IHE Report

The Alberta Survey of Addictive Behaviours and Mental Health in the Workforce: 2009

August 2011

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THE ALBERTA SURVEY OF ADDICTIVE BEHAVIOURS AND MENTAL HEALTH IN THE WORKFORCE: 2009

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This project was supported by a grant from the Alberta Alcohol and Drug Abuse Commission (now Alberta Health Services - Addiction and Mental Health). It represented the third such survey, and was conducted in late 2009.

Investigator Team

The Investigators were responsible for designing and managing the study, analyzing the data, preparing and presenting scientific papers, and preparing a final report. The study design was, in part, predetermined by the need to have continuity of content for core areas across all three waves (i.e. 1992, 2002, and 2009).

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Advisory Committee

The Advisory Committee reviewed the project proposal, served as a selection panel for the firm that collected survey data, advised on policy-relevant statements for the report, and advised on dissemination of findings. Members of the Advisory Committee include:

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Layout: Wendy McIndoo

Suggested citation: Thompson AH, Jacobs P, Dewa CS (2011). The Alberta Survey of Addictive Behaviours and Mental Health in the Workforce: 2009. Edmonton: Institute of Health Economics.

ABBREVIATIONS

AADAC	The Alberta Alcoholism and Drug Abuse Commission. The funder of this project. It no longer exists under this name, having been subsumed by Alberta Health Services (see A&MH)
A&MH	Addiction and Mental Health, Alberta Health Services
ANOVA	Analysis of Variance
ASP	Antisocial Personality Disorder
AUDIT	Alcohol Use Disorders Identification Test
CPGI	Canadian Problem Gambling Index
DAST	Drug Abuse Screening Test
EAP	Employee Assistance Program
F-value	A statistic to test differences between groups or levels of a factor
HPQ	Health and Work Performance Questionnaire
MAP	Member Assisted Program
MINI	Mini International Neuropsychiatric Interview
NAIC	North American Industry Classification System
NOC	National Occupational Classification system (Canada)
NPHS	National Population Health Survey
NS	Not Significant
RR	Relative Risk
SPSS	Statistical Package for the Social Sciences
VLT	Video Lottery Terminal
X^2	Chi-square

EXECUTIVE SUMMARY

Background

Addictive behaviours in the workplace have long been of concern in Canada and throughout the world. In Alberta, the Alberta Alcohol and Drug Abuse Commission (now Alberta Health Services – Addiction and Mental Health) sponsored workforce and employer surveys in 1992 to shed light on this issue by collecting province-wide data on drug and alcohol use. A second set of surveys in 2002 were conducted with an expanded format – now also gathering information on tobacco use and gambling in the Worker Survey. To maintain a current database and to allow for comparisons over time, a third survey set was planned for 2009.

Methods

To ensure continuity, measures from the 2002 survey were adopted unaltered. Since mental health issues are intertwined with addictions problems, a component was added that was made up of items that provided measures of selected psychiatric diagnoses. Furthermore, due to concerns about the utility of past economic measures, an additional productivity measure was also added. The accompanying figure shows the content areas covered in each of the three waves of the survey.

		1992	2002	2009
Addictive Behaviour	Alcohol	●	●	●
	Drugs	●	●	●
	Tobacco		●	●
	Gambling		●	●
Related Factors	Industry	●	●	●
	Demographics	●	●	●
	Occupation	●	●	●
	Productivity	●	●	●
	Work Environment	●	●	●
	Economics		○	●
	Mental Health			●

The Worker Survey was administered to 2817 adults from across Alberta who had worked at some time within the 12 months preceding the interview. A similar survey was completed by 363 employers. This questionnaire was geared to the organization rather than the individual worker and contained many sections that were parallel in content to the Employee Survey.

Results

The data from the two studies provided very rich information. The findings presented in this report could not cover all of the uses of the data. Thus, in addition to the results presented here, more specific findings will be reported in the scientific literature and in specific fact sheets over the following 12 to 24 months. Summaries of all of these will be presented to Alberta Health Services – Addiction and Mental Health.

Addictive Behaviours

Tobacco: In 2009, only about 22% of the workforce smoked cigarettes. This is down from 30% in 2002 and 40% in 1992 (figures adjusted to the 2009 workforce for age and gender differences). Older workers were less likely to be smokers than their younger counterparts.

Alcohol: Alcohol use was much more common at 74%, but only a small proportion were deemed to be problem drinkers (1.0 % of all workers at high or very high risk). There was no consistent trend for alcohol consumption over time (up and down). However, the 12-month prevalence of

binge-like drinking (7+ drinks at a single sitting) showed a progressive decline (5.2%, 4.7%, and 2.7%) over the three waves of the survey. Like smoking, alcohol use declined with age (although this was not as clear in 2009 as it was in the earlier waves).

Drugs: Illicit drug use was relatively low (over 93% reported no street drug use at all) and only 1% showed any risk for abuse-related problems (moderate and high combined). The male rate for illicit drug abuse more than doubled that of females and use declined dramatically with age (virtually zero use for those of retirement age). Due to the fact that the population aged over the course of the three surveys, raw scores for illicit drug use appeared to be declining. However, when adjustment for this aging factor was made, it proved to be that the use of street drugs did not, in fact, go down over the three waves of the survey.

Gambling: Although the majority of respondents (57%) reported some form of gambling in the year prior to the survey (ranging from office lotteries to serious betting), less that 1% (0.6%) were classified as problem gamblers and only a handful reported any problems at work that were due to gambling (0.1% in 2002 and 0.2% in 2009). No age or sex differences were found for problem gambling, with the exception that there were lower rates of gambling participation among those under age 35 years in 2009, perhaps indicating lower rates for the future as these cohorts grow older.

Relations Between Mental Health and Addictive Behaviours

Surveys of addictive behaviours have not generally considered mental health issues. This is unfortunate since a prominent finding here is that the addictive behaviours (smoking, alcohol, drug use, and gambling) are strongly related to the mental health measures (anxiety, phobia, depression, antisocial personality disorder) and to the mental health-related measures (suicidal behaviours and hopelessness). Generally speaking, we found a dose-response relationship between the two classes of behaviour. For example, with each graduated increase in the level of alcohol abuse we found an increase in the proportion of people displaying a mental illness. The same relationship held true for smoking, drug abuse and gambling, with the latter showing the most dramatic range in the lifetime prevalence of a mental disorder (about 37% to 87% from lowest to highest risk). Smoking showed the smallest range (about 36% to 57%). This supports the wisdom of placing mental health and addiction services under the same administration, and suggests that there may be some common underlying cause (at least in part), and indicates that practitioners should be knowledgeable about interventions with both types of problem.

Workplace Factors: A set of five derived workplace factors thought to be associated with workplace difficulties were examined: (1) liability risk (the likelihood of work errors causing harm); (2) after hours (work-related activity outside of regular hours); (3) time instability (non-standard work patterns - on call, shift work, compressed work week, overtime); (4) job value (job satisfaction, work as a career, interest); and (5) job stress. As a class, these were associated with a meaningful number of mental health and addiction variables, indicating that high levels on these work factors are associated with a variety of mental health problems and addictive behaviours. Job value was the most consistent work factor, with high values being related to low (presumably more stable) levels on seven of the addictive or mental health measures (smoking, alcohol abuse, gambling, suicide risk, hopelessness, anxiety disorder, and phobia). The most potent mental health factor appeared to be hopelessness, which was related to four of the five workplace measures (excepting “after hours”). Notably, self-reported work stress rose over time, although extreme stress, which affected over 16% in 2009, did not show significant variation.

These workplace factors were also highly related to differences across occupations, industries, and geographic areas (health zones). The mental health factors also differed across occupations, but showed no significant variation across health zones and very little difference (antisocial personality disorder only) across industries. The addictive behaviours also showed little variation across zones (smoking only), but all except gambling showed significant differences across industries and all showed significant or marginally significant differences across occupations. Although different occupations and industries showed a mixture of problems, those involved in construction, the leisure trade, and hospitality showed the greatest number of difficulties. Those involved in knowledge and educational pursuits tended to fare the best; however managers and professionals, who placed the highest values on their jobs, counter-intuitively, reported high stress and somewhat higher suicidal tendencies.

Workforce Impact of Addictive Behaviours

A number of different ways of looking at this issue produced a similar finding. The impact of addictive behaviours in Alberta workplaces is worthy of serious attention, but is not at epidemic levels. That is, (1) self-reported problems due to substance abuse or gambling are at very low levels, (2) a number of measures of severity seem to be showing declines, and (3) the estimated impact of addictive behaviours as reported by employers and employees alike is that the vast majority of organizations are, relatively speaking, unaffected.

A Word on Lost Productivity and Costs

Our estimates on the costs of presenteeism (productivity lost while on the job) and absenteeism are very low and, as they stand, do not constitute a meaningful loss to the Alberta economy. However, as will be explained in Section V, we believe that there is good reason to consider these figures to be underestimates of the actual costs and we wish to suggest caution when interpreting the dollar costs listed further on in the report.

Conclusions

Although dependence or abuse involving alcohol, drugs, or gambling can have disastrous effects on an individual, for Alberta worksites it seems better to characterize the situation as one that requires attention but is not catastrophic. This suggests there is no need to panic but that initiatives that are designed to reduce the negative effects of substance use and gambling, as well as programs focused on improving worker mental health, can produce meaningful increments in productivity and personal well-being.

Although many addictive behaviours are very common at “milder” levels, very few (< 1%) show pathological or problem levels. Mental disorders, on the other hand, are much more pervasive and are often chronic (at least 40% lifetime prevalence overall). It is a minority of those at high risk for addictive behaviours that do not show one form or other of mental illness, suggesting that there are some causal factors that are common to both general conditions. Those showing such comorbidity (a mental illness plus a problem-level addictive behaviour) tend to be more severely disabled and more difficult to treat. These facts need to be considered when planning prevention or treatment programs, and it seems wise to engage clinicians and health professionals who have expertise in both addictions and mental health/illness. Notably, each addictive behaviour is associated with most of the diagnosable mental disorders.

Workplace performance is often a composite of the influence of the addictive behaviours and mental health issues in interaction with workplace culture. The associations found with worksite

culture (the above-noted, and very addressable, workplace factors such as attitudes, job stress, job value, unpredictable work-time, extra time, and liability-risk) corroborate the importance of the interconnections of this workplace triad (i.e. worksite culture, mental vulnerability, and addictive disruptions).

That the influence of the work environment shows greater variation across industries than either mental health or addictive factors suggests that this is an area with great potential for development that would improve productivity and worker well-being. In many instances, treatment-generated improvements in mental health and addictive behaviours take longer to come into effect because such interventions are often difficult and time-consuming and they are ordinarily operationalized one person at a time. Organizational changes can sometimes be made very quickly and generally affect many workers.

The rising use of clinical services to combat worker difficulties suggests that these treatment interventions will continue to grow if the overall provincial work arena was left to its own devices. However, it also seems likely that the momentum would be stronger among organizations with the critical mass to maintain, for example, their own employee assistance programs (EAPs). Thus, smaller firms will not be in a position to provide EAPs due to a negative benefit to cost ratio. This is a place where a large body, such as government or an industry cooperative, is needed to facilitate approaches like service-sharing among those firms that fall short of the critical mass criterion for optimal services for their workers.

One factor, extreme workplace stress, was experienced by 18% of the respondents (over 16% after age and sex adjustment). This finding is extremely important and is not out of line with findings from other Canadian studies. As such, it thus needs to be addressed. As it stands, the reduction of workplace stress should be made a priority for policy makers in Alberta. The fact that it may be rising indicates that action on this front should be initiated without delay.

Drug testing (including alcohol testing) is an area of significant controversy. On one hand, concerns about worksite safety and profit are associated with a preference for increased testing. On the other, a human rights priority has led to a wish to reduce testing or to have it eliminated. The difficulties associated with these polar positions have been exacerbated by concerns that some firms are using drug testing when it is not warranted. This concern has been supported by the survey findings that many firms (but, notably, not most) have been engaged in practices (pre-employment and random drug-testing) that violate the principles set out by the Canadian Human Rights Commission. Furthermore, an “effective” drug-testing approach that operates in isolation (without employee accommodation programs) is not good public policy. It will simply move the problem from the workplace in question to some other place (some other workplace or a social service) or burden a family. Clearly it is the government that has the mandate to address the broader interest in this case. It may be useful, then, to assemble a group of persons whose interest is biased toward the overall society to investigate this issue and suggest a balanced approach where efficiency and safety are increased and human rights are maintained. Many employers, however, do accommodate employees with substance use and mental health problems. Such approaches could be studied further and used as model programs for future development.

Alcohol use rates have not gone down, but several measures of problem drinking have shown a reduction. Perhaps the growing lack of support for alcohol use at work and the relatively new recommendations for abstinence during pregnancy have had an effect. The mechanism for cigarette smoking, which has become dramatically reduced, may not be the same. The reduction

is generally attributed to a more general health promotion approach that was directed to all persons in any situation.

Structure of the Report

The bulk of this report centres around two information sources: an employee (worker) survey and an employer survey. Much of the information deriving from the two is related, with some important issues being unique. The organization of the report will reflect this. Following the Introduction, which will explain the context for the investigation, Section II will cover the overall approach for each survey along with basic demographic and sample data. Section III will comprise a large results section covering addiction and mental health measures as presented in the Employee Survey and supplemented by corresponding data from the Employer Survey. Specific methodologies will be sprinkled throughout this section to illuminate the approach/analysis used for particular elements as they appear in the text. Section IV will focus on selected aspects of workplace culture (e.g. workplace pressures, job satisfaction, availability of substances and gambling opportunities at or near the worksite, and attitudes toward addictive behaviours). Section V will cover measures of productivity and will be followed by a section describing mental health, addictions, and work culture differences across occupations, industries, and health zones (Section VI). Section VII will describe some of the employer responses to mental health and addictive difficulties. Finally Section VIII will discuss selected policy implications of the findings, prominent issues that remain unaddressed, and suggestions for future activities to attend to these important unresolved issues.

TABLE OF CONTENTS

SECTION I: INTRODUCTION

Experience and research show that substance use has significant impacts on the health and performance of the workforce. Many Albertans, industry representatives, and employers in particular, believe that substance abuse represents a major problem that has the ability to compromise the safety and productivity of Alberta workplaces.

In 1992, the Alberta Alcohol and Drug Abuse Commission (AADAC) conducted a study examining substance use in the Alberta workplace (Price Waterhouse 1992). Employees, employers, and union representatives were surveyed on issues pertaining to alcohol, medication, and illicit drug use, as well as on matters associated with substance use, such as demographic and occupational factors.

In 2002, a replicate study was conducted by AADAC to examine changes in substance use in the workplace between the two time periods (Malatest and Associates 2002). In this second wave, items on tobacco use and gambling were added to reflect a broadening understanding of the impact of these addictive behaviours.

A variety of changes in Alberta (the economy, an aging population, technology advances) are likely to pose new challenges for Alberta Health Services related to substance use and gambling in the Alberta workplace. In order to further the understanding of these issues, this third wave of the study was commissioned to be carried out in 2009.

Project purpose

The stated purposes of the project were to:

1. Provide information pertaining to policy issues faced by Alberta Health Services – Addiction and Mental Health and other interested bodies.
2. Provide information to employers that may assist them when dealing with addiction-related issues in the workplace.

The key objectives were to:

1. Identify patterns of the use of alcohol, illicit drugs, medication, tobacco, and gambling among Alberta workers.
2. Identify work factors related to substance use and gambling in the workplace.
    a. Workplace environment factors (industry type, work culture).
    b. Individual factors, such as mental illness, age, gender.
3. Estimate the burden of substance use and gambling in the workplace.
    a. Psychological burden (mental health, suicidal behaviour).
    b. Economic burden (absenteeism, productivity, intervention costs).
    c. Perceived seriousness.
4. Identify responses and programs currently/recently used to mitigate the impacts of substance use and gambling in the workplace.

Reporting

The data from this survey are very rich and diverse, with endless combinations of variables that could be analyzed. Thus, a multi-pronged approach to reporting has been adopted to allow a broader range of possible enquiries. These are:

1. This report, which is an overview of the major variables of interest, and their interactions, with interpretation and selected policy implications.
2. Presentation and publication of findings. This will involve presentations at conferences or scientific meetings and/or publication in scientific journals. Although the presentations and publications may reflect some of the findings contained in this report, they will generally involve a more detailed analysis of particular issues (e.g. major depression and substance use).
3. Fact sheets covering a number of topics derived from additional analyses and/or interpretations of the data. These will take place for a limited time after the formal conclusion of the study, covering perhaps a dozen topics. Notifications will be sent to Alberta Health Services – Addiction and Mental Health, and will be placed on the Institute of Health Economics website.
4. Capability for future analysis. It has taken a great deal of time to prepare the data for analysis. This dataset could be used to address policy or research questions that are yet to arise. Thus, the dataset will be presented in a format that can be used by Alberta Health Services for as long as the data retain some currency.
5. Involvement of the investigators. Questions about the data are most likely to occur shortly after the release of the report. Should such consultation be required, the Institute of Health Economics will be available for further advice.

SECTION II: THE WORKER AND EMPLOYER SURVEYS: APPROACH AND SAMPLE CHARACTERISTICS

This study was, in essence, a replication of the 2002 survey with the addition of a mental health section and a modest enhancement to the economics component. A small number of questions that were unused in the 2002 report were deleted. The mental health element was added because of the large impact of mental illness on employee well-being and productivity (Berndt et al. 2000; Dewa et al. 2002). There were two component studies: a survey of employees (workers) and a survey of employers. Both were approved by the Health Research Ethics Board of the University of Alberta.

An Advisory Committee was formed to provide guidance to the project, particularly in regard to selection of the interview/data-collection firm, policy advice, and inspection of the final report for egregious errors and overarching policy issues.

General Considerations

There were some differences across the three waves that will need to be considered in the interpretation of trend data. The following illustrates how sample selection differed for both the employees and employers.

1992	2002	2009
• Workers aged 16 years and older	• Workers aged 18 years and older	• Workers aged 18 years and older
• Persons currently employed, seeking work, or on temporary workers' compensation	• Persons who had worked in past year (whether or not currently employed)	• Persons who had worked in past year (whether or not currently employed)
• Solicited employers with 10 or more employees	• Included employers with 5+ employees	• Included employers with 5+ employees
• Large employers (200+ employees) were over sampled	• Representative of Alberta's employers based on size	• Representative of Alberta's employers based on size

It should be noted that: (1) we cannot confidently make definitive predictions with this kind of data set – but we can highlight interesting and provocative associations and gain testable insights while remembering that alternative explanations may return to carry the day; and (2) most of the variables under study are effects that become causes. For example, alcohol abuse can arguably arise from work and personal problems, but once established it can then cause other work and personal problems, which can cascade into other difficulties.

