2005). Measures for hazardous drinking varied by provincial survey, but the Ontario Student Drug Use Survey (OSDUS) 2003, which, like TAYES 2005, uses the AUDIT to measure hazardous drinking, claimed that about one quarter of current drinkers demonstrated evidence of hazardous drinking, with the likelihood of hazardous drinking increasing incrementally by grade in school. The OSDUS also revealed that hazardous drinking is significantly less prevalent in urban areas (Adlaf & Paglia-Boak, 2005). Since the OSDUS uses the AUDIT to measure hazardous drinking, Ontario estimations of hazardous drinking behaviour provide a comparison against which to better understand TAYES 2005 findings.

Risk Factors

TAYES research is based on a risk and protective factor framework (Hawkins, Catalano, & Miller, 1992). The risk and protective factor framework “organizes research on factors that present risks for and protect adolescents from the [harm] associated with substance use and misuse” (Alberta Alcohol and Drug Abuse Commission [AADAC], 2003).

The guiding principle of the framework is that factors within life domains (individual, family, school, peer, and community) either increase or mitigate risk associated with substance use. Risk factors do not cause problematic behaviour, but their accumulation and interaction may lead to an increased potential for substance use if they are not mitigated by protective factors (AADAC, 2005b). Hawkins et al. (1992) also suggest that factors often interact with each other to influence substance use (Hawkins et al., 1992, as cited in AADAC, 2004).

Although the risk and protective factor framework focuses on risk factors, it also addresses the diametric nature of the factors. Hawkins et al. (1992) favor a risk-based approach to the application of their framework, citing the effectiveness of programming aimed at reducing risks. When one expression of a variable is categorized as a risk factor, the opposite expression may be a protective factor (Labouvie & McGee, 1986, as cited in Hawkins et al., 1992). For example, whereas low levels of parental monitoring represent a risk factor, high levels function as a protective factor.

This report examines alcohol use, harm proceeding from alcohol use, and the influence of risk factors on alcohol use and resultant harm. The research literature identifies four variables that affect risk of alcohol use and harm from alcohol use: grade, gender, geography and living arrangement.

The higher the grade in school, the greater the proportion of adolescents who use alcohol, the greater the frequency of consumption and amount consumed, and the greater the evidence of harmful use (AADAC, 2005b; Adlaf & Paglia-Boak, 2005).

The literature shows that males are more likely to report binge drinking and consuming alcohol at hazardous levels (AADAC, 2005b; Adlaf & Paglia-Boak, 2005). Regional characteristics also influence alcohol use.

Adolescents who live in metropolitan areas are less likely to consume alcohol (McCreary Centre Society, 2004) and to show evidence of hazardous drinking (Adlaf & Paglia-Boak, 2005) than are those who live in non-metropolitan areas.

Those who live with both biological parents are at lower risk for substance abuse than are those living with one or no biological parents (AADAC, 2005b).

In addition to exploring these four variables (grade, gender, geography and living arrangement), this report explores the relationships between alcohol use and risk factors in three domains: family, community, and peers. Risk factors examined are parental monitoring, perception of ease of access to alcohol, and attendance at raves and outdoor parties.

In the family domain, adolescents with low levels of parental monitoring are more likely to use alcohol. Conversely, adolescents with high levels of parental monitoring are less likely to report alcohol use (AADAC, 2003).

The availability of alcohol, in the community domain, also influences youth alcohol use (AADAC, 2003). Perceptions that it is easy to obtain alcohol are associated with alcohol use.

In the peer domain, the propensity to attend raves (Poulin, 2002) and outdoor parties (AADAC, 2005b) is associated with alcohol use (AADAC, 2005b). Since adolescents are most likely to use substances when they are with their peers, they are at greater risk if they attend raves and outdoor parties.

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 et al. (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 conducted in compliance with the Freedom of Information and Protection of Privacy Act (1995). Active parental consent was needed in order for students to participate in the survey; students who did not obtain consent completed a mock survey featuring 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 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 applied 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).

Alcohol use was analyzed based on four factors: gender, grade or grade level, region, and living arrangement. Analysis by grade consisted of either individual grade levels or junior and senior high comparisons. Regional analysis compared the Edmonton, North, Central, and South regions. Living arrangement⁴ consisted of the following categories: both natural parents, natural father only, natural mother only, one natural parent and one step-parent, neither natural parents, and shared custody.

To determine the relationships between variables, cross-tabulations with chi square tests were used. Statistical significance was designated at $p < .05$. Only statistically significant bivariate analyses are included in tables throughout the 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

⁴ Categories for living arrangement are consistent with those used in other youth surveys (see AADAC, 2005b).

Alberta students overall, and comparisons to the 2002 TAYES findings and other surveys must be made with caution.

- Some subgroup sample sizes or estimates are too small to report. If a subgroup sample size is below 30 or an estimate is below 0.5%, the findings should be interpreted with caution. If both conditions are met, the findings have been suppressed.
- Since 2002, similar youth surveys have lowered the accepted AUDIT cutoff score to eight, which is consistent with World Health Organization AUDIT guidelines (Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G., 2001) and increases the sensitivity of the test. As a result of this change, comparisons between TAYES 2002 and 2005 AUDIT scores cannot be made.

Alcohol Use

This section presents results addressing seven questions related to alcohol use among Alberta youth. Results reported include estimates of current and lifetime use of alcohol, grade at first use, frequency of use, and typical number of drinks on drinking occasions. These findings are further examined, where differences are statistically significant, by four factors: gender, grade, region, and living arrangement. Past-year consumption comparisons to TAYES 2002 and other provincial results, where possible, are also reported.