Health zones

Alberta is currently divided into five health zones: North, Edmonton, Central, Calgary, and South (see map). Service delivery is operated by Alberta Health Services, which is governed by a Provincial Board. Until May 2008, there were nine geographical health regions, each with its own administration. Preceding that, services were provided through 17 health regions (from 1994 – 2003). Before that, there were six regions and other arrangements. This makes the cross-time comparison of common elements of the three waves of this survey more complicated since their timing (1992, 2002, and 2009) coincided with three different health area configurations. Furthermore, at this juncture, the geo-coding of the Health Zones has not been back-dated to capture demographics from Waves I and II. Thus, comparisons for Provincial totals across Waves I to III cannot be adjusted for changes in demographics within the areas defined by the existing zones. As a consequence, the Employee Survey adjustments will be restricted to those designed to provide data that would have been found if the age and sex distributions of all three waves were equal to the 2009 Alberta workforce. The comparable variable for adjustment of Employer Survey data will be organization size (number of employees).

Data analysis

The significance level for testing was set at 0.01, which is more conservative than the 0.05 level that is often used. However, the large number of subjects (particularly in the Employee Survey) means that there is ordinarily enough power in the testing process to detect small changes – leaving the reader able to focus on the more important question of whether the differences are meaningful.

The employee questionnaire

The Employee Questionnaire (Appendix A) was completed via telephone interviews that were conducted by a research firm, Malatest and Associates. Average interview time was 19.7 minutes but, as might be expected, the range was large – 2.8 minutes to 77.38 minutes. Some variation in interview time was due to the response style of individual interviewees and the efficiency of the interviewer, but the greatest determinant of this would simply be the number of questions that were addressed. If someone reported, for example, no consumption of alcohol at all, then a large number of questions about alcohol use would be skipped. The same would be true for questions about all substances, gambling, and some other content areas.

The majority of the employee questions were held constant through all three survey waves to allow estimates to be made of changes in prevalence over time. This included questions on employment status, work environment, job factors, workplace issues, response options, demographics, addictive behaviours (tobacco, drug and alcohol use, and gambling), and lost productivity due to substance use in the workplace.

The major content areas included productivity measures (absenteeism and presenteeism), addictive behaviours (use of tobacco, alcohol, medications, and drugs, as well as gambling), workplace "culture" (attitudes to addictive behaviours, stress, risk, and assistance), mental health (depression, anxiety, antisocial personality disorder, and suicidal behaviour), job characteristics, and demographics. The questionnaire structure was as follows:

Table 2.1: Content areas of the employee questionnaire

Section	Source
1. Demographics (age, sex, marital status, employment status)	AADAC
2. Tobacco (use)	AADAC
3. Alcohol (use, dependence, work problems)	AADAC
4. Drugs: Medicines & street drugs (use, work and personal problems)	AADAC
5. Gambling (use, dependence, problems)	AADAC
6. Work (industry, occupation)	AADAC
7. Workplace culture (attitudes, "stress", risk, assistance)	AADAC
8. Mental Health (four diagnoses, plus hopelessness and suicidality)	
a. Hopelessness	NPHS
b. Anxiety	NPHS
c. Phobias (three)	NPHS

d. Major Depression	MINI
e. Suicidal Behaviour	NPHS
f. Antisocial Personality Disorder	MINI
9. Productivity (absenteeism, presenteeism)	HPQ & AADAC

Note: Items labelled **AADAC** in Table 2.1 were taken directly from the 2002 AADAC Survey (Malatest and Associates 2002)

The **NPHS** (National Population Health Survey 1997) collects economic, social demographic, occupational, and environmental information pertaining to the health of Canadians every 2 years, with slight differences in the questions used. It is a comprehensive survey that targets a sample of households in all provinces and territories, but excludes populations on Indian reserves, Canadian Forces bases, and some remote areas of Ontario and Quebec. An adult member was selected from each household in the sample to become the longitudinal panel respondent.

The **MINI** (Mini International Neuropsychiatric Interview; Sheehan et al. 1998) was designed to provide a rapid and accurate evaluation of the presence of diagnoses that meet criteria of the Diagnostic and Statistical Manual (DSM-IV) and the International Classification of Diseases (ICD-10). It was specifically developed for use in multi-centre clinical trials and for epidemiological surveys.

The **HPQ** (World Health Organization Health and Work Performance Questionnaire) is a well-documented instrument. For the purposes here, the presenteeism items were abstracted from the full questionnaire in accord with author instructions (Kessler et al. 2004).

Substance Use and Gambling Profiles

To ascertain prevalence and severity of substance use and gambling in the workforce, profiles describing risk or consumption level were created for alcohol, tobacco, illicit drugs, and gambling, all of which were drawn from the 2002 Report prepared by Malatest et al. (Malatest and Associates 2002).

The alcohol, illicit drug, and gambling profiles reflected respondents' answers to three standardized tests: (1) the Alcohol Use Disorders Identification Test (AUDIT; Babor 2001); (2) the Drug Abuse Screening Test (DAST; Skinner 1982); and (3) the Canadian Problem Gambling Index (CPGI; Ferris and Wynne 2001). These tests include questions about consumption levels, frequency of consumption/gambling, and impact of behaviours related to substance use or gambling. An overall score is given that rates the severity of each person's substance use or gambling problem. Specifically:

1. The Alcohol Use Disorders Identification Test (AUDIT), consisting of ten questions and aims to identify at-risk drinkers using a scale from 0 to 40. The scale categorizes drinkers' level of risk for the harmful or hazardous effects of chronic alcohol use and creates four risk categories.
2. The Drug Abuse Screening Test (DAST), consisting of ten questions and uses a scale of 0 to 10 to assess the degree of problems associated with non-medical use of drugs and creates four problem levels.

3. The nine-question Canadian Problem Gambling Index (CPGI) uses a scale of 0 to 27 to develop four risk levels in relation to gambling-related negative consequences for the gambler and his/her social network.

To allow comparisons with 1992 data, two profiles were created for alcohol in the second wave. These were repeated in the 2009 study. One used the above-mentioned Alcohol Use Disorders Identification Test (AUDIT; not used in 1992) and the other used the frequency of use and consumption level measures used in the 1992 survey.

The tobacco profile was created using categories that were consistent with those used in other national Health Canada surveys. A number of smoker profiles were created based on daily cigarette use. For the purpose of this research, five categories were created: non-smokers; non-daily smokers (smoked in the past month but less than daily); light smokers (1 to 10 cigarettes daily); moderate smokers (11 to 19 cigarettes daily); and heavy smokers (20 or more cigarettes daily).

Procedure

Sample selection followed the same procedure as the 2002 study to ensure comparability. The employee sample comprised 2817 persons, similar in magnitude to the 2002 survey (2836 persons).

As was the case in the previous two waves, prevalence measures were standardized to reflect consumption in the last 12 months, across all substances, with the exception of tobacco, which was measured during the past month.

Survey data were collected by telephone interview and entered into databases for subsequent analysis using SPSS 14.0. Survey results will be presented in frequency and cross-tabulation tables. Linear regression was used to identify significant factors that are associated with substance abuse and gambling. Analyses provided straight-forward descriptions of all important measures gathered in the 2009 wave. For those variables that were collected in all three waves, estimated trends will be provided covering the period from 1992 through 2009 (except gambling which was not studied in Wave I). Third-wave data will allow advanced study of the major correlates of gambling and substance use in the Alberta workforce, leading to an improved understanding of their determinants and possible courses of action.

A field test of the *Employee Survey* was completed with 20 respondents prior to full data collection. The results of the field test indicated two consistent concerns among the surveyors:

1) the introduction to the survey was too long causing, in the opinion of the majority of the surveyors, potential respondents to decline to participate; and

2) the survey required too much time to complete.

In response to these concerns, the survey was modified before full survey administration began. The survey introduction was streamlined to inform respondents of relevant information in a more succinct fashion. To address the timing concern, a psychosis scale and absenteeism questions from the HPQ were removed from the final survey (the absenteeism items from the 2002 survey were retained).

Prior to conducting the survey, surveyors received a training session and project materials. Training discussed the overall study including its goals and objectives, as well as the survey instrument in particular.

Employee surveys were conducted over the phone from August 24, 2009 to November 23, 2009. (Additional information is contained in Appendix B.)

Characteristics of the worker sample

It should be remembered that this work force sample may differ in several ways from the general population in Alberta. For example, workers are likely to have higher income and more formal education than the general public. Thus, the prevalences of many factors and the relationships between them that are found here may not be representative of the Province as a whole. Although most such factors are discussed below, it remains that generalizations beyond the workforce should be avoided.

Table 2.2: Employment status

Status	#	%
Full time	1807	64.1%
Part time	514	18.2%
Self-employed	289	10.3%
Maternity leave (paid)	51	1.8%
Laid off temporarily	46	1.6%
Workers' compensation	19	0.7%
Unemployed	91	3.2%

Employment status

Employment status at the time of interview is shown in Table 2.2. All respondents had worked within the 12 months preceding the survey. Of these, 92.7% were actively working (full, part-time, or self-employed), another 1.8% were temporarily away from work on maternity leave, and the remaining 5.5% were not working at the time of the interview.

Sex and age

Of those that responded, 39.8% were males and 60.2% were females. In contrast, the Alberta workforce figures were, respectively, 55.2% and 44.8% for those aged 18 years and over. Note that 4.9% of respondents chose not to provide age information. The loss of this block of persons when calculating the Age X Sex figures accounts for the slightly different gender percentages shown in Table 2.3.

Table 2.3: Age and gender distributions

Age/sex	Males	Females	Total
18-24 Yrs	1.7%	2.3%	4.1%
25-34 Yrs	6.4%	10.0%	16.4%
35-44 Yrs	9.2%	15.1%	24.2%
45-64 Yrs	21.0%	30.3%	51.2%
65+ Yrs	2.0%	2.1%	4.1%
Total	40.2%	59.8%	100%

Although the interviewers were instructed to aim for a near to 50-50 gender split, this was not able to be achieved, even with extra attention paid to this issue as data collection progressed.

The average age was 45.4 years (SD = 11.77), with a range of 18 to 80. In spite of the lowering age of retirement, 80 persons (4.1%) from this workforce sample were over the age of 65. Age was grouped into five categories to be used in further analyses (Table 2.3). Also shown in Table 2.3 are the Age X Sex proportions. These age and sex categories will appear throughout this report when an examination of the influence of and and/or gender seems appropriate.

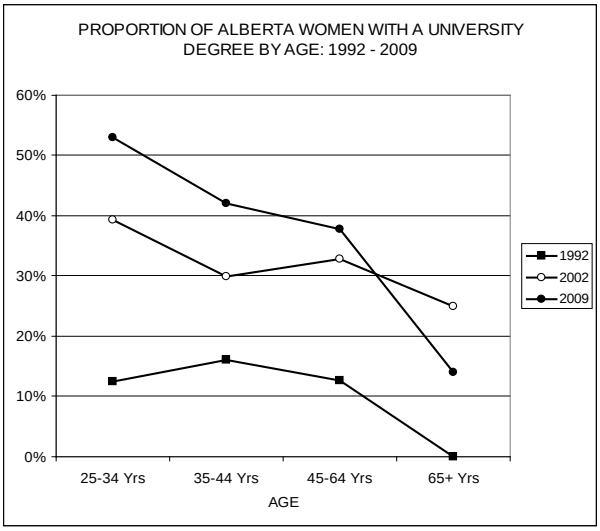
Education

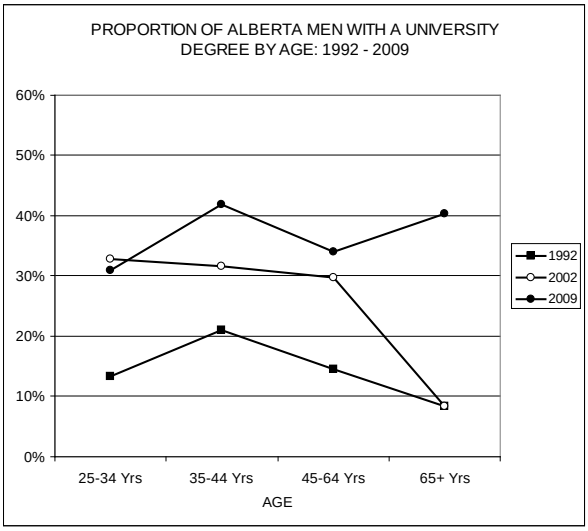
Education levels (unadjusted) are shown in Table 2.4. Note that the higher the level of education, the greater the presence in the Alberta workforce. Historically, this tendency was in reverse order, with the greater proportion of workers receiving less education only a few decades ago (Statistics Canada 1976). In the modern era, the proportion of Albertans with a university degree is about the same as Canada overall (2006 Census, Statistics Canada 2009a). It is perhaps worth noting that, in comparison to other Organization for Economic Cooperation and Development (OECD) members, no other country had a higher proportion of persons with university or college education than Canada (48%; Statistics Canada 2009b).

Table 2.4: Education Levels

< High School	4.8%
High School	24.0%
Tech/Trade School	32.7%
University Degree	37.8%

The level of formal education increased dramatically among members of Alberta's workforce over the time span of the three waves of this survey ($F = 47.81$. $p < .001$). Thus, in less than two decades, the adjusted proportion with a university degree nearly tripled from 1992 (13.5%) through 2002 (29.4%) to 2009 (35.4%).





The two figures above show the effects of a three-way interaction between sex, age, and study wave ($F = 2.52$, $p < .01$). Note that data from the 18 to 24 year-old group was not included since most would not have been old enough to have earned a degree at the time of testing. The figures represent the growing engagement in higher education for women – evident in the younger age-cohorts. In fact, women in the 25 to 34 year-old cohort showed higher education levels than males in both 2002 and 2009. We can expect this to become a greater influence with time as the younger cohorts move through the age span with women likely to show higher levels of education at all ages. Since women are less likely to be involved in tobacco, alcohol, and drug use but more susceptible to mental health issues surrounding mood, this is very important for consideration when planning future services and organizing the working environment.

Marital status

Three-quarters (74.3%) of the respondents were married or living together as married, 8.3% were divorced, 2.2% were separated, 2.0% were widowed, and 12.9% had never been married.

Table 2.5: Respondents per household income category

Income Category	%
< $10,000	0.8%
$10,000 - $19,999	2.3%
$20,000 - $34,999	7.5%
$35,000 - $49,999	10.8%
$50,000 - $99,999	$36.6%
$100,000+	$42.0%

Household income

Table 2.5 shows the frequency distribution for household income categories across the sample. Notably the top two categories were the largest, indicating that the scale needs to be upgraded with new categories at the high end. There were proportionally many more Alberta households reporting incomes above the national average than in any other province or territory (Statistics Canada 2009c).

Occupation

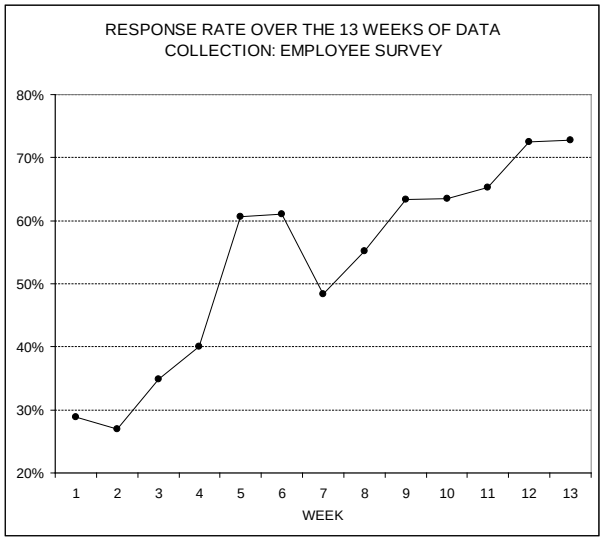
The occupations reported by the respondents were categorized by the interviewer in accord with the National Occupational Classification (NOC) system produced by Human Resources and Skills Development Canada (2006). In line with the process used in the 2002 AADAC survey, these were then re-categorized into the more usable groupings shown in Table 2.6.

Table 2.6: Distribution of occupations

Occupation	%
Manager/professional: plans/organizes/controls functions of a work unit and/or is a teacher, lawyer, doctor, nurse, dentist, accountant, etc.	41.2%
Clerical/office worker	10.1%
Sales: sells/buys commodities, sells services; wholesale or retail business	6.2%
Services: protection, catering, accommodation, assistance, funeral services, hair styling, personal services, cleaning, minor maintenance/repair	17.8%
Primary occupations/farmers: upstream oil and gas, fishing/hunting/trapping, forestry/logging, mining, farming/ranching	4.2%
Processing/manufacturing: treat material for use (refine, mix, compound); produce unfinished material for tile, food, newsprint, lumber, cloth	1.4%
Construction/materials handling: erect, repair, maintain buildings, etc., or move, lift, load, package materials and products	5.2%
Transportation/equipment operating: truck driver, bus driver, airline pilot, etc.	2.1%
Business proprietor: self-employed: owns amd operates retail, wholesale, or service business	10.3%
Other	1.5%
Missing 7 (0.2%)	

It should be noted that due to a branching error, the question about occupation was not asked of those who claimed to be self-employed in the first question of the survey. Although some would have been ordinarily classified elsewhere, these were all coded as "Business Proprietors" here.

Response rate



There were 2817 completed surveys. Overall, this represented a completion rate of 42.3%, but this does not tell the whole story. As can be seen from the accompanying figure, the response rate was below 30% for the first 2 weeks, but, excepting some departures, rose gradually to over 70% during the final 2 weeks (72.5% & 72.8%). This appears to be due to a number of remedial interventions that were initiated during the testing period to counteract the relatively low initial figures (i.e. retraining interviewers on "best practices" and discontinuing the use of interviewers with low response-rate performance). This interesting issue will receive more detailed analysis and discussion in later papers (e.g. Woodman, Elliott, and Thompson 2010). The importance of this is that if these changes in response rate over time are not correlated with the main worker characteristics, then we could assume that the effective response rate is that found during the last 2 weeks of interviewing. If, however, there is meaningful variation across testing times, then the valid response rate is as measured directly; i.e. at 42.3%.