Past-year use

Prevalence of alcohol use among Alberta youth

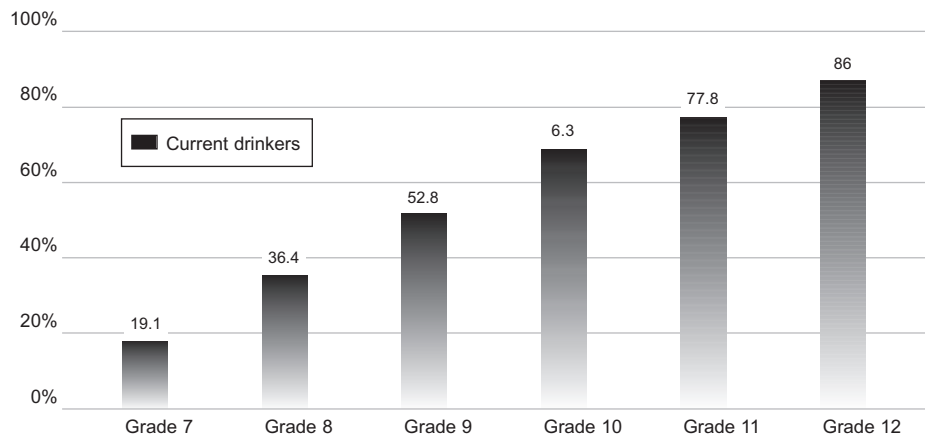
Almost two-thirds (63.4%) of adolescents reported consuming alcohol (excluding sips) in the 12 months before the survey. This estimate of “current drinkers”⁵ corresponds to approximately 173,725 Alberta youth in grades 7 through 12. Conversely, 36.6% of all respondents were non-drinkers.

Gender – As shown in Table 1, males (66.0%) were more likely than females (61.2%) to report using alcohol in the year before the survey.

Grade – The percentage of current drinkers increased as grade in school rose, as shown in Figure 1. Whereas only 19.1% (CI 16.3% to 22.2%) of students in Grade 7 were current drinkers, 36.4% (CI 27.8% to 46.1%) of Grade 8 students, 52.8% (CI 46.3% to 59.2%) of Grade 9 students, 67.3% (CI 60.1% to 73.7%) of Grade 10 students, 77.8% (CI 74.1% to 81.1%) of Grade 11 students, and 86.0% (CI 83.2% to 88.5%) of Grade 12 students reported drinking in the previous year.

⁵ When students reported consuming at least one alcoholic beverage in the 12 months before the survey, they were classified as “current drinkers” or “current users.” For examples, see Adlaf & Paglia-Boak, 2005, and Poulin, 2002.

FIGURE 1: Percentage of adolescents who are current drinkers, by grade



Note: Current drinkers are students who consumed alcohol in the 12 months prior to the survey (excluding sips).

Living arrangement – Youth living with both biological parents (58.2%) were less likely to be current drinkers than were those living in shared custody arrangements (77.9%), with neither natural parents (75.4%), with their biological mother only (75.1%), with one biological parent and one step-parent (71.8%), or with their biological father only (68.5%).

TABLE 1: Past-year alcohol use (current drinking/non-drinking) among all adolescents, by gender, grade and living arrangement (as percentages)

	Current drinker	Non-drinker
Total	63.4	36.6
Gender		
Male	66.0	34.0
Female	61.2	38.8
Grade		
Grade 7	19.1	80.9
Grade 8	36.4	63.6
Grade 9	52.8	47.2
Grade 10	67.3	32.8
Grade 11	77.8	22.3
Grade 12	86.0	14.0
Living arrangement		
Both biological parents	58.2	41.8
Biological father only	68.5	31.5
Biological mother only	75.1	24.9
One biological parent and one step-parent	71.8	28.3
Neither natural parents	75.4	24.6
Shared custody	77.9	22.1 ^o

^o Qualified release because of high sampling variability.

Comparisons to TAYES 2002 results

The proportion of adolescents who reported past-year alcohol use has risen by 7.1% since 2002. Almost two-thirds (63.4%) of students surveyed in 2005 were current drinkers, versus 56.3% of students in 2002.

Comparisons to other provinces

As shown in Figure 2, alcohol consumption in Alberta was relatively high compared with use in other provinces. Only Quebec (69.0%) surpassed Alberta (63.4%) in past-year consumption of alcohol. Fewer adolescents in Ontario (62.0%), Manitoba (58.8%), Newfoundland and Labrador (58.0%), New Brunswick (53.0%), Nova Scotia (51.7%), and Prince Edward Island (49.0%) reported consuming alcohol in the 12 months before the survey.

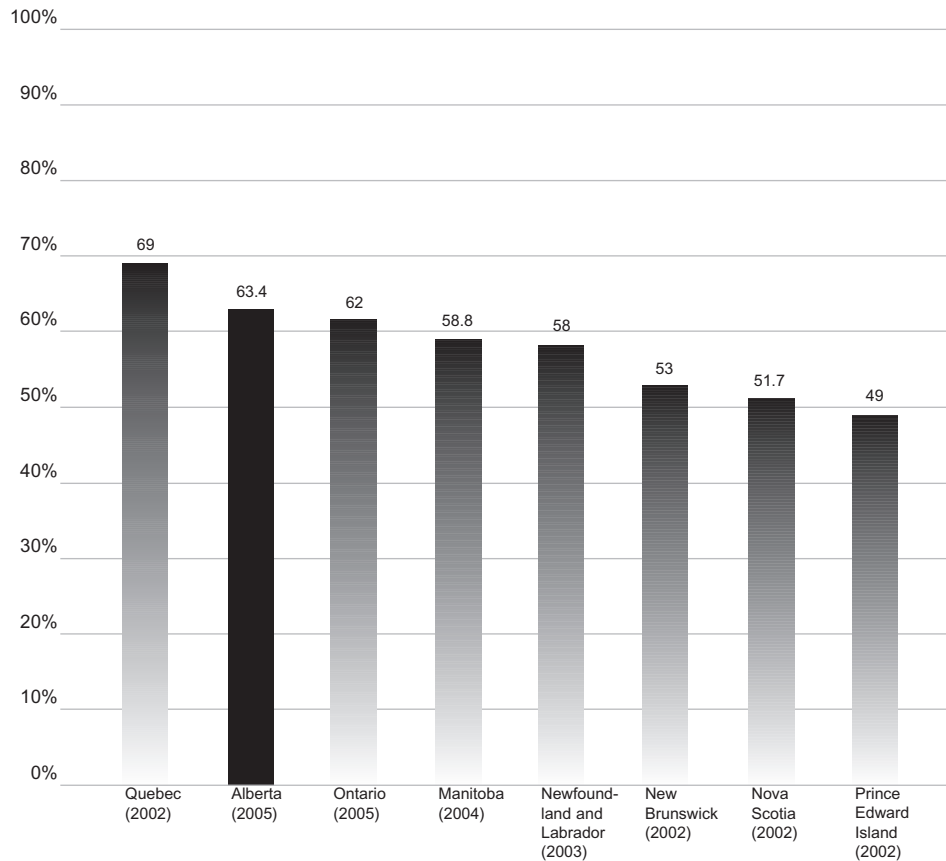


FIGURE 2: Percentage of youth who are current drinkers, by province

History of use

Lifetime use

In 2005, 70.8% of Alberta youth reported drinking alcohol in their lifetime. Conversely, 29.2% of students have never consumed alcohol. Table 2 illustrates lifetime alcohol use by gender, grade, and living arrangement. The analysis did not reveal statistically significant differences by region.

Gender – Almost three-quarters (73.1%) of males reported lifetime alcohol use, versus 68.8% of females.

Grade – Lifetime alcohol consumption increased by grade, with 32.5% of Grade 7 students reporting that they had ever consumed alcohol. By Grade 12, 91.7% of students reported that they have used alcohol in their lifetime.

Living arrangement–Adolescents living with their biological father only were most likely to report consuming alcohol in their lifetime (90.7%), whereas those living with both biological parents were least likely to report any lifetime use (65.2%).

TABLE 2: Lifetime alcohol use among all adolescents, by gender, grade and living arrangement (as percentages)

	Lifetime use	Never used
Total	70.8	29.2
Gender		
Male	73.1	26.9
Female	68.8	31.3
Grade		
Grade 7	32.5	67.5
Grade 8	45.2	54.8
Grade 9	63.5	36.5
Grade 10	72.6	27.5
Grade 11	82.9	17.1
Grade 12	91.7	8.3
Living arrangement		
Both biological parents	65.2	34.8
Biological father only	90.7	9.3 ^o
Biological mother only	80.6	19.4
One biological parent and one step-parent	81.0	19.0
Neither natural parents	83.0	17.0 ^o
Shared custody	82.8	17.2 ^o

^o Qualified release because of high sampling variability.

Grade at first use of alcohol

Most Alberta youth reported their grade at first use of alcohol occurring between grades 7 and 9 (59.6%). Fewer reported that they first tried alcohol before Grade 7 (22.0%) or in grades 10 through 12 (18.4%). The analysis did not reveal statistically significant differences by gender, region, and living arrangement.

TABLE 3: Grade at first use of alcohol among current drinkers (as percentages)

	First use before Grade 7	First use in grades 7 to 9	First use in grades 10 to 12
Total	22.0	59.6	18.4

Patterns of alcohol use

Frequency of past-year use

As shown in Table 4, the greatest proportion of current adolescent drinkers in Alberta consumed alcohol once a month or less (29.7%). Fewer reported consuming alcohol only at special events (26.5%), two to three times per month (25.5%), once a week (9.5%), two to three times per week (7.5%), or four or more times a week (1.3%). The analysis did not reveal statistically significant differences by gender, region, and living arrangement.

Grade level-Current drinkers in grades 7 through 9 (43.0%; CI 33.2% to 53.5%) were more likely than current drinkers in grades 10 through 12 (22.1%; CI 18.3% to 26.5%) to consume alcohol only at special events. The highest proportion of adolescents in grades 10 through 12 (29.3%) reported consuming alcohol once a month or less, a level similar to adolescents in grades 7 through 12 (30.9%). Current drinkers in grades 10 through 12 were more likely to report consuming alcohol two to three times per month (28.6%), once a week (10.1%), or two to three times per week (8.5%), compared with students in grades 7 through 9.

TABLE 4: Frequency of past-year alcohol use among current drinkers, by grade level (as percentages)

	Drank only at special events	Once a month or less	2 to 3 times a month	Once a week	2 to 3 times a week	+4 times a week
Total	26.5	29.7	25.5	9.5	7.5	1.3
Grade level						
Grades 7 to 9	43.0	30.9	13.9	7.3	3.6 ^o	1.3 ^o
Grades 10 to 12	22.1	29.3	28.6	10.1	8.5	1.3

^o Qualified release because of high sampling variability.

Typical number of drinks on drinking occasions

The greatest proportion of current drinkers were likely to consume one to two drinks per occasion when drinking (31.9%), as shown in Table 5. Fewer reported consuming three to four drinks per occasion (23.2%), five to six drinks per occasion (22.3%), seven to nine drinks per occasion (13.2%), or 10 or more drinks per occasion (9.3%) when drinking. The analysis did not reveal statistically significant differences by region and living arrangement.