To assess the stability of responses across the data collection period, the 13 weeks of testing were grouped into four categories (weeks 1-3, 4-6, 7-9, and 10-13) and these were used to evaluate the major demographic categories that were used in the survey. Chi-square analyses showed no statistically significant differences due to marital status ($p = .814$), education ($p = .268$), or household income ($p = .993$). Although gender did not show statistical significance according to the criterion adopted here ($p < .01$), it came close enough to require mention ($X^2 = 10.38$, $p < .02$). Thus, the proportion of males over data collection periods 1 to 4, respectively, were 37.1%, 39.5%, 43.6%, and 44.0%, a generally increasing trend. The average respondent age did show a change that was significant, but it was low on magnitude with no discernible trend. The means, respectively, were 46.1, 43.5, 45.3, and 45.5 years ($F = 6.18$, $p < .001$). Given (1) that the gender trend is in the direction predicted by an attempt to raise male participation, (2) that age differences are very small and without any clear trend, and (3) the other three demographic variables showed no significant relationship with testing chronology, it appears safe to conclude that the effective response rate for this survey is in the region of 70%. Note that a large number of surveys are published with response rates lower than the overall average of 42.3% found here and certainly many fall below the 28% found for the first 2 weeks of data collection. Furthermore, many recent studies indicate that low response-rate investigations are as accurate as those with higher completion rates (Curtin, Presser and Singer 2000; Groves 2006; Peytchev, Baxter and Carley-Baxter 2009).

The Employer Survey

The current study used the Employer Survey developed for the 1992 investigation (see Appendix C). No substantial modifications were made to this instrument for the either the 2002 replication or the 2009 study.

This component of the project involved the collection of information on the nature and size of the industry in question, the availability of employee assistance programs, alcohol and drug-testing programs, costs incurred, and policy and action toward substance use and gambling.

A number of open-ended questions were used in the Employer Survey. These were coded for data analysis. Thus, in most cases responses were quantified and descriptive statistical analyses were applied.

The employer participants were selected in a manner that would allow representation of the array of worksites in Alberta employing five or more employees. The total number of completed surveys was 363.

Procedure

A field test of the *Employer Survey* was completed with 20 respondents prior to full data collection. No significant or consistent concerns were noted during the field test and, as such, the survey was not altered prior to full administration.

An initial sample of 1000 businesses were included in the survey mail-out. Surveys were mailed on September 24, 2009. Follow-up phone calls to businesses that had not returned a completed survey commenced on October 13, 2009. On October 23, 2009, an additional 1500 employers were added to the sample. These employers were not initially sent a mail-out survey but were contacted by telephone.

Employers had the option to participate in the survey in one of three ways:

1. mail or fax in a completed copy of the survey (businesses initially contacted by phone were given the option of receiving the survey through mail or fax);
2. complete the survey online at the study website; or
3. complete the survey over the phone with a trained staff member.

More procedural details are contained in Appendix D.

Characteristics of the Employer Sample

Of those who actually completed the Employer Survey, 18.1% were the owners of the business in question, 67.7% managed the business, and 14.3% were designated for the purpose by the senior manager or owner.

Location

Most of the businesses were headquartered in Alberta (81.5%), with 12.4% being centred elsewhere in Canada and the remainder being international (6.1%). In Alberta, the majority (51.9%) had just one work site, 24.6% fell within the 2 to 5 site range, 14.7% showed 6 to 15, and 8.8% fell within the range of 16 to 300 sites.

Staffing and union presence

Staffing complements (Alberta sites only) varied from just a few employees to over 500. The distribution is shown in Table 2.7. Part-time workers appeared to be a significant influence on the workplace. For 23.1% of the organizations, part-time workers were in the majority, 30.0% reported no part-time workers at all, and the remaining 43.2% indicated that full-time workers comprised the majority of their employees. Note that the proportion estimated to be unionized increased with the size of the workforce ($X^2_{Linear} = 54.46$, $p < .001$).

Table 2.7: Organization staffing complements

# Workers	% of Firms	% Unionized
< 10	25.6%	3.4%
10-49	34.6%	8.3%
50-199	15.6%	9.3%
200-499	10.4%	25.0%
500+	13.8%	50.0%
Total	100%	14.7%

Response rate

Table 2.8: Survey completions

Mode	Completes
Mail/fax	50
On-line	40
Telephone	273

Table 2.8 lists the numbers of surveys completed in each of these three modes. However, a total of 2489 contacts were initiated to obtain the 363 completions. Of these, 706 were not appropriate or could not be contacted, producing a completion rate of 20.4%. In 726 cases a message was left that did not result in a completed survey. Excluding these, and counting only those where there was some interaction with the potential respondent, increases the response rate to 34.3%. Some of these should have fallen into the non-contact/inappropriate category but others would have been classified as "silent" refusals. The true response rate likely falls between the two percentages.

Industry

Questionnaire Commonalities

Table 2.9 shows the distribution of respondents across industry types for both 2009 surveys. Industries were categorized in accord with the North American Industry Classification System (NAIC 2009). The rank-order correlation across types was 0.62 (excluding non-profit organizations), indicating moderate agreement between the two surveys regarding sampling concordance by industry. The top groupings in terms of frequency were primary industries and health or social services for both surveys, with education and retail/wholesale businesses rounding out the top three for the worker and employers surveys, respectively.

Table 2.9: Distribution of employee and employer surveys by industry

Industry	Worker	Employer
Primary industry: farming, oil/gas, forestry, fishing, hunting, mining	11.5%	14.4%
Utilities	1.0%	1.9%
Construction	6.5%	8.6%
Manufacturing	4.7%	9.9%
Retail/wholesale	10.1%	12.7%
Transportation, warehousing	4.3%	8.3%
Information	1.5%	0.6%
Finance. insurance, real estate	4.5%	5.0%
Knowledge services: professional, technical, scientific, management	10.9%	3.3%
Education	11.2%	5.5%
Health, social services	16.9%	11.6%
Leisure: arts, entertainment, recreation	1.9%	3.9%
Hospitality: accommodation, food services	3.5%	6.4%
Public administration	5.6%	1.9%
Non-profit	--	0.8%
Other	5.8%	5.2%
Missing	0.9%	

Incidents: Comparing worker and employer data

Both the employers and the workers were asked to provide information on the frequency of a particular event (e.g. absenteeism). The problems involved in making this sort of comparison were:

1. The employer will be making an estimate based on the number of employees at a worksite while the worker will be reporting his or her own individual responses. That is, an observant manager in a 10-person unit will theoretically have 10 times the number of incidents to report than a singleton who is self-reporting. Thus, the employer estimates will need to be divided by the number of employees to allow an appropriate comparison. The use of the questionnaire item pertaining to the number of employees in Alberta as the denominator would be misleading since many firms have multiple sites. Thus, the more conservative measure, the number of employees at the smallest Alberta worksite will be used in the calculations.

2. Table 2.10 shows the mean small site average size for each provincial employee complement category. Note that the 338 organizations (25 did not know or did not respond) accounted for about 12,500 employees. These then will be the values used when adjusting employer estimates when making comparisons with prevalences based on employee responses.

Table 2.10: The mean size of the smallest site according to overall organization size

Site size (#Employees)	Mean	Orgs.	Employees
< 10	4.3	89	382
10-49	14.3	118	1688
50-199	36.4	54	1963
200-499	115.3	35	4034
500+	104.6	42	4392
Total	36.9	338	12,459

3. Some data are recorded as a 4 week prevalence in one survey and as a 1 year prevalence in the other. This can be simply addressed by adjusting one value to the time base of the other (e.g. a 4 week prevalence will be multiplied by 13 to produce a 12-month estimate).

4. A self-report can produce different results than an observation made on the person in question by another person. This cannot be addressed in this type of study, but the possibility should be remembered when examining certain findings across the two survey types.

Changes Across the Three Waves: Both Surveys

One stated purpose of this project was to provide an estimate of changes in addictive behaviour within the Alberta workforce over time using data from the three waves of the study. As noted earlier, the waves were not entirely equivalent as components were added to Waves II and III. Notably, gambling and some tobacco items were added in Wave II, and in Wave III mental health was added and presenteeism was enhanced. Nonetheless, a core set of questions were retained throughout to inform about changes over time.

Generally, items with several levels (e.g. consumption categories ranging through none, low, medium, high) were recoded into a two-category response-format (e.g. High/Low or Yes/No). This allowed for the calculation of present/absent prevalence estimates which were suitable for the purposes of this section. In some of the above-noted cases where minor changes in the wording of an item or its response alternatives were made, the two-category approach may have masked differences brought about by the subtle changes in the response options. Explanations for these few cases will be provided as they are dealt with below.

Issues covered here will include selected aspects of alcohol use, drug use, smoking, gambling, and the work environment. Gambling and some aspects of tobacco use were included even though they, being introduced in Wave II, will have only two data points for comparison.

In this section, the measures of interest are designed to reflect the prevalence of each factor for each wave. Thus, they are vulnerable to the variation of confounding variables (other factors that might be associated with them). For example, the item dealing with the number of years worked for the same employer is meant to be taken as a measure of stability, but it may actually reflect

(at least to some degree) differences in the age of the workforce – younger workers cannot, for example, show long-term employment simply because of their lack of years. Thus, the prevalence measures presented in this section will not be the observed values, but rather the figures adjusted for age and sex to the 2009 Alberta working population (Government of Alberta 2010). In other words, the figures for each wave will be altered as if each wave was made up of the same proportion of men and women and had the same age distribution as the Alberta workforce in 2009 (the year the last survey was conducted). As the next section will show, this adjustment was necessary since neither age nor gender was constant across the three surveys.

The Worker Survey: Age and Gender Across Waves

Table 2.11 shows the Age by Gender distribution of the Worker Survey for each of the three waves.

First of all, the gender ratio differs for each wave; there were 59.3% males in Wave I, 46.0% in Wave II, and 40.2% in Wave III. Furthermore, the samples became older with each wave. The youngest group (18 to 24 year-olds) made up 17.4% of the 1992 sample, 12.1% of the 2002 sample, and dropped to 4.1% in 2009. On the other hand, the older respondents dominated at the end.

Table 2.11: Age X sex distribution for each wave

Wave	Age	Males	Females	Total
1992	18-24	10.2%	7.2%	17.4%
	25-34	17.3%	12.2%	29.5%
	35-44	17.0%	12.2%	29.2%
	45-64	13.6%	8.4%	21.9%
	65+	1.2%	0.7%	1.9%
	Total	**59.3%**	**40.7%**	**100%**
2002	18-24	5.9%	6.2%	12.1%
	25-34	9.9%	11.0%	20.9%
	35-44	14.5%	16.1%	30.6%
	45-64	14.8%	19.9%	34.8%
	65+	0.9%	0.7%	1.6%
	Total	**46.0%**	**54.0%**	**100%**
2009	18-24	1.7%	2.3%	4.1%
	25-34	6.4%	10.0%	16.4%
	35-44	9.2%	15.1%	24.2%
	45-64	21.0%	30.3%	51.2%
	65+	2.0%	2.1%	4.1%
	Total	**40.2%**	**59.8%**	**100%**

For example, the 45 to 64 year age group grew from approximately 22% through 35% to 51% over the course of the three waves. This is quite explainable by the demographic shift caused by the post World War II increase in birth rate – the so-called baby boomer generation (Foot and Gibson 1993). This population bulge is now firmly in the latter portion of the 45 to 64 age grouping and is beginning to move into the sixty-five and over category. The effect is not so direct for gender, but since women outlive men, a population bulge at the upper end is likely to show a disproportionate number of women, which is exactly what has been found here. Thus, the age and gender differences across samples are not simply a major sampling bias, but are to some degree expected because of a shifting demographic. Nonetheless, the age x sex adjustment to 2009 figures was required to rule out such biases whether or not they were to be expected.

SECTION III: MENTAL HEALTH, SUBSTANCE USE, GAMBLING AND PRODUCTIVITY

Mental Health

Mental Health was not assessed in Waves I and II. Mental health measures were added because of a direct effect on productivity and employment (Bland et al. 1988b) and because of indirect effects through factors such as alcohol and drug use (Thompson and Bland 1995) and gambling (Newman and Thompson 2003; 2007).

Four of the measures here provide diagnoses and the remaining two (suicidal behaviour and hopelessness) are powerful factors that serve as both causes and consequences of aberrant work behaviour.

The mental health measures used here are generally reported in terms of lifetime prevalence. It is important to note that they will be associated with other factors that may reflect other prevalence spans (ordinarily 12 months). Thus, it is most appropriate to think of mental health variables in a chronic sense, rather than in terms of acute episodes.

Anxiety

Table 3.1: Lifetime prevalence of anxiety: Age X Gender

Age/Sex	Males	Females	Total
18-24 yrs	6.5%	7.9%	7.3%
25-34 yrs	4.1%	11.2%	8.4%
34-44 yrs	6.9%	9.4%	8.5%
45-64 yrs	4.8%	7.6%	6.5%
65 + yrs	1.9%	3.6%	2.8%
Total	5.1%	8.5%	6.9%

Scored for persons who reported three or more spells within 3 weeks of anxiety (i.e. anxious, frightened, very uneasy) when most would be unafraid.

Of the 2792 respondents, 194 (6.9%) showed serious levels of anxiety (Table 3.1). Gender was significant ($X^2 = 10.18$, $p < .001$), with 8.5% of women experiencing a diagnosable level of anxiety, versus 5.1% in males. Age was not statistically significant.

Phobia

Four categories of phobia were coded, as shown in Table 3.2.

"Other fears" and "claustrophobia" are ordinarily classed together to form Simple Phobia. For the purposes of analysis, the variable "Any Phobia" was created, being applied to persons who showed any one, or more, of either agoraphobia, social phobia, or simple phobia. This produced a very high lifetime prevalence of 38.0%.

To temper this, Simple Phobia was replaced by Claustrophobia only, eliminating the vague "Other Fears" category. This produced a lifetime prevalence for "Any Phobia" of 29.5%, the value used for further analysis in this study. Women showed higher values than men on this variable ($F = 37.78$, $p < .001$) and were more likely than males to be diagnosed with the disorder (34.5% vs. 23.5%).

Table 3.2: Lifetime prevalence of phobia

Disorder	Prevalence
Agoraphobia	10.5%
Social phobia	15.9%
Claustrophobia	15.0%
Other fears	11.6%
Any phobia	38.0%
Any phobia abridged	29.5%

Major depression

Table 3.3: Lifetime prevalence of major depression: Age X Gender

Age/Sex	Males	Females	Total
18-24 yrs	13.0%	12.7%	12.8%
25-34 yrs	6.4%	14.1%	11.1%
35-44 yrs	13.4%	19.3%	17.1%
45-64 yrs	10.5%	14.8%	13.0%
65+ yrs	9.4%	5.3%	7.3%
Total	10.6%	15.4%	13.1%

The criteria used for Major Depressive Disorder were (1) 2 weeks of seriously depressed feeling or two weeks of loss of interest in life's activities, (2) three or more symptoms involving appetite, sleep, slowness or restlessness, energy, self-worth/guilt, concentration, and suicidal ideation, and (3) these feelings were not due to grief.

As Table 3.3 indicates, the lifetime prevalence of Major Depressive Disorder was 13.1%. Gender differences were significant ($F = 12.64$, $p < .001$), reflecting worldwide findings that females are more likely to be diagnosed than males (15.4% vs. 10.6%). Note however, that this finding was not supported here among the youngest or the eldest age categories.

Antisocial personality disorder

Antisocial Personality Disorder was diagnosed for persons that responded in the affirmative to three or more of six items pertaining to this form of behaviour (i.e. irresponsibility, illegal activity, fighting, lying, endangering others, and remorselessness).

The diagnosis of Antisocial Personality Disorder was assigned to 101 of 2746 respondents (3.7%; Table 3.4). The rates were higher for males than for females (6.6% vs. 2.1%; $F = 36.82$, $p < .001$), and the rate for the disorder went down as age increased ($F = 9.76$, $p < .001$). The Sex X Age interaction was not statistically significant.

Table 3.4: Lifetime prevalence of antisocial personality disorder: Age X Gender

Age/Sex	Males	Females	Total
18-24 Yrs	8.7%	8.1%	8.3%
25-34 Yrs	10.2%	3.3%	6.0%
35-44 Yrs	7.5	1.8%	3.9%
45-64 Yrs	5.2%	1.5%	3.0%
65+ Yrs	3.8%	0.0%	1.9%
Total	6.6%	2.1%	3.7%

Any disorder

This was scored if a respondent was assigned one or more of the four above-noted diagnoses. It is important to note that many studies in the literature that use a designation of this nature have based it on somewhat different criteria. Of importance here, most investigations will have assessed more than four disorders. For example, the Edmonton Area Study of Mental Disorders (Bland, Orn and Newman 1988a) included eight diagnoses.

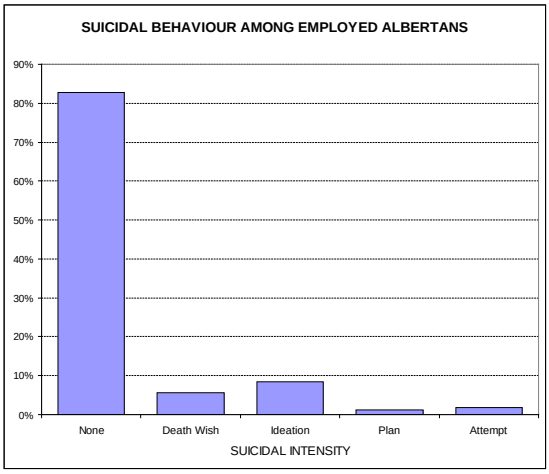
The findings showed that 38.8% of the respondents (1085 of 2798) experienced at least one of the four disorders during their lifetime. Note that even using a conservative definition of phobia here, this value stands slightly higher than the just-noted Edmonton survey finding of 33.8% (Bland, Orn and Newman 1988a). Gender differences existed ($F = 36.12$, $p < .001$) with the lifetime rate for females exceeding that for males (44.3% vs. 32.6%).

Other mental health measures

Hopelessness

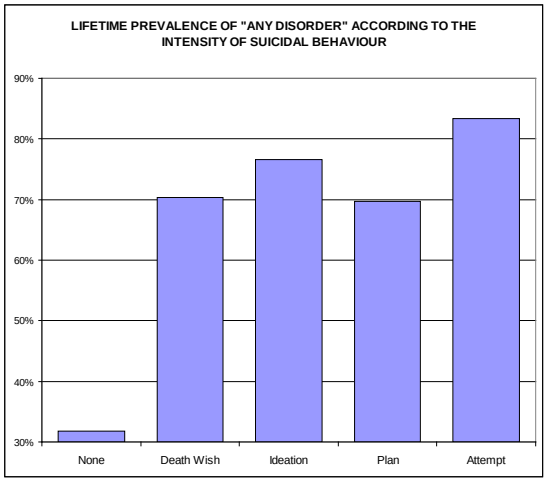
This is a single-item measure in response (Yes or No) to the question “Has there ever been a period of time when you felt that life was hopeless?” Twenty-six percent responded in the affirmative. There were gender differences, with females exceeding males (29.3% vs. 22.7%; $F = 13.68$, $p < .001$).