Gender – Females (30.4%; CI 26.9% to 34.1%) were significantly more likely than males (15.4%; CI 13.5% to 17.6%) to report consuming three to four drinks on a typical occasion when they were drinking. Males were significantly more likely to report consuming seven to nine drinks on a typical occasion when drinking (18.4%; CI 13.5% to 24.7%) than females (8.5%; CI 6.0% to 12.0%). They were also significantly more likely to report consuming 10 or more drinks per occasion when drinking (12.9%; CI 9.7% to 17.0%) than females (6.1%; CI 4.0% to 9.1%).

Grade level – Adolescents in grades 7 through 9 were more likely to report drinking one to two drinks per occasion when drinking (58.3%; CI 49.3% to 66.8%) than were those in grades 10 through 12 (25.9%; CI 23.8% to 28.2%). Students in grades 10 through 12 were more likely to report drinking five or six drinks per occasion when drinking (24.8%; CI 21.9% to 27.9%) than students in grades 7 through 9 (11.3%; CI 8.1% to 15.4%).

TABLE 5: Typical number of drinks on drinking occasions among current drinkers, by gender and grade level (as percentages)

	1 to 2 drinks per occasion when drinking	3 to 4 drinks per occasion when drinking	5 to 6 drinks per occasion when drinking	7 to 9 drinks per occasion when drinking	10+ per occasion when drinking
Total	31.9	23.2	22.3	13.2	9.3
Gender					
Male	32.0	15.4	21.3	18.4	12.9
Female	31.8	30.4	23.2	8.5	6.1
Grade level					
Grades 7 to 9	58.3	18.9	11.3	7.7	3.8 ^o
Grades 10 to 12	25.9	24.2	24.8	14.5	10.6

^o Qualified release because of high sampling variability.

Harmful Use

This section presents results concerning the harmful use of alcohol. Results reported include estimates of binge drinking, hazardous drinking, and frequency of experiencing alcohol dependence symptoms and alcohol-related harm. These findings are further examined by four factors: gender, grade, region, and living arrangement. Also explored are the prevalence of specific alcohol dependence symptoms and alcohol-related harm, and contacts with health care personnel, treatment programs, and law enforcement officials as a result of alcohol use.

Binge drinking

As shown in Table 6, 49.6% of current drinkers participated in binge drinking (consuming five or more drinks on one occasion in the month before the survey). The analysis did not reveal statistically significant differences by gender, region, and living arrangement.

Grade level – Students in grades 10 through 12 (52.7%; CI 50.9% to 54.5%) were more likely to binge drink than students in grades 7 through 9 (34.6%; CI 27.6% to 42.3%).

TABLE 6: Binge drinking (five or more drinks on one occasion in the month prior to the survey) among current drinkers, by grade level (as percentages)

	Binge drank in past four weeks	Did not binge drink in past four weeks
Total	49.6	50.4
Grade level		
Grades 7 to 9	34.6	65.4
Grades 10 to 12	52.7	47.3

Hazardous drinking

AUDIT criteria for hazardous drinking

The Alcohol Use Disorders Identification Test (AUDIT)⁶ was established by the World Health Organization’s Department of Mental Health and Substance Dependence as a method of screening for excessive drinking (Babor et al., 2001). AUDIT questions were included in the TAYES 2005 questionnaire and provide an effective tool for identifying hazardous drinking.

Babor et al. define hazardous drinking as “a pattern of alcohol consumption that increases the risk of harmful consequences for the user or others” (2001). To screen hazardous drinking, the AUDIT asks questions relating to three domains: hazardous alcohol use, dependence symptoms, and harmful alcohol use. The hazardous use domain questions address frequency and typical quantity of drinking and frequency of heavy drinking. The dependence symptoms domain questions ask about impaired control over drinking, increased salience of drinking, and morning drinking. The harmful alcohol use domain questions measure guilt after drinking, blackouts, alcohol-related injuries, and others’ concern about drinking (Babor et al., 2001).

The AUDIT is calculated by summing the responses for the 10 questions and providing a total score. Scores may range from zero to 40, with scores of eight or higher representing hazardous or harmful drinking, according to AUDIT criteria.

Over one-third (36.7%) of current drinkers met (AUDIT) criteria for hazardous drinking. The analysis did not reveal statistically significant differences by gender and living arrangement.

Grade level – Students in grades 10 through 12 (39.5%; CI 32.4% to 47.1%) were more likely to meet or exceed the AUDIT criteria for hazardous drinking than students in grades 7 through 9 (24.0%; CI 18.0% to 31.3%).

⁶ The complete list of AUDIT questions and scoring criteria are presented in the Appendix.

Region – Adolescents in the Central (44.6%) and South (43.2%) regions were more likely to meet or exceed AUDIT criteria for hazardous drinking than students in the North (31.9%) or Edmonton (30.9%) regions.

TABLE 7: Current drinkers meeting AUDIT criteria for hazardous drinking, by grade level and region (as percentages)

	Current drinkers meeting AUDIT criteria for hazardous drinking	Current drinkers not meeting AUDIT criteria for hazardous drinking
Total	36.7	63.3
Grade level		
Grades 7 to 9	24.0	76.0
Grades 10 to 12	39.5	60.5
Region		
Edmonton	30.9	69.1
North	31.9	68.1
Central	44.6	55.5
South	43.2	56.8
Calgary	NA	NA

Alcohol dependence symptoms

The dependence symptom domain of the AUDIT features three items measuring alcohol dependence: impaired control over drinking, increased salience of drinking, and morning drinking (Babor et al., 2001). As shown in Table 8, 64.7% of current drinkers experienced no symptoms, 22.8% experienced one symptom and 12.6% experienced two or three symptoms. The analysis did not reveal statistically significant differences by living arrangement.

Gender – Females were more likely to experience one symptom (25.3%) and two to three symptoms (15.2%) than males were (one symptom: 20.0%; two to three symptoms: 9.8%). Males (70.2%) were more likely than females (59.6%) to experience no alcohol dependence symptoms.

Grade level – Students in grades 10 through 12 were more likely to experience one symptom (23.6%) and two to three symptoms (13.7%) than were students in grades 7 through 9 (one symptom, 19.6%; two to three symptoms, 8.4%). Students in grades 7 through 9 (72.0%) were more likely to experience no symptoms of alcohol dependence than were students in grades 10 through 12 (62.7%).

Region – Adolescents in the Edmonton region reported the fewest alcohol dependence symptoms, with 68.4% reporting no symptoms and 8.2% reporting two to three symptoms. Alberta youth in the South region reported the most symptoms, with 46.0% experiencing one to three alcohol dependence symptoms.

TABLE 8: Prevalence of experiencing alcohol dependence symptoms in the past year, by gender, grade level and region (as percentages of current drinkers)

	No symptoms	1 symptom	2 to 3 symptoms
Total	64.7	22.8	12.6
Gender			
Male	70.2	20.0	9.8
Female	59.6	25.3	15.2
Grade level			
Grades 7 to 9	72.0	19.6	8.4
Grades 10 to 12	62.7	23.6	13.7
Region			
Edmonton	68.4	23.4	8.2
North	65.9	19.0	15.1
Central	61.1	22.8	16.1
South	54.0	26.8	19.1 ^o
Calgary	NA	NA	NA

^o Qualified release because of high sampling variability.

As shown in Table 9, most students reported never experiencing selected AUDIT items measuring alcohol dependence symptoms. Most (81.6%) reported that, in the previous year, they had never found themselves unable to stop drinking once they had started. Almost three-quarters (73.2%) reported that they never failed to do what was normally expected from them because of drinking in the previous year. A vast majority (94.7%) reported that, in the year before the survey, they never needed a drink to get themselves going after a heavy drinking session.

TABLE 9: AUDIT items indicating signs of alcohol dependence in the past 12 months (as percentages of current drinkers)

	Never	Less than once a month	About once a month	About once a week	Daily or almost daily
How often during the past year have you found that you were not able to stop drinking once you had started?	81.6	10.9	4.8	2.1	0.6 ^o
How often during the past year have you failed to do what was normally expected from you because of drinking?	73.2	17.9	7.2	1.3	0.5 ^o
How often during the past year have you needed a drink of alcohol in the morning to get yourself going after a heavy drinking session?	94.7	3.1	1.5	S	S

^o Qualified release because of high sampling variability.

^s Estimate suppressed because of unacceptably high sampling variability.

Alcohol-related harm

The AUDIT features four items measuring harmful alcohol use: guilt after drinking, blackouts, alcohol-related injuries, and others concerned about drinking (Babor et al., 2001). As shown in Table 10, 45.4% of current drinkers experienced no alcohol-related harm in the previous 12 months. Over one-quarter (27.1%) reported experiencing one harm, 18.5% reported experiencing two types of harm, 7.4% reported experiencing three types of harm, and 1.7% reported experiencing four types of harm. The analysis did not reveal statistically significant differences by gender and living arrangement.

Grade level – Over half (51.9%) of students in grades 7 through 9 and 43.6% of students in grades 10 through 12 experienced no alcohol-related harm in the year before the survey.

Region – Adolescents in Edmonton reported experiencing fewer alcohol-related types of harm (50.4% experienced no harm). Adolescents in the South region were least likely to report no alcohol-related types of harm (36.7%).

TABLE 10: Number of types of alcohol-related harm experienced in the past year, by grade level and region (as percentages of current drinkers)

	No harm experienced	1 type of harm	2 type of harm	3 type of harm	4 type of harm
Total	45.4	27.1	18.5	7.4	1.7
Grade level					
Grades 7 to 9	51.9	27.9	13.2	5.6 ^o	1.7 ^o
Grades 10 to 12	43.6	27.0	19.8	7.9	1.7
Region					
Edmonton	50.4	26.1	17.8	5.2	S
North	45.8	27.1	16.8	9.1 ^o	1.3 ^o
Central	40.3	27.6	20.0	9.2	2.8 ^o
South	36.7	32.5	16.6 ^o	9.0 ^o	5.2 ^o
Calgary	NA	NA	NA	NA	NA

^o Qualified release because of high sampling variability.

^s Estimate suppressed because of unacceptably high sampling variability.

As shown in Tables 11 and 12, most youth reported never experiencing the selected AUDIT items measuring alcohol-related harm. Almost three-quarters (73.8%) of youth reported never having a feeling of guilt or remorse after drinking in the 12 months before the survey and 58.4% reported that they have never been unable to remember what happened the night before because they had been drinking. Most (82.1%) youths report that neither they nor anyone else had been injured as a result of their drinking and 92.5% reported that no relative, friend, doctor, or other health-care worker had been concerned about their drinking or suggested that they cut down.

TABLE 11: AUDIT items indicating signs of alcohol-related harm in the past 12 months (as percentages of current drinkers)

	Never	Less than once a month	About once a month	About once a week	Daily or almost daily
How often during the past year have you had a feeling of guilt or remorse after drinking?	73.8	19.3	4.1	1.9	0.9
How often during the past year have you been unable to remember what happened the night before because you had been drinking?	58.4	25.7	12.4	2.8	0.7 ^o

^o Qualified release because of high sampling variability.