Suicidal behaviour



The items used to assess the level of suicidal severity were adapted from the Diagnostic Interview Schedule (Robins et al., 1981), and are similar in nature to items introduced in a community study by Paykel et al. (1974). Included were questions about ever engaging in a death wish, suicidal thinking, making a suicide plan, and making an attempt. These behaviours are commonly viewed as elements of an orderly progression that begins with occasional thoughts of death (Angst, Degonda and Ernst, 1992) and ends at some point along a single continuum whose last position is completed suicide. The movement from a death wish through to a suicide attempt has been interpreted as a hierarchy of intent (Mościcki, 1989), while a number of authors (Portzky, Audenaert, & van Heeringen, 2005; Runeson, Beskow, & Waern, 1996; van Heeringen, Hawton, & Williams, 2000 and many more) have discussed this under the general concept of "the suicidal process".

The distribution of responses across the levels of suicidal behaviour is shown in the accompanying figure. Note that a large majority of employees who participated in the survey (84.3%) reported that they had experienced no form of suicide-related behaviour at all and only a small percentage had made an attempt (1.7%). In comparison to suicide attempt prevalences reported in the literature, this is a relatively low figure (see reviews by Angst, Degonda and Ernst 1992; Weissman et al. 1999; Welch 2001; Bertolote et al. 2005). Furthermore, it is well below the 5% reported for university students in the same Canadian province some years earlier using the same questions (Thompson 2010). For some analyses, respondents were formed into two groups: one for those showing any form of suicidal behaviour (16.6%) and the second for those showing none (83.4%). Among women, 18.7% exhibited suicidal behaviour vs. 12.3% for men ($F = 18.98$, $p < .001$).



Although few respondents exhibited suicidal ideation, the mental health impact on these persons is quite severe. The accompanying figure shows the proportion within each level that showed at least one of the four mental health diagnoses. Even "mild" levels of suicidal behaviour more than doubled the presence of a diagnosable mental illness. The distinction between those who show any form of suicidal behaviour and those that do not is not ordinarily so precipitous. For most factors, as we shall see below, a more graded (linear) relationship is found between the issue in question and the level of suicidal behaviour.

Substance use and gambling

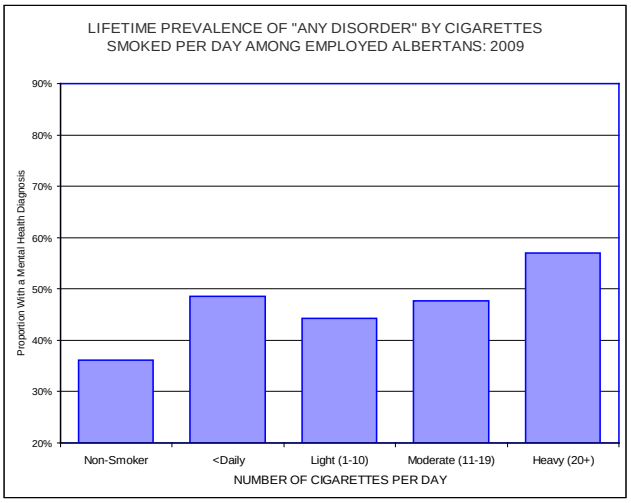
Tobacco use

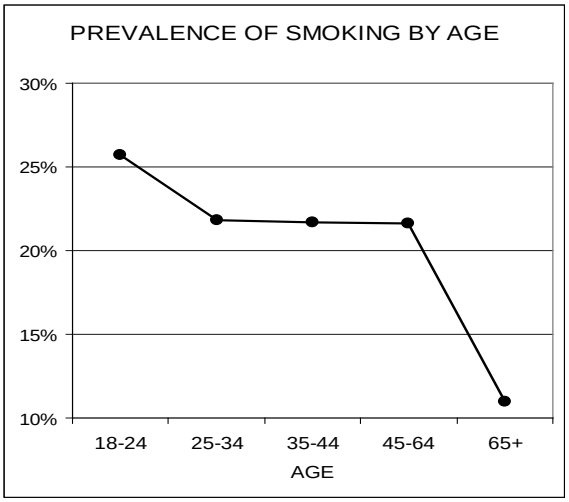
For the sake of most analyses, the average number of cigarettes smoked daily was recoded into the five categories shown in Table 3.5.

Table 3.5: Number of cigarettes smoked daily, categorized

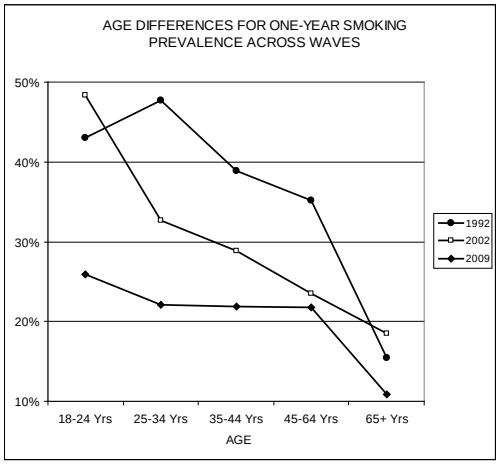
Non-Smoker	< 1 /Day	Light (1–10)	Mod. (11-19)	Heavy 20+
79.7%	1.2%	8.2%	5.4%	5.5%

A greater proportion of males are smokers (24.4%) in comparison to females (18.3%; $F = 17.42$, $p < .001$). Age showed a marginal effect when unordered ($F = 2.16$, $p=.07$), but there was a decline with age that was significant (Difference Estimate = -.094, $p =.008$) (see the accompanying figure). The Age X Sex interaction was not significant.





Smoking was not as closely related to mental health as were the other addictive behaviours. The accompanying figure shows this, but indicates that there is nonetheless a significant effect ($X^2 = 37.09$, $dg = 3$, $p < .0001$). The apparent deviation from the linear trend for those smoking less than one cigarette per day may be due to the small number of persons exhibiting that level of restraint, or it may be that since such light smoking is unusual, those who follow that pattern may have unusual characteristics as well.



All waves: Over time, the number of smokers has gone down considerably. The 12-month adjusted smoking prevalence figures for Waves I to III, respectively, were 39.5%, 30.2%, and 22.5% ($F = 26.668$, $p < .001$). Age showed an independent effect ($F = 14.69$, $p < .001$) as well as an interaction with time (Wave; $F = 4.56$, $p < .001$). The interaction is difficult to explain, but it appears that the differences across the three waves have been gradually diminishing with increases in cohort age. It is not clear whether the lower prevalence at older ages is due to the wisdom of years leading to quitting or to an increasing loss of persons with age due to smoking-related illnesses.

Alcohol use

For the sample, 74.0% reported that they had consumed at least one alcoholic drink in the past 12 months. Thus, alcohol use is common and is not necessarily indicative of a problem behaviour. Problem behaviour here is better defined in terms of responses to the Alcohol Use Disorders Identification Test (AUDIT). Results were coded into the five levels suggested by its authors (Babor et al. 2001) with the exception that the "High" and "Very High" categories were collapsed into a "High" category due to there being a low frequency of responders in these two groupings. The AUDIT scale represents the level of risk for the harmful or hazardous effects of chronic alcohol use.

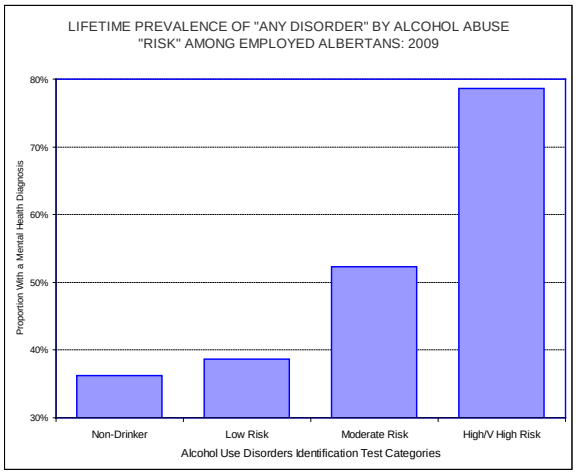


Table 3.6 shows the distribution of respondents across AUDIT risk categories. Of the 2813 valid responses, 27.6% were classed as non-drinkers, and two-thirds were drinkers who were classed as low risk for alcohol use problems. Only one in 200 was reportedly at high, or very high risk.

Table 3.6: AUDIT scale

Non-drinker	Low risk	Medium risk	High* risk
27.6%	67.8%	4.0%	0.5%

*Combined high and very high categories

Alcohol abuse is often associated with mental illness, and this association is clearly evident within the Alberta workforce. As shown in the accompanying figure, the trend is increasing exponentially, with nearly 80% of those at highest risk of alcohol abuse having experienced a diagnosable mental illness.

Table 3.7: Responses on alcohol-related issues (age and sex adjusted to 2009): 1992-2009

Alcohol-related Factor	1992	2002	2009
12-month alcohol use	77.3%	83.1%	74.0%
At high risk for abuse	--	1.2%	0.9%
7+ drinks – 1 occasion	5.2%	4.7%	2.7%
Allowed on worksite (W)	40.2%	19.0%	13.7%
Allowed on worksite (E)	36.9%	42.5%	30.3%
After work (W)	67.5%	62.4%	63.4%
After work (E)	73.2%	66.1%	46.8%
Alcohol impact (W)	--	20.6%	21.7%
Alcohol or drug impact (E)	33.8%	18.9%	7.8%
Job trouble	--	0.8%	0.4%

(W) = Worker Survey; (E) = Employer Survey

The analysis of gender and age effects on the AUDIT score showed that sex and age were independently significant (F values = 117.68 & 25.75, respectively, $p < .001$), but not in interaction. The relative male risk for moderate/high risk for alcohol abuse was 2.29 (9.4% vs. 4.1% for males and females, respectively).

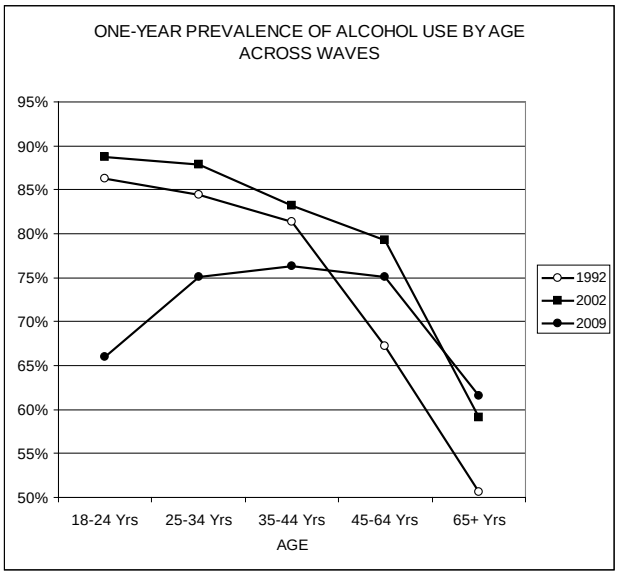
Moderate/high AUDIT scores declined gradually with age. After adjustment for the gender imbalance in the worker sample, the figures were 17.6%, 8.8%, 5.6%, 3.5%, and 2.4%, respectively, for the youngest to oldest age-groups.

As indicated above, raw figures indicated that 27.6% of the 2009 sample abstained from drinking during the 12 months prior to testing. There was very little change when this value was adjusted for age and sex to 2009 workforce figures – the 1-year adjusted prevalence was 26.0%.

Table 3.8: ANOVA summary for 12-month alcohol use: 1992-2009

	Sum of squares	df	F	Sig.
Wave	3.05	2	9.31	.000
Age	12.65	4	19.29	.000
Sex	.59	1	3.57	.059
Wave X Age	7.89	8	6.02	.000
Wave X Sex	1.23	2	3.74	.024
Age X Sex	.39	4	.60	.663
Wave X Age X Sex	1.41	8	1.08	.377
Error	1069.7	6526		

All waves: Table 3.7 shows that the proportion of workforce members who reported drinking during the previous year was higher in 2002 than in either of the other two testing years. This difference across the three waves is significant (see Table 3.8), being due primarily to the quadratic (inverted-U) effect (Contrast = .02, SE = .016, $p < .001$). The age effect was also significant, but the significant Age X Wave interaction indicates that this trend differed across the three test years. As the accompanying figure shows, both 1992 and 2002 showed progressive declines in alcohol use with age that were not duplicated in 2009. Rather, 2009 shows the lowest usage rates among the two age-extremes (youngest and oldest). Furthermore, the general trend of lower rates with each succeeding wave has been reversed for those over age 45 in 2009. There may be an age-cohort effect here as the younger drinkers in the most recent sample showed relatively low 12-month drinking rates. If the age-effect holds true (i.e. drinking will be reduced as the group ages), the future would bring lower drinking rates overall.



As noted above, the high proportion of drinkers does not reflect the extent of problem drinking. According to AUDIT findings, less than 1% of drinkers are at high risk for alcohol-related problems (see Table 3.7) and the proportion typically consuming seven or more drinks on a "drinking day" is less than 5% of alcohol users. Unlike alcohol use overall, the percentage of 7+ drinkers (Table 3.7) has decreased over time.

In terms of the worksite context, a strong trend away from the acceptability of alcohol in the workplace has been observed by those in the worker sample (to about 14% in 2009). This trend, however, was not reported by the employers who noted that alcohol was allowed on the work site in about one-third or more of the cases (range = 30% to 43%) and who report that alcohol is regularly consumed at the worksite (with no decline in either case; see Table 3.7). A majority of workers in all three surveys noted that co-workers often get together after working hours to have a drink – the employer view shows this as a significant factor, but with a reducing trend over time. Furthermore, only about one in five of the respondents see alcohol as having an impact on worker productivity, and a very small proportion reported personal problems on the job that could be attributed to alcohol use. The employers' "significant" concern about the effects of overall substance abuse on productivity has always been a minority issue (see Alc/Drug Impact in Table 3.7), and has dropped gradually over the three waves to under 8% in 2009.

Medications & illicit drugs

Although a meaningful proportion of respondents reported medication use in the previous 12-months (see Table 3.9) and 137 (4.9%) reported illicit (street) drug use during that time, only 75 persons (2.7%) stated that they had used drugs for non-medical reasons. Presumably, some respondents were, or felt that they were, taking some street drugs for medical reasons.

Illicit drug use (including marijuana, cocaine, LSD, ecstasy, and heroin) was not high in 2009 – reported abstinence (adjusted) was at 93.3%. Abuse of these drugs was rated on the basis of the Drug Abuse Screening Test (DAST).

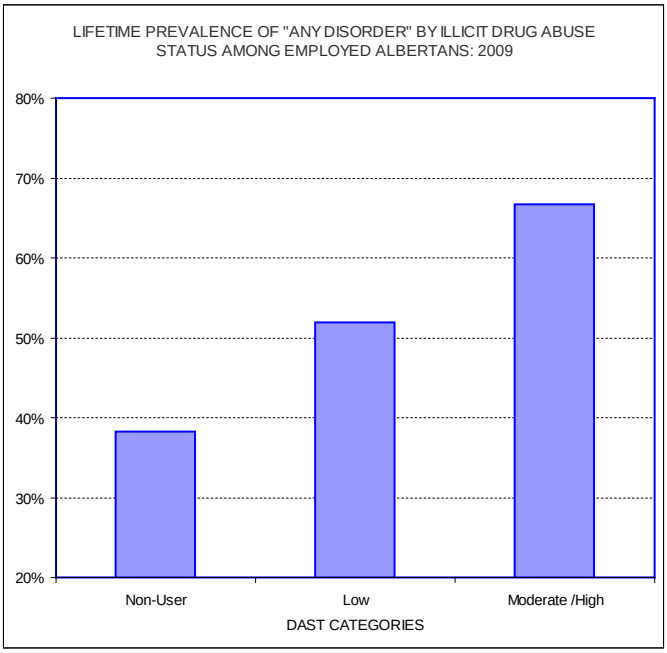
Table 3.9: One-year prevalence of medication use

Medication	%
Antidepressants	9.4%
Tranquilizers	1.8%
Sleeping pills	9.0%
Cough/cold medications	51.1%
Painkillers (no prescription)	72.7%
Painkillers (prescription)	15.1%
Stimulant (no prescription)	0.9%

Table 3.10: Drug abuse – DAST categories

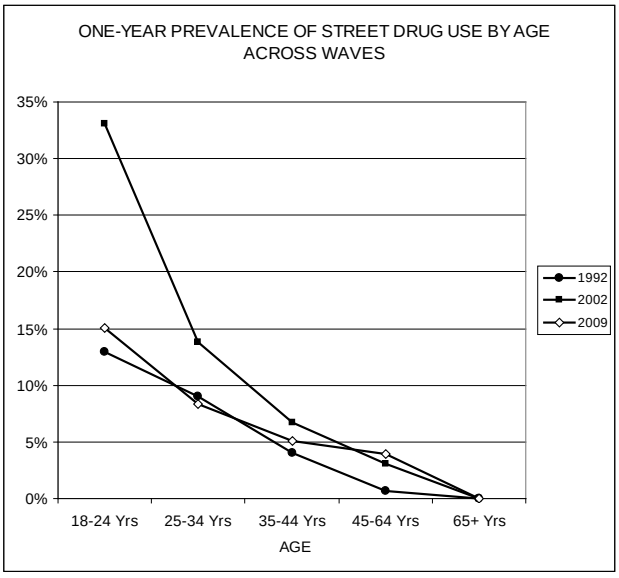
No problems	Low level	Moderate to high
97.3%	1.9%	0.7%

The distribution of DAST scores is shown in Table 3.10. Note that the top categories (Moderate & High) were combined into one category due to low frequencies. Even after having combined categories, well below 1% of respondents showed high levels of drug abuse.



Both sex and age showed significant effects on levels of illicit drug abuse. Using a broader measure of abuse (low to high risk), males showed a considerably higher rate at 4.5% with females at 1.9% (RR = 2.40; $F = 6.86$, $p < .01$). Illicit drug abuse declined with age, showing a progressive decrease in the 12-month adjusted prevalence across the five age groups (respectively, 6.3%, 4.7%, 2.9%, 2.2%, and 0.9% from youngest to eldest; $F = 7.01$, $p < .001$).

Illicit drug use has a strong linear relationship with diagnosable mental illness. The adjoining figure shows that about two-thirds of those with moderate or high DAST levels showed at least one of the four diagnoses. Even those deemed to be at low risk showed a rise over non-use.



All waves: Males showed drug use rates (age adjusted) that were notably larger than that of females in all three waves (i.e. 6.3% vs. 3.7% in 1992, 13.3% vs. 7.1% in 2002, and 7.8% vs. 5.3% in 2009).

Use of street drugs is not on the decline among those in the workforce (Table 3.11), although it might appear to be when adjustments for age are not met. The reason is that the Alberta population is aging and illicit drug use occurs more frequently when we are young and tapers off as we become older. This is shown for our sample in the accompanying figure. Clearly the data for each wave show an incremental decline in use from the youngest through to the oldest age group. Furthermore, the perseverance of this pattern across 18 years of data suggests that this is not the result of a cohort effect. That is, it is not something about young people in 1992 that might have been carried forward to appear in an older cohort in subsequent waves. Instead, we find that the relative

position across ages is the same across all waves, indicating the presence of a strong age effect. However, the higher percentages in 2002 suggest that something was different in that year (i.e. prevalences were higher than in the other two waves overall, even though the relative age position did not change).

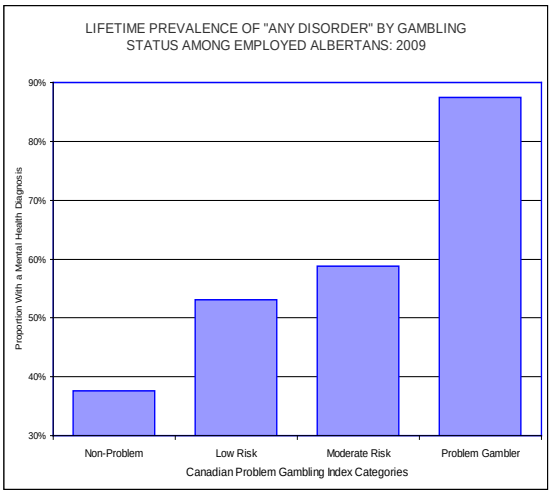
Table 3.11: Responses on a number of street drug-related issues (age and sex adjusted to 2009): 1992-2009

Drug Factors	1992	2002	2009
Drug use	5.1%	10.5%	6.7%
Moderate/high risk	--	1.4%	1.0%
Use at work	0.3%	0.8%	0.3%
Availability (E)	27.7%	43.5%	15.9%
Impact	--	15.3%	17.5%
Work trouble	.1%	.1%	.1%

As shown in Table 3.11, drug use while at work was reported to be very low. The prevalences across waves were all well below 1%, again with the male vs. female ratio being about double. The employer estimate of availability near work (adjusted for organization size), however, showed much higher percentages (Table 3.11), ranging from about 44% in 2002 to 16% in 2009. The workers' perception of the impact of street drug use on work productivity generally was that it was low (fewer than one in six feeling that it had an effect), and the proportion reporting problems at work because of street drug use was very small – only nine of the 7670 persons interviewed across all three waves reported problems (three per survey), for a consistent unadjusted prevalence of one-tenth of 1%.

Problem gambling

The definition of gambling covers a variety of behaviours that range from a number of seemingly innocuous activities that we might not always consider to be gaming, to risky bets that cause great hardship. The list presented to the survey respondents included buying lottery/scratch tickets, racetrack betting, playing bingo, playing VLTs, engaging in games at a casino, Internet gambling, betting on sports games, and office hockey pools.



With the above description in mind, 58.5% stated that they had engaged in some gambling activity in the previous 12 months. Considering the broad definition, it is perhaps surprising that the remainder, fully 41.5%, reported no gambling at all.

Problem gambling was classified according to responses to the Canadian Problem Gambling Index (CPGI). The distribution of responses is shown in Table 3.12. In spite of the fact that more than one-half of the members of the Alberta workforce had gambled in some form during the past 12 months, very few were classified as being at high risk for problem gambling.

Again, the relationship between a major addictive behaviour and mental disorder is evident in the study's results. The accompanying figure shows the prevalence of any mental disorder across CPGI categories.

Table 3.12: CPGI categories

Non problem	Low risk	Medium risk	Problem gambler
94.7%	3.5%	1.2%	0.6%

The relationship shows a clear dose-response relationship ($X^2_{linear} = 30.67$, $p < .0001$) with problem gamblers showing a very high lifetime prevalence of mental disorder – nearly 90%.

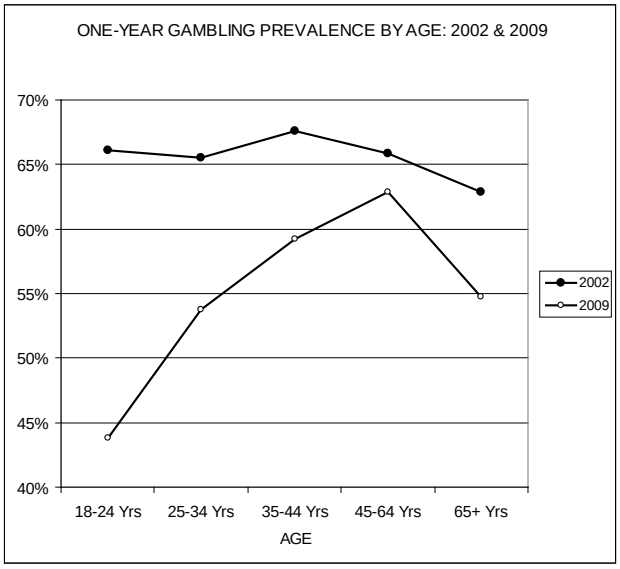
No age or sex differences were found in the analysis of raw CPGI scores.

All waves: Gambling data were collected for Waves II and III only. Using the broad definition of gambling noted above, but with figures adjusted for age and sex, about two-thirds were involved in gambling in 2002, but this had dropped by nearly 9% in 2009 (see Table 3.13).

Table 3.13: Responses on a number of gambling-related issues (age & sex adjusted to 2009)

Gambling Factor	2002	2009
Gambling	66.1%	57.1%
Low/hi risk	9.2%	5.4%
At worksite	46.2%	34.6%
Impact (W)	10.2%	12.3%
Impact (E)	11.2%	1.8%
Job trouble	0.1%	0.2%

Gender differences were negligible, but age differences showed an interesting trend (see accompanying figure). In 2002 the age groupings showed very little difference, with a slightly lower figure for those aged sixty-five and over. In 2009, an inverted-U function was found, with the lower prevalence rates being found among the lower-aged cohorts and, again, a downturn among the older respondents. This is suggestive of a cohort-effect, at least to some degree, raising the possibility of lower gambling rates among older workers being found in the next decade or two.



Gambling seems to have a relatively comfortable place in the worksite. Fourty-six percent of all workers gambled on the job in 2002. Although this had dropped to 35% in 2009 and, remembering that our definition includes office pools, these figures indicate that some forms of gambling are quite well accepted at work. That is, not all gambling activity is deemed to be problematic. Only a very small proportion of the workers felt that gambling had caused them any workplace problems (0.1% in 2002 and 0.2% in 2009), and only slightly more than 10% felt that gambling had any impact on workplace productivity. Employer ratings for gambling's impact on productivity was similar to that of the workers in 2002 (11.2% and 10.2%, respectively) but by 2009 the employers had assigned a much lower value to gambling's influence (1.8% vs. 11.5%). Furthermore, on the Canadian Problem Gambling Index, only 9.2% showed any risk at all for gambling-related problems (low, moderate, or "problem" ratings) in 2002, and the figure was lower in 2009 at 5.4%. Males showed higher rates than females by nearly 60% in both 2002 and 2009 (Relative Risks = 1.58 and 1.59, respectively). The more severe rating of "problem gambler" was assigned to less than 1% of the respondents in both waves.

SECTION IV: WORKSITE CULTURE

In some fashion, productivity is a consequence of personal factors, externally derived influences, and the workplace environment. This section deals with the latter by assessing selected employee perceptions of the work culture vis-à-vis substance use and gambling, attitudes toward these addictive behaviours, and several factors making up "workplace press" (the risk of liability, after hours work, time instability, job value, and work stress).

Proximity/Availability Factors

An important determinant of substance use and gambling is simple exposure to others who are involved in these activities. This may, in part, reflect their proximity and its acceptability in the workplace. Table 4.1 shows worker observations on jobsite practices relevant to this issue.

Clearly, each of the addictive behaviours has some presence at the worksite. However, frequent exposure ("most of the time" plus "almost always") was reported by a relatively low number of respondents. Interestingly, tobacco use showed the highest on-site use, even though smoking is illegal at the majority of worksites in Alberta. The figures cannot be explained by the number of non-smoking tobacco users since only 17 persons (0.6%) reported that they used either snuff or chewing tobacco.

Table 4.1: Substance use and gambling at the worksite

	Never	Sometimes	Most of the time	Almost always
Tobacco use allowed at work (workers)	64.6%	10.9%	3.8%	20.7%
Tobacco use allowed at work (employers)	50.6%	10.6%	--	36.3%
Alcohol allowed at worksite (workers)	86.5%	8.9%	1.0%	3.6%
Alcohol allowed at worksite (employers)	70.0%	16.8%	--	10.2%
Street drugs used at work (workers)	93.2%	5.1%	0.7%	1.0%
Gambling together after work (workers)	82.8%	14.6%	1.3%	1.3%

A composite "proximity" factor was created for workers by summing responses across these four questions and then categorizing the results (see Table 4.2). A two-level version was created for later analysis that categorized availability of substances and gambling at the worksite as being either risky (10.5%) or of low risk (89.5%).

Table 4.2: Proximity

Low	Moderate	High
49.0%	40.5%	10.5%

Attitudes

There was a range of worker opinion on social acceptability for each of the addictive behaviours assessed in this survey (inadvertently, alcohol use was not addressed), but the direction was negative overall (see Table 4.3). Nonetheless, a meaningful proportion of respondents placed smoking, gambling, and playing "lotteries", etc. in the socially acceptable range (27.1%, 19.6%, 27.7%, respectively). Only 3.1% felt the same way about street drugs. This is interesting since more than this (4.9%) admitted using street drugs within the year preceding the survey and many more would have done so during their younger years. In this vein, AADAC (2006) found that the 12-month prevalence for cannabis use among Alberta adults was about one-third of their lifetime use and for other street drugs the ratio was more than one-fifth. Thus, we can estimate that between 15% and 25% of the sample had shown use of some street drug during their lives. Nonetheless, nearly 93% stated that such drug use was not socially acceptable. It appears that we can either engage in behaviours that we hold to be unsuitable and/or, perhaps, we change our minds with time.

Table 4.3: Agreement that the following represent socially acceptable activities

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Lotteries etc*	35.7%	19.9%	16.9%	19.3%	8.1%
Smoking	34.4%	21.9%	16.6%	19.0%	8.1%
Gambling	38.8%	22.3%	19.3%	15.2%	4.4%
Street drugs	79.3%	13.5%	4.0%	2.1%	1.0%

*Includes joint lottery purchases, sports pools, and betting

Table 4.4: Composite attitude score

Negative (0-3)	Low (4-6)	High (7-9)	Very high (10+)
35.7%	30.7%	21.9%	11.7%

A composite "attitude" score was constructed by summing the scores from these four items plus, to compensate for the unaddressed issue of alcohol use, the response to the question that asked whether co-workers drank together socially (total score=19). These totals were categorized into four levels (Table 4.4). A two-category version was calculated that identified those whose average score across behaviours indicated a "socially acceptable" overall rating (17.3%) versus those that were negative or neutral (82.7%).

Workplace press

These categories arose from the Worker Survey, where a factor analysis of 18 items produced five factors that were remarkably clean, showed sensible face validity, and showed meaningful correlations with several of the addictive behaviour and mental health variables. Four of these are thought to be related to work pressures and stress and one asks about workplace stress directly. More details can be found in Appendix E.

1. **Risk of liability:** The degree to which job errors can lead to harm to self, others, and the employer.

Respondents were asked to estimate the likelihood of each of six negative events should they not perform their job well (0 = "No chance" to 3 = "Quite a good chance"). Responses to each question are shown in Table 4.5.

Note that the proportion reporting a very high propensity for causing problems at work ranged from about 7% of the respondents (for damaging the environment) to 26% (for damaging the company reputation).

Table 4.5: Employee response distribution (%) for each liability-risk question

	No chance	Very slight chance	Moderate chance	Very good chance
Injuring self or co-worker	54.1	21.4	10.2	14.3
Injuring someone outside the org.	70.0	13.9	6.3	9.8
Damaging the environment	70.3	15.4	7.1	7.2
Damaging company property	54.6	23.4	10.4	11.6
Hurting organization's reputation	39.5	19.0	15.8	25.6
Losing significant company money	48.3	18.0	13.8	19.9

Total scores covered the range of possible scores (i.e. 0 to 18). Over 20% (22.3%) claimed that their jobs held no risk at all (i.e. scored zero) and 13.1% estimated a "moderate" risk or higher for some form of damage resulting from poor job performance.

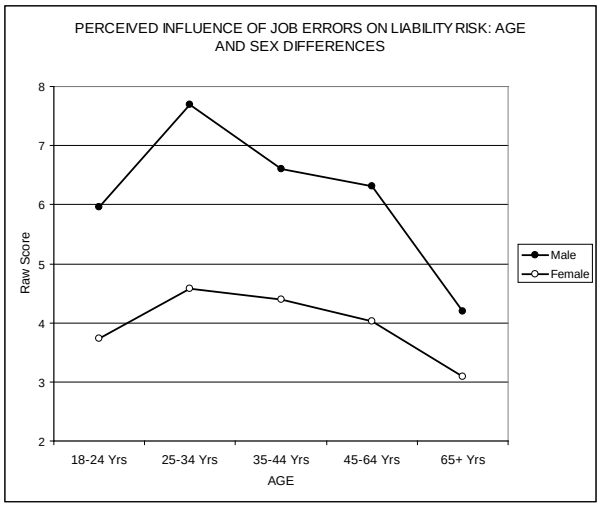
Employers were asked the same questions about liability risk, except that the first item (self- or co-worker injury) was split into two: one for self-injury and one for co-worker injury. The results of this are shown in Table 4.6. Generally speaking, the employers distributed their responses more evenly than the workers for each scenario. For example, in the case of damaging the environment, a lower proportion of employers than workers endorsed the view that there was "no chance" of this occurring (38.6% vs. 70.3%), and a larger proportion opted for the other extreme, "quite a good chance" (10.7% vs. 7.2%). This pattern was repeated for each of the scenarios. This higher assessed risk by the employers (fewer "no chance" and more "quite a good chance" ratings) means that they see a much larger downside emanating from job errors than do the employees themselves. It would be easy to be cynical about these differences and attribute them to some form of self-interest being involved in one stance or the other. But it may be more sensible to view these as appropriate differences between the workers, who are properly focused on their performance of relatively circumscribed tasks, and the managers, who have to attend to organization-level outcomes. That is, even among the pure of heart, workers and managers have differing priorities and contingencies that they deal with on a daily basis and the differences between them will often be because of these – not necessarily because they are different sorts of persons.

Table 4.6: Employer response distribution (%) for each liability-risk question

	No chance	Very slight chance	Moderate chance	Very good chance
Injuring self*	14.9	36.2	24.5	24.5
Injuring co-worker*	23.9	37.9	21.0	17.2
Injuring someone outside the org.	33.0	36.0	16.2	14.7
Damaging the environment	38.6	36.5	14.2	10.7
Damaging company property	17.9	34.4	23.7	24.0
Hurting organization's reputation	11.2	23.3	24.8	40.6
Losing significant company money	15.9	25.7	25.4	32.9

* These were combined in the Employee Survey (Table 4.5)

Sex showed a statistically significant association with risk of liability ($F = 55.78$, $p < .001$) as did age ($F = 7.24$, $p < .001$). The accompanying figure shows that males perceived a considerably higher risk resulting from errors than did the females, with RR values ranging from 1.35 to 1.68 across the five age levels. The trend across age was the same for both sexes with both the linear and quadratic trends being significant. The contrast estimates irrespective of gender were -1.07 ($p = .01$) and -1.4201 ($< .001$), respectively, supporting the interpretation that risk perception increased after the initial work years and then declined with age.



All waves: One of the Liability Risk component questions, "Injuring someone outside of the organization", was not asked of workers in 1992. Thus, for the purposes of this section, the variable will be based on the remaining five questions only: injuring self or co-worker, damaging the environment, damaging company property, hurting the organization's reputation, and losing significant company money. As before, item scores ranged from zero to three ("no chance" to "quite a good chance" of the event occurring) producing an overall maximum composite score of 15. An average item score of two ("moderate chance") would produce a total of 10 points overall. Thus, any score above this would average more than moderate risk and was therefore classified as "High Risk" for the present analysis. Low risk was deemed to be a score of 10 and below.

The data indicate that perceived liability high-risk scores declined over the three waves of the study (16.9%, 14.1%, and 13.0%, respectively (age & sex-adjusted); $F = 9.96$, $p < .001$; linear trend only). Liability risk showed a meaningful decline with age, but the quadratic

(curvilinear) component was significant as well, reflecting the inverted-U function shown in the accompanying figure above. The fact that there was no interaction with the three waves of the study indicates that this does not likely foreshadow a change due to an aging cohort, but rather that it is more likely to be an age factor. For example, one could hypothesize that the younger entrants to the workforce are naively unaware of the negative impacts of poor performance but that they learn this by about the age of 25. This, then, is perhaps followed by increasing skill and/or caution that produces an actual decline in risk. Please note that this is speculation – we are not able to test the theory with the data from this study.

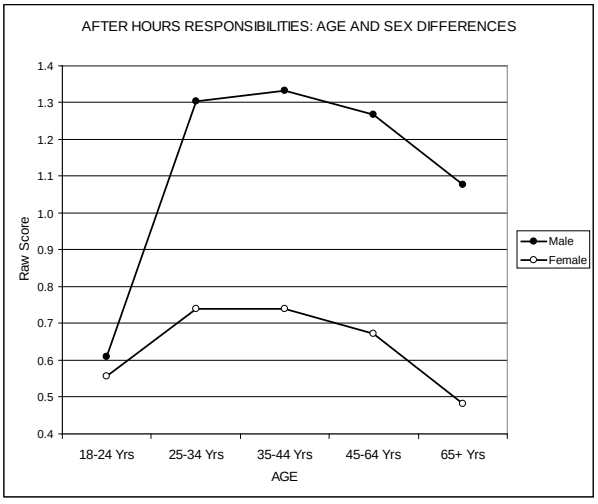
2. **After hours work:** Work-related extra hours activity (travel, remote from job site, or client entertainment).

   This reflects work characteristics that indicate the extent that time is taken away from one's personal life due to job responsibilities. Among the respondents, 44.7% reported that significant travel was required in their jobs, 28.7% stated that their worksites were often "remote" (requiring overnight stays away from home), and 21.3% were required to entertain, or be entertained by, business associates outside of normal working hours.

   Each of the three items involved a Yes or No response. The "Yes" responses were summed to produce the factor score (range = 0 to 3). Table 4.7 shows the distribution of After Hours scores (scores of 2 or 3 = High). About one-half showed no issue with such impositions, with about one-quarter endorsing at least two of the three items.

Table 4.7: After hours obligations

None	One	High
46.2%	26.4%	27.4%



Sex was a strong factor here ($F = 66.12$, $p < .001$). Age was also significant ($F = 6.41$, $p < .001$), but the interaction between them was not ($p < .10$). As indicated in the accompanying figure, males showed a much higher involvement in after hours work and that age effects for both sexes start low in one's early career, rise significantly, and then return to a lower level as one enters middle-age and approaches retirement.