TABLE 12: AUDIT items indicating signs of alcohol-related harm (as percentages of current drinkers)

	No	Yes, but not in the last 12 months	Yes, in the last 12 months
Have you or someone else been injured as a result of your drinking?	82.1	5.6	12.3
Has a relative or friend or doctor or other health-care worker been concerned about your drinking or suggested you cut down?	92.5	2.8	5.7

Contact with health and law enforcement organizations

Contact with health care personnel or treatment programs as a result of alcohol use

Very few (1.3%) adolescents reported that they have seen a doctor or been in the hospital because they had been drinking alcohol. Similarly, a small proportion (1.5%) of youth reported that they had been in a treatment program in their lifetime because of their alcohol use.

Contact with law enforcement officials as a result of alcohol use

Approximately 7.7% of all adolescents reported that they have ever been warned by the police because of their alcohol use, as shown in Figure 3.

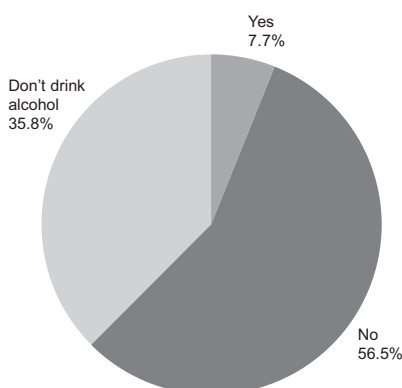


FIGURE 3: Percentage of adolescents who have ever been warned by the police because of their alcohol use.

Risk Factors

This section presents results concerning selected risk factors and their relationship with alcohol use and non-use. Parental monitoring, perceived ease of access to alcohol, and attendance at raves and outdoor parties and the association between these risk factors and alcohol use is explored.

Parental Monitoring

As shown in Table 13, most Alberta youth reported high levels of parental monitoring and non-drinkers reported higher levels of parental monitoring across all survey items. Conversely, current drinkers reported lower levels of parental monitoring. All results were statistically significant.

More current drinkers (17.8%; CI 11.6% to 26.2%) than non-drinkers (4.0%; CI 2.7% to 6.0%) reported that their parents never, rarely, or sometimes know where they are after school. Far more current drinkers (26.2%; CI 20.5% to 32.9%) than non-drinkers (5.0%; CI 2.7% to 9.3%) reported that their parents never, rarely, or sometimes know who they are with when they go out at night. A greater proportion of current drinkers (29.4%; CI 24.7% to 34.5%) than non-drinkers (5.9%; CI 4.1% to 8.5%) reported that their parents never, rarely, or sometimes know where they are when they go out at night. More current drinkers (47.6%; CI 42.6% to 52.7%) than non-drinkers (29.0%; CI 23.5% to 35.1%) reported that they never, rarely, or sometimes have to be home by a set time on weekend nights.

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

	Never/rarely/ sometimes (low)	Most of the time/ always (high)
My parents know where I am after school.		
Overall	12.7	87.3
Current drinkers	17.8	82.2
Non-drinkers	4.0	96.0
When I go out at night, my parents know who I am with.		
Overall	18.5	81.5
Current drinkers	26.2	73.8
Non-drinkers	5.0	95.0
When I go out at night, my parents know where I am.		
Overall	20.8	79.2
Current drinkers	29.4	70.7
Non-drinkers	5.9	94.1
When I go out on weekend nights, I have to be home by a set time.		
Overall	40.8	59.2
Current drinkers	47.6	52.4
Non-drinkers	29.0	71.1

Perceived ease of access to alcohol

As shown in Table 14, non-drinkers perceived access to alcohol to be more difficult than current drinkers. Over half (55.9%) of current drinkers (CI 50.2% to 61.6%) perceived access to alcohol to be very easy, versus 17.0% of non-drinkers (CI 13.3% to 21.6%). Conversely, 7.3% (CI 5.5% to 9.8%) of non-drinkers perceived access to alcohol to be very difficult, versus 1.9% of current drinkers (CI 1.0% to 3.7%).

TABLE 14: Degree of difficulty obtaining alcohol among all adolescents, current drinkers and non-drinkers (as percentages)

	Impossible	Very difficult	Difficult	Easy	Very easy	Don't know
Overall	4.9	3.9	7.3	25.9	41.8	16.3
Current drinkers	0.9 ^o	1.9	5.9	30.2	55.9	5.2
Non-drinkers	12.0	7.3	9.7	18.2	17.0	35.7

^o Qualified release because of high sampling variability.

Attendance at raves and outdoor parties

As Figure 4 shows, more current drinkers than non-drinkers had attended raves and outdoor parties in the previous year. Almost two-thirds (64.9%) of current drinkers (CI 57.3% to 71.7%) attended an outdoor party in the 12 months before the survey, compared with 8.4% (CI 5.7% to 12.3%) of non-drinkers. Conversely, 6.7% (CI 4.0% to 11.2%) of non-drinkers had attended a rave in the previous year, compared with 25.3% (CI 19.4% to 32.4%) of current drinkers.