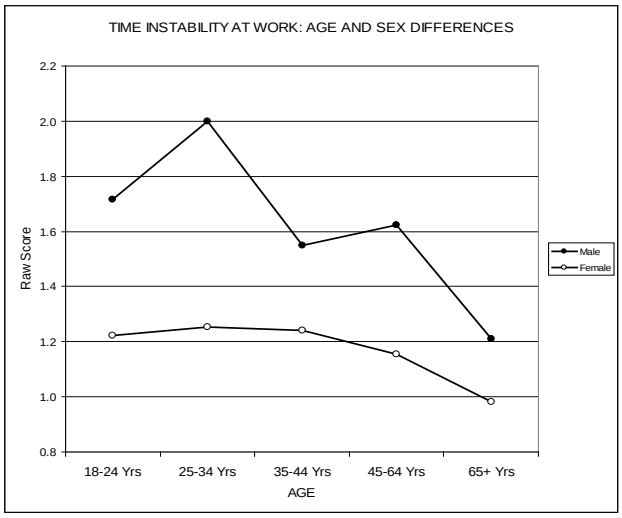
All waves: The small differences across waves for the After Hours variable (see Table 4.12, below) did not reach statistical significance ($F = 1.64$, $p = .20$).

3. Time Instability (at work)

This four-item factor includes items that reflect the requirement for non-standard work schedules that may interfere with optimal work-life patterns. The items are: being on call (32.1% of respondents), shift work (24.7%), a compressed work week (23.8%), and unpredictable long hours of work (56.1%). Each of the four items involved a Yes or No response. The "Yes" responses were summed to produce the factor score for each person (range = 0 to 4; see Table 4.8).

Table 4.8: Time Instability

None	Low (1)	Moderate (2)	High (3 – 4)
28.2%	31.2%	22.0%	18.6%



Sex and age were both statistically significant, (F-values were 39.86 and 5.73, respectively) and the interaction between the two fell short of the criterion used here ($F = 2.48$, $p < .05$). Males reported having much more difficulty controlling their own time, an issue that subsided with age for both genders (accompanying figure).

All waves: The ANOVA conducted on the raw scores showed a large, statistically significant jump in workers' inability to predict and/or control work time from 1992 to 2002 and 2009 ($F = 17.33$, $p < .001$). The age- and sex-adjusted proportions at high risk respectively for 1992, 2002, and 2009, were 10.9%, 21.1%, and 21.3%.

4. Job Value

High scores on this factor reflected lack of boredom, non-repetitive tasks, high job satisfaction, and seeing one's work as a career (rather than as just a job). The latter two items were altered to fit the Yes/No binary format. This produced the endorsation rates shown in Table 4.9.

Table 4.9: Job Value item responses

Not Boring	Not Repetitive	Satis-faction*	A Career
68.5%	35.6%	73.5%	70.4%

*High or Very High

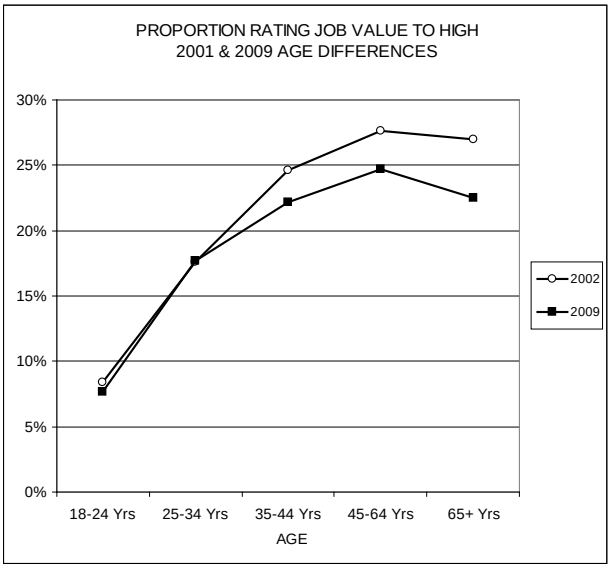
Total scores ranged from zero to 4. Only 7.4% rated their work as all of, boring, repetitive, of low satisfaction, and just a job, so this category was combined with the next (only one positive rating) to create the "Low" category (see Table 4.10).

Table 4.10: Job Value categorized

Low (0-1)	Moderate (2)	High (3)	V High (4)
20.5%	25.5%	31.9%	22.1%

Men and women did not differ, but age effects were significant ($F = 21.95$, $p < .001$). Mean job-value levels increased as age increased (1.7, 2.2, 2.5, 2.6, and 2.7 across the five age categories).

All waves: Only two of the Job Value questions were asked in 1992 (task boredom and repetitiveness). Thus the job factor data were available for 2002 and 2009 only.



The findings indicated that the proportion showing a high level of job value in 2009 was 2.1% below the 2002 figure (22.4% vs. 20.3% after adjustment), but this apparent difference was not statistically significant. The 2002 and 2009 age and sex findings taken together produced the same finding as when 2009 was analyzed alone. That is, a significant age-effect was found ($F = 65.57$, $p < .001$) but no sex differences (alone or in interaction with Wave or age). The age analysis showed that both the linear and non-linear (quadratic) effects were significant (Contrast estimates = .843 and -.317, respectively, $p < .001$ for both). This is shown in the accompanying figure that indicates that, for both sexes, job value generally increased with age, but leveled off and then dropped after about age sixty-five. As just noted above, the percentage difference between males and females was not statistically significant.

5. Work stress

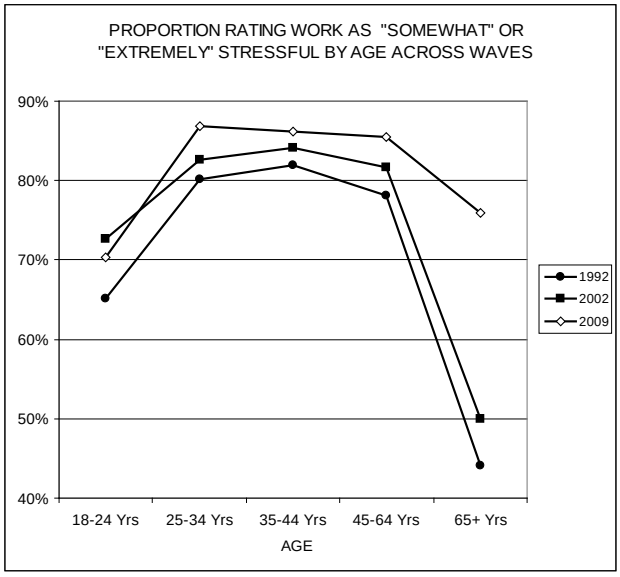
This is a one-item factor, coded in response to the question "How stressful do you consider your job to be?" The three response choices were "Not at all", "Somewhat", and Extremely" (range = 0 to 2). The distribution of these is shown in Table 4.11.

Table 4.11: Extreme Work Stress

None	Somewhat	Extreme
15.1%	67.0%	17.9%

While women often rated their jobs to be more stressful than did men, the difference did not reach statistical significance ($F = 2.95$, $p < .10$), nor did the interaction with age. Overall, 19.7% of women vs. 15.2% of men found their jobs to be extremely stressful, while the bulk of scores for both remained in the moderate category (66.1% and 68.3%, respectively), with relatively few expressing no stress at all (14.3% & 16.4%).

All waves: The definition of work stress in this study refers to a level that is either "somewhat" or "extremely" stressful. In 1992, fully 77% of the respondents were thus rated positive for workplace stress, with the remaining 23% reporting no stress. The stress rate in 2002 was higher at 80.2%, and higher still in 2009 at 83.8% (F = 5.62, p < .004). However, when only extreme stress was considered, the variation across waves was not significant (age & sex-adjusted values = 20.1%, 15.9%, and 16.4%, respectively), indicating that the above-noted increase was accounted for by the moderate rating of "somewhat stressful". Differences across age were significant only for the quadratic component (estimate = -.308, p < .001), not the linear. This is clear in the figure which shows an inverted-U effect for all three waves.



Workplace Press: Summary

Table 4.12 shows a summary of the changes across the three waves of the study for each of the five job factors. Overall work stress has gone up (but not extreme stress) as has Time Instability, a supposed determinant of worksite stress. However, another potential stressor, liability risk, has gone down in the opinion of workers. This was not so in the view of the employers who showed higher risk estimates compared to employees but did not show a statistically significant change over time. In this regard, it is important to recall that employers view liability risk as a more important factor than do the workers.

Table 4.12: Workplace factors across the three waves of the study

	1992	2002	2009	sig
Liability risk (W)	16.9%	14.1%	13.0%	***
Liability risk (E)	17.9%	24.0%	18.4%	NS
After hours	27.6%	30.0%	29.7%	NS
Time instability	10.9%	21.1%	21.3%	***
Job value	---	22.4%	20.3%	NS
Work stress	77.0%	80.2%	83.8%	**

**p < .01 ***p < .001

Overall, perceived working conditions are arguably worsening and it is at least clear that they are not improving. The findings here on time instability are not out of line with those found in a recently released comprehensive report produced by the Canadian Index of Wellbeing (Brooker and Hyman 2010). This study showed that, as found here, the proportion of Canadians working non-standard hours had increased after 1992 and remained higher through to 2008 (2009 in the present survey) and that males outnumbered females in this category. The proportion of Canadians working overtime (i.e. more than 50 hours per week) changed very little from 1989 to 2009, although there was a slight decrease over time. Again, males were much more likely than females to work extra time, paralleling the Alberta findings here for both time variables (After Hours and Time Instability).

Job Value, one of the few "positive" measures in the study, improves with age. It would be worth studying change over longer time periods for this powerful factor.

Table 4.13 contains a summary of the relationships between the five job factors and selected addictive and mental health behaviours in 2009. For the purposes of this analysis, factors that had more than two levels were recoded to form dichotomous variables. Chi-square tests were used to test for significance.

Table 4.13: Odds ratios[‡] for variation in addictive / mental health measures "due" to job factors

Addictions/Mental Health Measures	Liability risk	After hours	Time instab.	Job value	Work stress
Smoking Y/N	1.59***	--	1.39**	-1.39*	--
Alcohol (audit)	2.18***	1.61*	--	-2.00*	--
Drugs (DAST H/L)	--	1.81*	2.60***	--	1.82
Gambling (CPGI H/L)	--	--	--	-1.64	--
Anxiety	--	--	--	-1.85**	1.98***
Any phobia	--	-1.32**	--	-1.67***	--
Major depression	--	--	--	--	1.85***
Antisocial personality	--	2.23***	2.06***	--	--
Suicide risk (H/L)	--	--	--	-2.17***	1.59***
Hopelessness	1.56***	--	1.57***	-1.85***	2.04***

*p < .01 **p < 005 ***p < .001

[‡] Note that odds ratios below 1.0 are expressed here as reciprocals (i.e. 1/OR) preceded by a negative sign (e.g. OR = 0.50 = -2.0)

In this context, Job Value seems to be the most powerful job factor, showing significant relationships with the majority of addictive and mental health variables. Those who placed a positive value on their jobs were less likely to engage in addictive behaviour and less likely to have experienced mental health problems. Notably, Work Stress did not show any statistically significant relationships with addictive behaviours (although marginal with drug use problems), but was associated with four of the six mental health measures. Overall, each of the job factors exhibited meaningful relationships with several addictive and/or mental health measures.

Looked at from the addiction/mental health side, it is surprising that major depression was associated only with work stress. Since depression is often mentioned in discussions of

workplace wellbeing, this may be an important finding. Hopelessness, a one-item measure, proved to be prominent, being associated with four of the five job factors.

Overall, it is clear that job factors are associated to a meaningful degree with mental health, substance use, and gambling problems. Job factors were originally included to provide a picture of the influence of workplace culture. However, the measures that can be administered in the kind of survey used here represent a mix of perceptions and actuality. For example, ratings of "After Hours" commitments will be ultimately be an amalgam of actual exposure/risk, sensitivities of the worker to the topic, and selection factors that result from the tendency of particular workers to be drawn to particular types of jobs. Unfortunately, then, it could be misleading to assume from such data as these that reducing the number of out-of-work hours would alleviate addictive and/or mental health problems. It might well be that jobs entailing the sociable entertainment aspect of work would be desirable to those who were already serious drinkers, that antisocial personality disordered individuals might be selected for work involving much time away from home, or perhaps those who possess the avoidance tendencies that go along with phobic behaviour would gravitate to jobs that allow one to stay closer to the comforts of home with fewer social interactions. The difficulty in ascribing cause and effect should not cause us to downplay the results – the associations are strong and important and serve to point the way to more detailed examinations of these factors.

SECTION V: MEASURES OF PRODUCTIVITY

Absenteeism

Generally speaking, information on absenteeism (missing a day of work, arriving late, leaving early) was taken separately for each of alcohol use, drug use, and gambling. This involved the response to the direct question "didn't come to work due to [problem behaviour]?" It should be noted that a second potential source of information about absenteeism was available from those that answered in the affirmative to the question "… have you had any work-related problems that have occurred as a result of [addictive behaviour]?" If the answer was "Yes" the respondents were asked to state the kind of problems that occurred. Responses recorded as instances of absenteeism were (1) "I was late for work", or (2) "I missed a day of work". It proved to be, however, that responses that implicated absenteeism were very rare, and no additional cases were added above and beyond those identified by the just-noted direct questions.

Alcohol use absenteeism

Nearly three-quarters (73.3%) of the respondents had consumed alcohol within the past 12 months. Of these, 26 individuals (1.3%) reported having missed work due to alcohol use (0.92% overall). In spite of this admission, only six persons (0.3%) stated that they had experienced any work-related problems due to alcohol use, indicating that missing work for this reason may not be not seen as an actual alcohol-related problem. It should be noted that the age and sex-adjusted figure for missing work was 1.73% for the total sample, including non-drinkers. This upward adjustment is due to the fact that the Alberta population has aged in comparison to the earlier waves of this study and females are over-represented in our sample; older people and women are less likely to miss work because of alcohol abuse.

The Employer Survey dealt with alcohol and drugs together. It revealed a somewhat higher estimate that was, nonetheless, not indicative of a serious problem. One-fifth of the employers

(20.1%) had observed at least one instance of an employee missing a day of work because of substance abuse. When this was adjusted for the number of employees overall, the estimated 1 year prevalence proved to be a relatively low 5.05% of all workers. Importantly, though, this rough measure is more than five times the rate drawn from the worker self-reports (RR = 5.05/0.92 = 5.52).

Illicit drug use absenteeism

There were 137 persons that reported use of street drugs within the past year but there were no reports of missed work due to drug use. As noted in the previous paragraph, employer-reported absenteeism due to illicit drug use was rated together with alcohol use, but the findings in this section suggest that such drug use contributed very little to the absenteeism total.

Gambling-related absenteeism

As noted earlier, 58.5% of the respondents stated that they had engaged in some form of gambling activity in the previous 12 months, and only four of these (0.2%) reported any gambling-related work problems. None of the respondents indicated any absenteeism due to gambling. Employers also seemed to view this as a non-problem; the estimated prevalence proving to be one-third of 1% (0.35%).

Presenteeism

This measure has been defined in terms of reduced work output that takes place when a person comes to work when ill (e.g. Aronsson, Gustafsson, and Dallner 2000), but there are many instances when low productivity while at work can be attributed to other factors, suggesting that a more inclusive definition might be in order. Koopman et al. (2002) defined presenteeism as "decreased productivity and below-normal work quality" when physically present at work – a phenomenon that can be studied in relation to many factors, including health. Two measures were used in the survey: the World Health Organization Health and Work Performance Questionnaire and direct questions related to low or reduced work productivity.

The World Health Organization Health and Work Performance Questionnaire (HPQ) (Kessler et al. 2003; 2004) served as the non-specific measure. Respondents were asked to rate overall productivity, without linking it to any impeding condition.

This scale provides estimates of (1) usual performance of others in similar work, (2) usual level of one's own performance, and (3) one's own performance over the most recent 4 weeks. The responses are recorded for each on an 11-point scale (0-10) that (when multiplied by 10) can to be taken as a measure of the percent of full performance. In addition, "relative presenteeism" can be estimated by calculating the ratio of one's own performance to the performance of other workers. Table 5.1 shows the mean self-rated percentage of full work performance according to gender and age. An analysis of variance (ANOVA) showed significance for both age ($F = 9.54$, $p < .001$) and gender ($F = 14.52$, $p<.001$), but not

Table 5.1: Usual performance at work as % of the maximum possible

Age	Males	Females	Total
18-24 Yrs	78.9%	82.4%	80.9%
25-34 Yrs	82.9%	84.6%	83.9%
35-44 Yrs	84.2%	86.9%	85.9%
45-64 Yrs	85.2%	87.3%	86.5%
65+ Yrs	84.5%	87.3%	86.0%
Total	84.3%	86.6%	85.7%

for the interaction between the two. Thus, for all five age-groups, females reported higher productivity than males, although the difference is not large (2.3% overall). Both sexes reported improved performance across the first four age groupings, with a levelling off after age 65. This is reflected in a significant linear age effect (Contrast estimate = .411, $p<.001$), with the quadratic contrast on the cusp (estimate = -.214, $p = .013$).

Relative presenteeism, the ratio of one's reported current work performance to that of the usual performance of other workers, proved to be 1.16 overall. This indicates that, on average, the survey respondents rated themselves as being 16% more productive than their work counterparts. This is in line with research on self-confidence and optimism that shows that most people do consider themselves to be above average on such performance measures (often referred to as the "better-than-average" effect; Brown 1986; Alicke and Govorun 2005). Notably, neither sex nor age, nor their interaction, reached statistical significance. That is, there were no gender or age differences in optimism about one's own productivity. A similar analysis of one's rating of current performance in comparison to one's usual performance showed an overall ratio (1.01) that did not depart from unity, indicating that one's current state was not, on average, different from one's usual, long-term, behaviour. Again, the gender by age ANOVA showed no statistically significant results, and an inspection of the means showed very little range at all (1.00 to 1.02).

These gender by age scores on relative presenteeism are, however, averages that do not tell the whole story. Table 5.2 shows the proportions of each sex who rate themselves, poorer, equal, better, or much better than others. About 91% consider themselves to be equal or better than other workers. The overall Chi-Square analysis (sex by relative presenteeism) fell short of statistical significance ($X^2 = 6.71$, $p = .082$).

Table 5.2: Relative presenteeism: Current performance vs. others' usual performance (categorized)

Rating/Sex	Males	Females	M/F
Poorer	8.2%	9.4%	0.87
Equal	37.3%	40.6%	0.92
Better	41.1%	39.7%	1.04
Much better	13.3%	10.4%	1.28
Total	100%	100%	

There is, however, an evident trend that is not tapped by this analysis. That is, as we move across the ratings from poorer to greater confidence in one's performance compared to others, we find a gradual increase in the proportion of males (see the male/female ratio in Table 5.2). When this gradient is tested statistically, we uncover a borderline linear trend ($X^2 = 6.03$, $p = .014$) that is difficult to ignore.