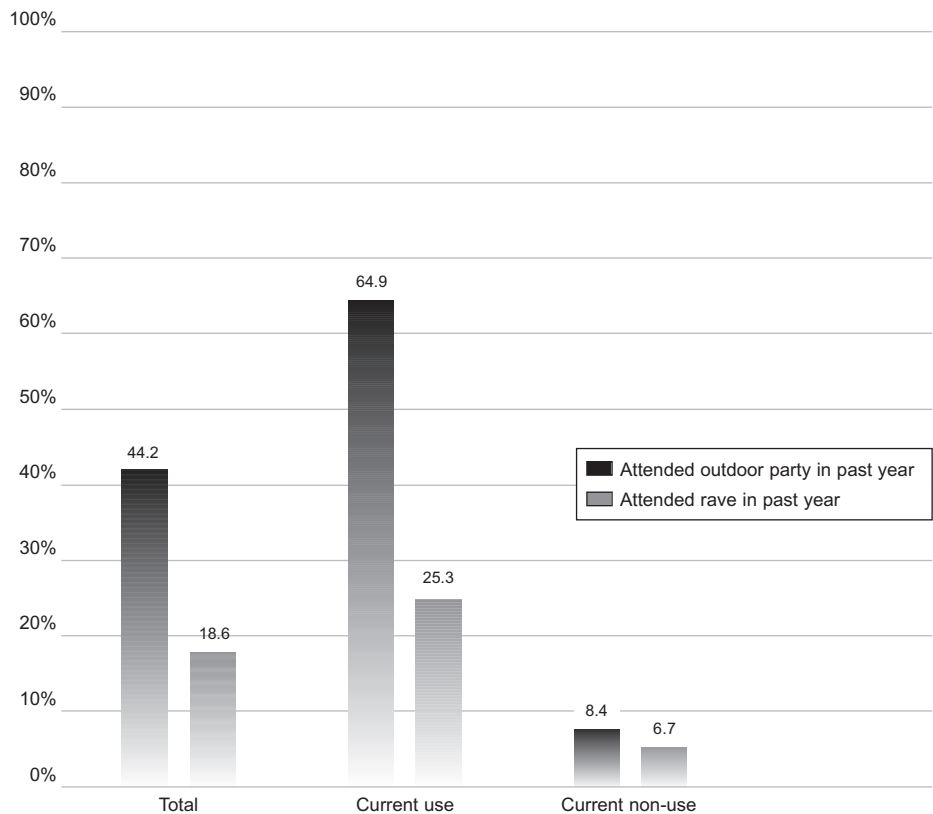


FIGURE 4: Past-year attendance at rave and outdoor parties among current drinkers and non-drinkers

Summary

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

- Almost two-thirds (63.4%) of Alberta youth reported consuming alcohol (excluding sips) in the 12 months before the survey. The level of current drinking by Alberta adolescents is surpassed only by that of students in Quebec (69.0%). Youth in Ontario (62.0%), Manitoba (58.8%), Newfoundland and Labrador (58.0%), New Brunswick (53.0%), Nova Scotia (51.7%), and Prince Edward Island (49.0%) were less likely to be current drinkers.
- Almost three-quarters (70.8%) of Alberta youth reported drinking alcohol in their lifetime, with most reporting that their first use occurred between grades 7 and 9.
- Fewer than one-third of current drinkers (31.9%) reported consuming one to two drinks per occasion when drinking. Students in grades 7 through 9 (43.0%) were most likely to report drinking at special events only and most students in grades 10 through 12 (29.3%) reported drinking once a month or less.
- About half (49.6%) of current drinkers reported binge drinking (consuming five or more drinks on one occasion in the month before the survey).
- Overall, 36.7% of current drinkers met AUDIT criteria for hazardous drinking. Students in grades 10 through 12 (39.5%) are significantly more likely to exhibit indicators of hazardous drinking than students in grades 7 through 9 (24.0%).
- Most adolescents who used alcohol in Alberta did not experience symptoms of alcohol dependence (64.7%). Fewer (45.4%) reported experiencing no alcohol-related harm.
- Very few Alberta youth reported past contact with health-care personnel (1.3%) or participation in a treatment program in their lifetime (1.5%) because of their alcohol use.
- Fewer than one-tenth of adolescents reported contact with law enforcement officials (7.7%) as a result of their alcohol use.
- Whereas most Alberta youth reported high levels of parental monitoring (from 87.3% to 59.2% across the items measuring parental monitoring), current drinkers reported lower levels than non-drinkers.
- Non-drinkers were more likely than current drinkers to perceive access to alcohol to be difficult.
- More current drinkers than non-drinkers had attended raves and outdoor parties in the previous 12 months.

Discussion

Findings from TAYES 2005 demonstrate that alcohol use, harmful use, and associated risk factors are related to grade, gender, region, and living arrangement. On the whole, TAYES results are consistent with current trends in alcohol research across Canada.

Grade

Of the variables examined, grade in school had the greatest association with youth alcohol use. This finding is consistent with the research literature (Adlaf & Paglia-Boak, 2005). As grade in school rises, there are statistically significant increases in past-year consumption. Lifetime consumption also increases by grade. Students in grades 10 through 12 drink more often and in greater quantities than students in grades 7 through 9. Adolescents in grades 10 through 12 are also more likely to engage in binge drinking than are those in grades 7 through 9. Current drinkers in grades 7 through 9 are less likely to experience symptoms of alcohol dependence and alcohol-related harm than are those in grades 10 through 12. Adolescents in grades 10 through 12 are more likely to meet AUDIT criteria for hazardous drinking.

Gender

Males are more likely than females to report lifetime and past-year alcohol consumption. On drinking occasions, males consume greater quantities of alcohol than females, although they experience fewer symptoms of alcohol dependence. For the most part, these findings are consistent with the research literature (Patton & Brosveit, 2005). The finding that females exhibit more alcohol dependence symptoms than males is not consistent with survey results from other Canadian student surveys. Research shows that females and males process alcohol differently, and that females become intoxicated after ingesting less alcohol: this may explain why females experience more alcohol dependence symptoms (Mumenthaler, Taylor, O'Hara, & Yesavage, 1999).