The current-self versus usual-self analysis produced similar results. In this case, though, the use of three categories (poorer, equal, better) proved to provide a better fit – the uniformity of "current" and "usual" productivity distributions meant that there was no meaningful surplus of ratings falling above the "equal" level. Thus, 12.4% rated their current performance to be poorer than their usual level, 71.3% were equal, and 16.3% thought that they were currently better than usual. Age and gender did not show a statistically significant interaction with this measure.

Direct questions

This was based on the notion that a more accurate approach involves assessing lost productivity that is attributable to specific addictive behaviours. Generally speaking, information on reduced

capacity at work was taken from those that answered in the affirmative to the question "… have you had any work-related problems that have occurred as a result of [problem behaviour]?" If the response was "Yes" the respondents were asked to state the kind of problems that occurred. Responses mentioning either an inability to (1) work at the same speed or level or (2) produce work of the same quality, were recorded as instances of presenteeism. It is important to point out that a review of findings at a point approximately three-quarters of the way through data collection showed that the presenteeism figures were surprisingly low. It could not, of course, be determined at that juncture whether the figures were valid or due to some biasing factor. To guard against the latter, we hypothesized that it may have been due to the restriction of the presentation of this type of presenteeism question to only those who had reported a work problem that was due to the addictive behaviour in question. Thus, the procedure was altered for each of alcohol use, drug use, and gambling such that the question "How many times in the last year did you come into work but operated at 50% or less of normal activity due to [addictive behaviour]?" was asked of all who acknowledged engaging in the said behaviour, not just those who had reported an associated work problem. These questions were administered during the final 5 weeks of data collection, involving 684 respondents.

Alcohol use presenteeism

Remembering that nearly three-quarters of the respondents had consumed alcohol within the past 12 months, only six individuals reported having work-related problems due to alcohol and only one person met the original definition of presenteeism. However, responses to the supplementary question identified 12 persons (2.6% of alcohol users), still a low figure, but clearly indicating that the original measure underestimated presenteeism. Adjusting for age and sex moved the estimate to 14 persons. Had the whole sample been given the supplementary question, extrapolation to the total sample of alcohol users would have produced 60 cases of presenteeism and an overall prevalence of 2.1% of all respondents (drinkers and non-drinkers).

Illicit drug use presenteeism

Of the total sample, 4.9% (137 persons) reported using illicit drugs within the 12 months preceding the interview. Of these, only three persons reported work-related problems due to such drug use and none reported presenteeism problems. The supplementary question identified only one person who reported an instance of presenteeism (four persons if extrapolated).

Gambling-related presenteeism

As noted earlier, 58.5% of the respondents stated that they had engaged in some form of gambling activity in the previous 12 months. Only four individuals, however, reported any work-related problems that were due to gambling and only two of these matched the presenteeism definition. There was one case of reduced work quality due to gambling. The supplementary presenteeism question identified only two cases (0.6%), one of which was already identified by the previous questions. At the highest, then, a maximum of four cases of presenteeism due to gambling have been identified. However, these were all over age 45, so the consideration of age and sex variation produced an adjusted estimate of < one person. Extrapolating to the entire sample of gamblers and non-gamblers results in an estimated prevalence of 0.09%, or 2.5 cases.

Over the three addictive behaviours, 17 persons reported presenteeism in accord with the definitions noted above. After extrapolation, this would total about 67 cases – only 2.4% of the total sample. The employers also rated presenteeism (lowered work pace) due to alcohol or drug

use to be low. There were no instances observed over 12-months in 94.9% of the organizations, with 1.8% showing one incident, 2.1% within the 2 to 5 incident range, and the remaining 1.2% having observed six or more instances.

Costs of Lost Productivity

Before detailing the estimated costs of lost productivity due to absenteeism and presenteeism, a caveat must be placed on the meaning of our findings. This analysis represents an estimate based on salary/wage costs that are, in essence, wasted because of productivity losses. There are, however, other "indirect" costs that are not captured by this approach, particularly those associated with increased treatment expenses for those whose productivity is affected by addiction and mental health problems, losses in work quality, increased risk of injury or damage, and reduced worksite morale and cohesion. Furthermore, when discussing presenteeism measures, Mattke et al. (2007) concluded that the most significant shortcoming overall was the lack of a validated method of translating findings into estimates of the dollar cost of lost productivity. This would apply to a significant degree to absenteeism measures as well. Thus, at best, the findings here should be taken as estimates of wage-related losses only, with some caution when interpreting small differences. Furthermore, given our concerns about underestimating the effects of absenteeism and presenteeism, we believe that there is good reason to consider these cost figures to also be underestimates of the actual costs and we thus wish to suggest caution when interpreting the dollar costs listed further on in the report. The cost data are presented for consistency and for comparison with the 2002 wave which used the same methodology.

Table 5.3: Estimated costs of lost productivity due to substance abuse and gambling

	Alcohol	Drugs	Gambling
Absenteeism	$8,841,043	$0	$0
Presenteeism	$12,184,299	$428,703	$257,112
Total	$21,025,342	$428,703	$257,112

Table 5.3 shows the estimated wage cost of productivity losses for Alberta in 2009 (calculation details in Appendix F). The total estimated cost is a just a little over $21,711,000. While this amount is not trivial in total, it should be remembered that these figures were based on an Alberta workforce estimated to number 1,988,100 persons in 2009, rendering the estimated productivity loss to be only $10.90 per worker per year. In 2002, which looked at absenteeism only, the total estimated loss was more at $18,590,764 based on a smaller workforce population of 1,673,800, producing a per-worker cost of $11.10 in comparison to the 2009 absenteeism value of $4.45. Although we can not be sure about the absolute dollar values, in a relative sense, costs due to addictions have gone down. It is notable that nearly 60% of the 2009 costs are due to presenteeism ($12.9 million) while only about 40% can be attributed to absenteeism ($8.8 million). As was the case for the previous version of this survey (Wave II, 2002), alcohol use accounted for the largest proportion of lost-time costs that were attributed to addictive behaviours (97% here).

SECTION VI: OCCUPATION, INDUSTRY, AND HEALTH ZONES

Occupation

Mental health

Table 6.1 shows the lifetime prevalence of each of the mental health conditions for each of the occupation groups. Adopting the cutoff for statistical significance of $p < .01$, only phobia (i.e. any of agoraphobia, social phobia, or claustrophobia), antisocial personality disorder, and suicidal behaviour showed reliable variation across occupations. The more relaxed criterion ($p < .05$) added hopelessness and mental health service (therapist) use to the mix; thus leaving only the two mood disorders (anxiety and major depression) without significant variation across occupations.

Table 6.1: Lifetime prevalence (%) of mental health conditions by occupation (excluding "other")

	Mgr Prof	Cleric off.	Sales	Ser-vices	Prim occ.	Proc man	Constr.	Trans oper	Bus. prop	Tot.
Anxiety	7.3	10.1	5.8	6.4	6.1	2.5	4.9	5.2	6.6	6.9
Any phobia***	24.7	35.8	32.2	34.2	37.6	26.3	29.7	33.9	28.4	29.5
Major depression	14.3	14.5	9.8	13.6	10.3	2.6	11.0	8.5	13.1	13.1
Antisoc. personality***	2.2	1.4	4.0	6.0	0.9	5.0	9.9	12.3	3.9	3.7
Any diagnosis†	35.0	44.4	40.2	43.9	42.2	30.0	38.9	37.9	38.3	38.7
Hopelessness†	23.8	30.4	24.0	29.3	21.4	17.9	29.9	28.1	25.1	26.1
Suicidal behaviour*	14.3	20.0	13.2	19.2	12.1	5.1	11.9	11.9	17.5	15.8
Saw therapist -1Yr †	9.1	7.4	11.4	10.2	6.0	0.0	3.5	3.4	5.5	8.2

† $p < .05$ *$p < .01$ ***$p < .001$

Looking only at those reaching statistical significance, the most highly phobic groupings were clerical/office workers, the primary occupations (miners, fishermen, farmers, etc.), and those in the service industry. Showing low values were managers/professionals and those in processing and manufacturing occupations. Since gender ratios differed across occupations (e.g. the percentages of males working in construction, sales, and clerical/office positions, respectively, were 84.1%, 40.8%, and 8.9%) and men generally show lower rates of anxiety disorders, it might be argued that high rates in one type of job could actually be due to a gender imbalance one way or the other. This would be indicative of an interactive effect on phobia of gender and occupation. However, an ANOVA indicated that this interaction was not significant ($F = 0.44$,

NS), and regardless of occupation, women consistently showed higher rates of phobia than men ($F = 14.31$, $p < .001$).

In addition to the association between occupation and antisocial personality disorder, the earlier-noted much higher rate for men was confirmed in this analysis ($F = 6.17$, $p = .01$). Again, however, the interaction between gender and occupation was not significant ($F = 1.10$, NS). Thus, we are justified in treating the two as independent entities. Post-hoc analysis indicated that, in terms of antisocial personality, the occupations formed three rough clusters. Highest at about 10 to 12% were construction workers and those involved in transportation and equipment operation. In the middle-range were those in processing/manufacturing and accommodation/food services at 5 to 6%, and the primary occupations, clerical/office workers, managers/professionals, business proprietors, and sales persons formed a relatively large cluster at low prevalence values (4% and below).

Suicidal behaviour followed a similar pattern; the sex by occupation interaction was not significant ($F = 0.40$, $p = .93$). Clerical and service industry workers and business proprietors showed the highest levels of suicidal behaviour (18 to 20% prevalence), while workers in the processing and manufacturing occupations stood alone at 5%.

Table 6.2: Ranked lifetime prevalence of each mental health condition across occupations

	Anxiety	***Any phobia	Maj depr	***ASP	†Hopeless	*Any suicide	†Sought therapy	Avrg rank	Rank
Clerical/office	1	2	1	8	1	1	4	2.6	1
Services	4	3	3	3	3	2	2	2.9	2
Manager/prof.	2	9	2	7	7	4	3	4.9	3.5
Bus. proprietor	3	7	4	6	5	3	6	4.9	3.5
Sales	6	5	7	5	6	5	1	5.0	6=5
Construction	8	6	5	2	2	7	7	5.3	6
Transp/operator	7	4	8	1	4	7	8	5.6	7
Primary occ.	5	1	6	9	8	6	5	5.7	8
Process/manuf.	9	8	9	4	9	9	9	8.1	9

†P < .05 *p < .01 ***p < .001 Note: A rank of 1 indicates the highest prevalence.

Although two diagnoses did not reach significance and two other variables were marginal, this approach may mask some effects. An analysis of the ranking of the prevalence of each occupation within each mental health condition was illuminating in this regard (an occupation ranked "1" would show the highest prevalence of the disorder in question). The results are shown in Table 6.2. Regardless of significance level, those occupations that were ranked high in prevalence for one disorder tended to be ranked high on the others (with the exception of antisocial behaviour). One occupation grouping was at low risk in nearly all categories, i.e. processing, manufacturing, and utilities (food, chemical, and plastics processing; machine operating and assembly), and clerical/office workers and service workers were at high risk across

more categories than were the other groupings. The remaining occupations fell between these extremes.

A principal components analysis was applied to the data. This procedure illuminates common patterns among variables (occupations in the present case). The results showed that a single derived factor accounted for 57.5% of the variance (with relatively little contribution from antisocial behaviour), indicating that the occupations were fairly strongly intercorrelated.

Addictive behaviours

Smoking and alcohol abuse showed significant differences across occupations, while the remaining three addictive behaviours showed marginal effects (Table 6.3). Smokers were more common among construction workers (31.0%), those involved in transportation and equipment operation (33.9%), and those in the primary occupations (29.9%). The greatest number of non-smokers were found in the manager/professional group. The sex by occupation interaction was not significant ($F = 0.60$, $p = .80$).

Table 6.3: Lifetime prevalence (%) of addictive behaviours by occupation (excluding "other")

	Mgr. prof	Cleric off.	Sales	Ser-vices	Prim occ.	Proc man	Const	Trans oper	Bus prop	Total
Smoking***	14.5	19.7	22.3	23.0	29.9	22.5	31.0	33.9	24.6	20.3
Alcohol (problem)***	3.0	2.1	6.3	7.3	8.8	2.6	8.5	10.5	3.5	4.6
Medication (mood)†	9.8	13.0	10.3	10.2	7.7	5.0	2.8	11.9	7.6	9.4
Illicit drugs†	2.2	1.4	6.3	2.4	2.6	0.0	4.1	3.4	4.2	2.7
Problem gambling†	4.1	6.3	8.0	7.8	7.7	5.0	4.2	3.4	4.5	5.4

†$p < .05$ ***$p < .001$

Problem drinking was most common among the three groups that also showed the heaviest smoking. Alcohol risk was at its lowest among the clerical/office workers and those involved in processing and manufacturing. The sex by occupation interaction was not significant ($F = 0.84$, $p = .58$).

Analysis of occupational ranking again showed some occupational consistency, but with weaker occupational relationships (Table 6.4). A principal component analysis accounted for 42.2% of the variability among prevalences (about 15% less than the mental health variables), primarily due to concordance among smoking, alcohol use, and illicit drug use, with medication use and gambling following a different pattern. Nonetheless, those in the processing and manufacturing occupations again fared the best overall (along with managers and professionals). Those in sales were again at the troubled end of the overall rankings, joined by those in transportation, machinery/vehicle operation and workers in primary occupations.

Table 6.4: Ranked prevalence of each addictive behavior across occupations

	Smoking***	Problem drinking***	Medicines (mood)†	Illicit drugs†	Problem gambling†	Ave rank	Rank
Sales	7	5	3	1	1	3.4	1
Transport/operator	1	1	2	4	9	3.4	1
Primary occup	3	2	6	5	3	3.8	3
Services	5	4	4	6	2	4.2	4
Construction	2	3	9	3	7	4.8	5
Bus. Proprietor	4	6	7	2	6	5	6
Clerical/office	8	9	1	8	4	6	7
Manager/prof.	9	7	5	7	8	7.2	8
Process/manuf.	6	8	8	9	5	7.2	8

†p < .05 *p < .01 ***p < .001 Note: A rank of 1 indicates the highest prevalence

Job factors

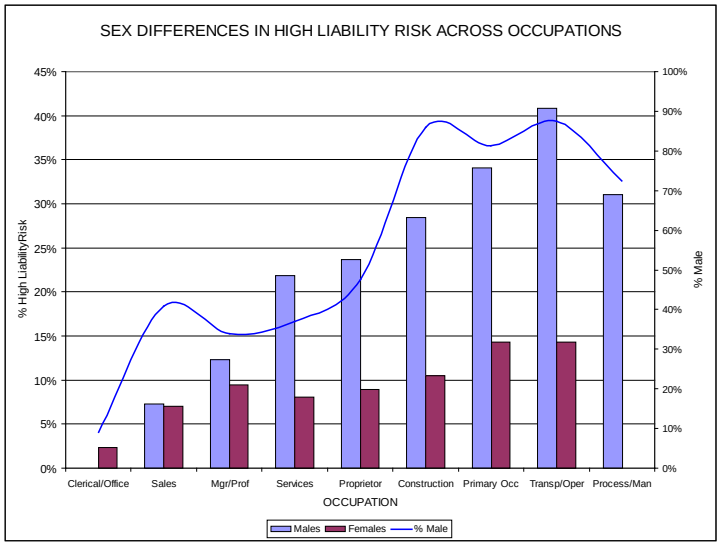
Table 6.5 shows the relationship between job factors and occupation. All six job factor variables showed significant variation across occupation groupings, but only one showed a significant sex by occupation interaction; Liability Risk ($F = 3.98$, $p < .001$).

Overall, managers and professionals reported the highest prevalence of job stress, but also showed high job value, low proximity to substances, and strong opposition to the acceptability of addictive behaviours. Clerical workers showed low risk on five of the seven measures, while primary occupations and transportation workers showed the most number of factors in the high-risk range.

Table 6.5: Job factors: Risk level (%) by occupation (excluding "other")

	Mgr prof	Cleric off.	Sales	Ser-vices	Prim occ.	Proc man	Const	Trans oper	Bus. prop	Total
Liability Risk***	10.4	2.2	7.1	13.2	30.4	22.5	25.9	37.5	15.9	13.1
After Hours***	30.4	8.1	27.6	15.5	45.3	35.0	27.1	39.0	43.9	27.4
Time Instability***	17.6	4.9	13.9	20.1	33.6	30.0	18.2	46.6	22.7	18.6
Job Value (+)***	30.1	13.6	19.1	13.0	16.5	7.7	14.8	10.5	27.1	22.1
Stress (Extreme)***	24.9	9.9	10.9	14.1	12.8	5.0	10.3	16.9	16.0	17.9
Proximity/Avail.***	7.8	9.6	12.4	10.4	11.7	9.1	24.2	18.0	--	10.4
Neg. Attitude***	86.8	88.7	81.0	79.7	72.6	71.0	68.3	74.0	--	82.7

***p<.001



The sex by occupation interaction on Liability Risk is shown in the accompanying figure. The occupations are ordered from left to right in terms of the magnitude of the difference in liability risk between the sexes. The proportion of males within each occupation is depicted by the smoothed line. It seems clear that the nature of the interaction can be explained by the widening gap between men and women as the "manliness" of the occupation increases. That is, as the proportion of males increases, so does the male workers' perception that one's job errors will produce problematic consequences. For women, the change is much less and generally at a lower level of risk. Notably, there were virtually no females in the processing and manufacturing occupations.

Industry

Mental health

The most notable feature of the analysis of industry is that only one mental health condition, antisocial personality disorder (ASP), met the .01 criterion for statistically significant variation across industry groupings (Table 6.6). The construction, leisure, and hospitality industries showed the highest rates of ASP; 5.25 times that of the three most "un-antisocial" groups (information, health and social services, and public administration). Suicidal behaviour showed borderline variation, again with leisure and hospitality leading with the highest rates. Also at a borderline level was treatment-seeking for a mental health problem. Yet again, the hospitality industry was near to the top, with those in the utilities industry showing the highest use of mental health professional help.