Region

Adolescents living in the Central and South regions are more likely to meet AUDIT criteria for hazardous drinking than those living in the North and Edmonton regions. Edmonton youth also experience the fewest alcohol dependence symptoms and the least alcohol-related harm. These findings are consistent with research literature demonstrating lower levels of hazardous alcohol use among adolescents living in metropolitan areas (Adlaf & Paglia-Boak, 2005; and McCreary Centre Society, 2004).

Living arrangement

Alberta youth living with both biological parents report lower past-year and lifetime alcohol use. These findings are consistent with the research literature (AADAC, 2005b).

Parental monitoring

Current drinkers are more likely than non-drinkers to report lower levels of parental monitoring across four items measuring level of monitoring. These findings support the hypothesis on parental monitoring and substance use postulated in the risk and protective factor framework that suggests that poor parental supervision is associated with substance use (AADAC, 2003).

Perceived ease of access to alcohol

Current drinkers are more likely than current non-drinkers to perceive access to alcohol to be very easy. Similarly, non-drinkers are more likely than current drinkers to perceive ease of access to alcohol to be very difficult. These findings are consistent with the research literature (Adlaf & Paglia-Boak, 2005).

Attendance at raves and outdoor parties

More current drinkers than non-drinkers attended raves and outdoor parties in the past year. These results support the research literature that suggests that attendance at raves at which alcohol and other drugs are available “may be considered high-risk behaviour” (Poulin, 2002, p. 51). Other research shows that peer attitudes and behaviour are strongly correlated with substance use (AADAC, 2003) and, since adolescents are most likely to consume alcohol in a peer setting, they may be more likely to use alcohol when attending raves and outdoor parties.

Implications for Prevention

The findings in this report provide current, relevant information about alcohol use among Alberta youth that is necessary for designing prevention programming. Since alcohol is the most commonly used substance by adolescents and alcohol use in Alberta increased by 7.1% since 2002, the results emphasize the need to enhance resources in the area of alcohol prevention.

The associations between grade and indicators of alcohol use and abuse demonstrate a need to focus on age-specific, ongoing prevention programming. Since almost one-third of students in Grade 7 have tried alcohol in their lifetime, prevention efforts at the elementary level may be beneficial. Prevention programming should inform students about the harmful use of

alcohol, and should correspond to grade level in school, with more prevention programming for students in higher grades. Programming should include information on binge drinking and hazardous alcohol use.

By Grade 12, 86.0% of students are current drinkers and 91.7% have consumed alcohol in their lifetime. These findings suggest that alcohol use among Alberta youth is widespread behaviour and that programming should endeavour to encourage responsible use for older youth (aged 18 and older) and denormalize use among younger adolescents.

Since males report higher levels of past-year and lifetime alcohol use and also consume larger quantities of alcohol while drinking, gender-specific programming noting the dangers of consuming large quantities of alcohol on drinking occasions may be beneficial. Programming directed toward females addressing alcohol dependence symptoms and gender differences in alcohol metabolism may also be useful.

Since youth in the Edmonton region are less likely to experience alcohol dependence symptoms and alcohol-related harm and exhibit evidence of hazardous drinking, programming in rural areas focusing on hazardous drinking may be beneficial.

Current drinkers are more likely than non-drinkers to perceive access to alcohol to be very easy. Prevention efforts designed to discontinue this perception, such as publicizing existing legislation aimed at reducing underage consumption, may be helpful in reducing consumption. Further research is needed to determine how adolescents obtain alcohol in order to develop direct prevention programming or campaigns.

Prevention programming directed toward parents may also be beneficial. Since low levels of parental monitoring are associated with alcohol use, informing parents of the importance and effectiveness of parental supervision may be beneficial.

Appendix

Alcohol Use Disorders Identification Test (AUDIT)

The Alcohol Use Disorders Identification Test (AUDIT) was established by the World Health Organization's Department of Mental Health and Substance Dependence as a method of screening for excessive drinking (Babor et al., 2001). The test was included in the TAYES questionnaire to determine hazardous alcohol use. The AUDIT is calculated by summing the responses for the 10 questions and providing a total score. Scores may range from zero to 40, with scores of eight or higher representing hazardous or harmful drinking, according to AUDIT criteria.

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

Question 38a

How often do you have a drink containing alcohol?

Response	Score
Never	0
Monthly or less	1
2 to 4 times a month	2
2 to 3 times a week	3
4 or more times a week	4

Question 38b

How many drinks do you have on a typical day when you are drinking?

Response	Score
1 to 2 drinks	0
3 to 4 drinks	1
5 to 6 drinks	2
7 to 9 drinks	3
10 or more drinks	4

Question 38c

How often do you have six or more drinks on one occasion?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38d

How often during the past year have you found that you were not able to stop drinking once you had started?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38e

How often during the past year have you failed to do what was normally expected from you because of drinking?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38f

How often during the past year have you needed a drink of alcohol in the morning to get yourself going after a heavy drinking session?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38g

How often during the past year have you had a feeling of guilt or remorse after drinking?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38h

How often during the past year have you been unable to remember what happened the night before because you had been drinking?

Response	Score
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38i

Have you or someone else been injured as a result of your drinking?

Response	Score
No	0
Yes, but not in the last 12 months	2
Yes, in the last 12 months	4

Question 38j

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

Response	Score
No	0
Yes, but not in the last 12 months	2
Yes, in the last 12 months	4

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