Table 6.6: Lifetime prevalence (%) of mental health conditions by industry

	Anxiety--	Any Phobia--	Major Depression--	ASP***	Any Dx--	Hope-less--	Any Suicide†	Saw Clinician†
Primary Industry	6.0	28.6	8.8	2.9	36.9	18.8	9.5	4.1
Utilities	3.4	21.4	13.8	7.7	31.0	20.7	10.7	17.2
Construction	7.2	30.4	12.7	8.5	37.8	27.1	13.4	5.6
Manufacturing	2.3	22.9	9.2	4.7	31.8	24.6	11.5	7.6
Wholesale/Retail	6.5	35.9	10.7	4.4	42.1	26.4	15.2	7.8
Transportation	5.8	28.9	14.0	3.3	40.5	29.8	15.7	6.6
Information	7.3	28.6	14.3	2.4	35.7	28.6	19.0	4.8
Finance/Ins/Real est.	7.3	31.5	15.3	2.5	41.1	26.6	13.7	8.9
Knowledge Services	9.3	28.7	13.2	4.4	38.2	24.6	16.6	8.2
Education	8.7	28.2	16.0	2.6	40.3	23.7	16.5	8.3
Health / Social Services	6.8	27.6	14.6	1.3	36.5	27.0	17.3	11.0
Leisure	5.8	30.2	15.1	9.6	40.4	34.6	22.6	11.3
Hospitality	8.1	38.4	12.1	8.2	46.5	37.1	23.5	16.2
Public Administration	9.0	26.9	13.5	1.3	38.7	29.2	16.1	7.7
Other	4.9	31.7	16.6	4.4	42.3	30.4	22.2	8.0
Total	7.0	29.5	13.1	3.7	38.8	26.1	15.8	8.3

† p<.05 *p<.01 ***p<.001

Addictive behaviours

Unlike the mental health variables, nearly all (4 of 5) of the addictive behaviours showed significant variation across industries (see Table 6.7). Note that construction and leisure reported

high rates on three categories and hospitality rated high on four. At the protected end, health and social services, and education are low on three and four categories, respectively.

Table 6.7: Proportion (%) with an addictive behaviour by industry

	Smoking ***	Alcohol ***	Medicines **	Illicit Drugs ***	Gambling --
Primary Industry	20.6	4.4	5.9	5.3	6.6
Utilities	17.2	0.0	10.3	3.4	3.4
Construction	33.7	10.2	3.3	11.0	6.7
Manufacturing	26.0	4.6	3.8	3.1	5.3
Wholesale/retail	23.5	5.7	8.5	6.8	8.2
Transportation	28.9	4.3	9.1	1.7	3.3
Information	28.6	7.5	16.7	4.8	2.4
Finance/ins/realty	20.8	6.6	10.4	4.8	8.0
Knowledge services	15.7	4.0	12.5	3.9	5.3
Education	9.6	1.9	8.3	1.9	2.9
Health/soc services	14.4	1.3	12.1	2.7	3.6
Leisure	18.9	11.3	15.1	17.0	3.8
Hospitality	34.3	13.7	12.1	12.1	8.1
Public admin.	23.7	3.2	11.5	3.2	4.5
Other	20.9	5.6	9.8	5.5	7.4
Total	**20.3**	**4.6**	**9.4**	**4.9**	**5.4**

*** $p < .001$; ** $p < .01$

Workplace factors

Table 6.8 shows that all seven job-factor scales showed statistically significant variation across industries. Those in the construction, leisure and hospitality industries were faced with scores at the negative end of five of the seven job factors. For example, the work of construction workers brings with it low job value, high liability risk, additional time commitment after hours, and an accepting view of, and high exposure to, addictive substances and behaviours. Education scored at the positive/protective end of five of the seven scales, followed by Finance/Insurance/Real Estate and Knowledge Services at three.

Table 6.8: Job factors: risk level (%) by industry

	Liability risk***	After hours***	Time instability***	Job value***	Extreme stress***	Proximity***	Attitude***
Primary Industry	23.2	38.4	25.1	24.0	15.7	14.6	23.8
Utilities	17.2	44.8	10.3	24.1	13.8	4.5	34.6
Construction	24.4	40.2	18.1	14.7	15.5	22.2	28.4
Manufacturing	12.6	26.7	19.2	20.5	9.9	9.5	24.5
Wholesale/retail	7.8	19.3	11.9	17.0	10.7	12.0	18.1
Transportation	34.8	29.8	28.0	8.5	19.0	14.6	23.9
Information	0.0	26.8	14.6	12.2	11.9	18.5	17.9
Finance/Ins/real est.	0.8	35.5	10.4	21.1	23.2	6.5	15.8
Knowledge services	6.4	37.0	13.2	26.3	13.9	6.7	13.4
Education	3.0	17.8	3.9	36.7	15.7	3.0	7.8
Health/social services	15.6	17.8	29.7	20.8	28.8	7.2	9.3
Leisure	20.4	37.7	34.6	11.5	20.8	22.9	24.3
Hospitality	10.9	5.1	29.2	10.2	15.3	22.8	30.0
Public administration	11.3	26.3	18.6	26.1	24.5	9.0	20.6
Other	11.5	36.2	14.3	24.1	16.0	11.9	17.1
Total	**13.1**	**27.5**	**18.6**	**22.1**	**17.9**	**10.4**	**17.3**

† p<.05 *p<.01 ***p<.001

Summary

While the evidence that mental health problems are significant influences on worksite productivity and worker happiness, they have much less importance to broader industry differences. Of interest is the fact that addictive behaviours do produce differences across industries, even though they are all highly correlated with mental health problems. Perhaps the greatest discriminator is worksite culture as represented by the seven job factors. If this has implications for policy, it should be noted that although it may sometimes be difficult to change the work environment, addictive behaviours, and mental illness are even more resistant to improvement.

Zone Differences

In addition to the testing of zone differences with the chi-square statistic, an analysis of variance (ANOVA) was also conducted on each variable in this section to allow for the evaluation of sex and age influences. This, because of the possibility that age and sex would vary meaningfully

across zones and because industries (also variable across zones), shows differences in gender behaviour that may correlate with gender frequency (as noted in the section above).

Sex and age across zones

Results indicated that cross-zone variation in neither age nor sex showed statistically significant variation according to the criterion ($p < .01$) used here (see Table 6.9). However, the resource-based Northern zone showed the highest proportion of males (as expected) and age fell within the marginal range for a statistical difference across zones ($p < .05$). The conclusion was that these variables could not be ignored and thus, when considering addictive and mental health differences, findings involving either age or sex interactions with zones would be examined further.

Table 6.9: Distribution of gender and age within each health zone

		South	Calgary	Central	Edmonton	North	Alberta
SEX	Male	36.7%	41.1%	37.2%	39.1%	43.2%	39.8%
	Female	63.3%	58.9%	62.8%	60.9%	56.8%	60.2%
$X^2 = 4.77$, p = .311, NS							
AGE	8-24 Yrs	2.6%	3.2%	3.2%	5.5%	4.7%	4.1%
	25-34 Yrs	14.0%	16.3%	14.3%	17.0%	19.2%	16.4%
	35-44 Yrs	21.1%	26.0%	26.1%	21.5%	26.3%	24.2%
	45-64 Yrs	57.9%	50.4%	51.7%	51.4%	47.9%	51.2%
	65+ Yrs	4.4%	4.1%	4.7%	4.6%	1.9%	4.1%
$X^2 = 25.63$, p = .059, NS							

NS = not significant

Mental health across zones

Notably, the chi-square analysis showed that none of the mental health-related variables showed a statistically significant difference across health zones (values in Table 6.10). However, the ANOVA for Phobia showed a significant main effect ($F = 3.99$, $p = .003$) and a significant interaction with Age ($F = 2.15$, $p = .005$). This interaction was very difficult to interpret as the age variation within each zone did not follow a particular pattern, with the exception that for the South and North zones, the prevalences for phobia among the young (18 to 24 yrs) and the old (65+) were very high – all above 50%. Overall, the zones containing the largest cities (Calgary and Edmonton) showed the lowest prevalences of phobia, 27.2% and 28.1%, respectively.

Table 6.10: Prevalence (%) of mental health conditions within health zones

	South	Calgary	Central	Edmonton	North	Alberta
Anxiety	4.2%	8.2%	5.2%	6.9%	7.6%	6.9%
Any phobia	31.5%	27.2%	32.9%	28.1%	33.6%	29.5%
Major depression	15.0%	13.0%	12.4%	14.0%	10.8%	13.1%
Antisocial personality	4.2%	3.5%	4.5%	3.5%	3.8%	3.7%
Any diagnosis (above)	40.6%	36.4%	40.9%	38.0%	42.5%	38.8%
Hopelessness	27.7%	24.4%	25.4%	26.2%	29.4%	26.0%
Any suicidal behaviour	14.3%	15.1%	15.4%	16.3%	17.1%	15.7%
Saw MH clinician (1 Yr)[†]	3.7%	9.1%	6.5%	9.3%	8.6%	8.2%

[†] p =.03

None of the remaining mental health measures showed a significant effect.

Addictive behaviours across zones

Under the simple chi-square analysis, only smoking showed any difference across zones (Table 6.11). This was reduced to a marginal effect under the ANOVA ($F = 2.45$, $p = .04$). However, alcohol abuse (AUDIT scale score) showed a significant three-way interaction between Age, Sex, and Zone ($F = 2.34$, $p = .002$). For both sexes, the level of alcohol abuse is high but more or less constant from ages 25 to 64. Young males (18 to 24 yrs) from the South and the North zones appear to show relatively low alcohol abuse behaviour while young females from the North are above average. A caveat is that the relatively low numbers that appear in cells defined by age categories at the extremes when matched with low numbers for the North and South zones, may be responsible for the erratic behaviour that we find outside of Edmonton and Calgary and outside the mid-range years (25 to 64 yrs). Although drug abuse was not significant according to the chi-square analysis, the ANOVA indicated a significant three-way interaction indicating that age and sex differences in drug abuse varied across zones ($F = 2.61$, $p < .001$). The differences did not follow any discernible pattern and are almost impossible to interpret. However, the differences were not large enough to detract from the main effect findings; that the abuse of illicit drugs is generally much higher and more varied among the young workers - young males in particular. The use of mood-related medication and problem gambling showed no meaningful variation across health zones.

Table 6.11: Prevalence of addictive behaviours within each health zone

	South	Calgary	Central	Edmonton	North	Alberta
Smoking**	19.9%	17.6%	24.2%	18.7%	25.7%	20.2%
Alcohol use-high risk	3.8%	5.3%	4.0%	3.8%	6.0%	4.6%
Medication use (mood)	7.9%	9.4%	9.5%	9.4%	10.2%	9.4%
Illicit drug use	1.7%	3.7%	1.2%	2.8%	2.1%	2.7%
Problem gambling	5.8%	5.1%	4.4%	5.9%	5.4%	5.3%

**p<.005

Workplace factors across zones

Unlike the above-noted mental health and addictive behaviours, which showed infrequent differences across zones, four of the five initial job factors showed inter-zone differences (Table 6.12). Notably, the fifth factor – stress, as well as the proximity and attitude variables, did not.

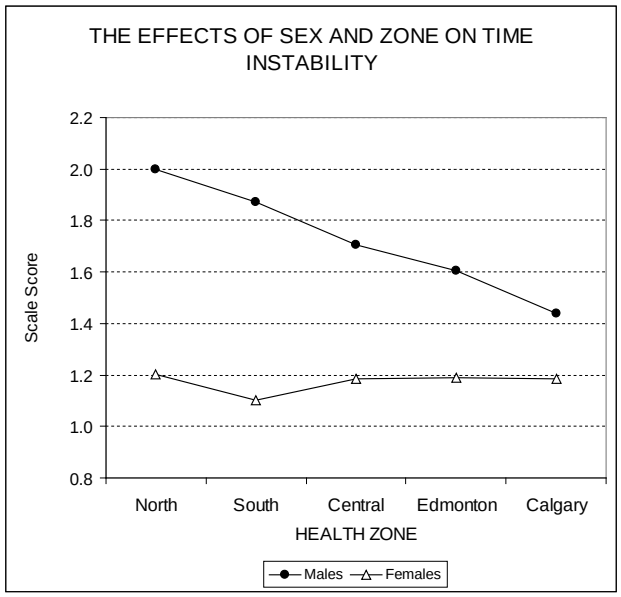
Table 6.12: Prevalence of job factors within each health zone

	South	Calgary	Central	Edmonton	North	Alberta
Liability risk (high)***	11.5%	11.8%	13.0%	11.6%	20.7%	13.1%
After hours**	7.5%	12.0%	6.8%	8.5%	8.6%	9.3%
Time instability***	9.4%	4.1%	7.5%	4.5%	7.1%	5.6%
Job value*	22.0%	26.3%	18.2%	20.4%	20.9%	22.1%
Job stress (extreme)	20.0%	17.8%	15.3%	17.9%	19.9%	17.9%
Proximity/availability	11.0%	10.1%	10.2%	10.5%	11.1%	10.5%
Accepting attitudes	15.1%	16.7%	15.8%	19.7%	16.3%	17.3%

*p<.01 **p<.005 ***p<.001

Liability Risk, the likelihood that a job error could lead to individual or organization damage, is quite high in the North in comparison to the other four zones, which are relatively equal. Presumably, this is related to the preponderance of resource-based jobs in the North zone. After Hours work requirements are highest in the Calgary zone, again with relatively small differences among the other areas. Time instability is interesting in that the ANOVA also uncovered that it varied in accordance with gender as well as zone ($F = 3.59$, $p = .006$). This is shown in the accompanying figure. Clearly this factor reflects a male issue in this case (note that zones are ordered in accord with male scores), with the North and South zones showing the greatest amount of disruption in the allocation of within-work time. With the exception of one non-

significant deviation, the average score for women was invariant across the five health areas. Proximity to sources of illicit drugs and alcohol and attitudes that deem substance use and gambling to be acceptable, are thought to be important determinants of addictive behaviours, but no zone differences were noted.



Summary

In spite of the obvious potential importance of zone differences, the findings do not indicate that such variation is large enough to produce an impact on service delivery. Furthermore, differences that were found seemed to reflect supposed health-related behaviours (job factors and help-seeking) rather than addictions and mental illness.

SECTION VII: EMPLOYEE ASSISTANCE AND OTHER RESPONSES TO WORKPLACE ADDICTIVE AND MENTAL HEALTH PROBLEMS

Importance

It is worth remembering that we would not be discussing responses to addictive behaviours if they were not perceived as having a significant impact in the workplace. The impact of any addictive behaviour can be thought of, at least in large part, as being due to the consequences for a particular individual multiplied by the number of individuals who are so afflicted. This is not the whole story, but it is an important distinction because while the effect of an addictive behaviour may be quite severe for individuals, the workplace impact also depends on the condition's frequency of occurrence. Thus, some low personal impact conditions may have a high workplace impact because of a high prevalence, while some personally excruciating conditions that afflict only the rare individual could have a near zero effect on a sizable organization.

Table 7.1: Workers' perceived seriousness of the impact of alcohol use, drug use, and gambling on work performance

	Alcohol	Drugs	Gamb-ling
Not very serious	80.2%	84.0%	88.3%
Moderately serious	10.2%	6.3%	7.4%
Extremely serious	9.6%	9.7%	4.3%
Total	100%	100%	100%
Don't know / NR	4.6%	6.1%	6.7%

It is clear that at the personal level, alcohol and drug abuse can lead to serious disruptions in important relationships, mental health problems, suicidal behaviour, ill health, and death. Nonetheless, at a somewhat more global level, only a minority of employees in this survey have

deemed alcohol and drug abuse, and gambling for that matter, to be highly serious in terms of the work performance of co-workers. The particular findings are contained in Table 7.1.

Employers were also asked about the seriousness of the impact of alcohol, drugs and gambling within their organization. These results, along with responses about tobacco use, are shown in Table 7.2. The vast majority do not see these addictive behaviours as serious workplace problems. Thus, even though owners/managers view things from a different perspective than the employees, the results are very similar. To obtain more detail in this area, employers were also asked about their levels of concern with reference to more specific worksite outcomes.

Table 7.2: Employers' perceived seriousness of the impact of substance use and gambling in their organization

	Alcohol	Drugs	Gambling	Tobacco
Not very serious	78.8%	83.5%	93.1%	70.8%
Moderately serious	15.4%	10.4%	3.7%	23.8%
Extremely serious	5.8%	6.1%	3.1%	5.4%
Total	100%	100%	100%	100%
Don't know/NR	14.0%	23.1%	11.6%	8.5%

Table 7.3: Employers' level of concern about the impact of alcohol & drugs on selected outcomes

	Not a concern	Somewhat concerned	Very significant
Absenteeism	69.7%	20.5%	9.8%
Tardiness	69.1%	22.4%	8.5%
Productivity	66.9%	24.1%	9.0%
Quality*	66.5%	22.8%	10.7%
Turnover	74.2%	16.9%	8.9%
Employee health**	60.9%	26.9%	12.1%
Employee safety	62.6%	18.3%	19.1%
Public safety	67.9%	15.7%	16.3%
Equipment damage	65.8%	18.6%	15.7%
Employee theft	72.8%	15.9%	11.3%
Employee sabotage	79.0%	13.1%	7.9%
Org. public image	64.7%	17.9%	17.3%
Org. reputation	63.5%	18.0%	18.6%

* of product or service ** Mental or physical health

Table 7.3 addresses this by considering the estimated impact of alcohol and drug use (taken together) on these selected workplace issues. Generally, the majority of responses reflected no concern; no issue generated an endorsement below 62% for "Not a concern". On the other hand, between 15% and 20% of employers expressed a "very significant concern" about employee safety, public safety, equipment damage, and the organization's public image and reputation.

Table 7.4 shows the employer concerns about the impact of gambling on a similar list of outcomes. Expressions of "no concern" were endorsed by more than 81% across the board. Employee safety, public safety, and equipment damage were not investigated in relation to gambling.

Table 7.4: Employers' level of concern about the impact of gambling on selected outcomes

	Not a concern	Somewhat concerned	Very significant
Absenteeism	86.8%	10.2%	3.0%
Tardiness	87.4%	9.6%	3.0%
Productivity	85.7%	11.3%	3.0%
Quality*	86.0%	9.2%	4.8%
Turnover	88.2%	9.4%	2.4%
Employee health**	82.0%	12.0%	6.0%
Employee theft	81.8%	12.8%	5.4%
Employee sabotage	87.7%	9.3%	3.0%
Org. public image	81.9%	9.8%	8.3%
Org. reputation	81.3%	10.1%	8.6%

* of product or service ** Mental or physical health

Response Options

Table 7.5 shows the most likely response (or responses) that organizations would select if faced with a first-time incident involving substance abuse or gambling. Employer reactions were ordered from left to right in apparent order of the seriousness of the response, although it was not entirely clear where "counselling" should be placed. This was based on the possibility that the frequency of use would go down as the seriousness went up. Apart from the least severe formal action that was most frequently used (i.e. a warning), it was clear that (1) there was no such orderly trend overall, and (2) the rankings differed from incident to incident. Notably, a non-response ("No action") was ranked at the bottom (lowest use) for all incidents. It is likely that this latter state represents only the formal embodiment of this form of response – the informal "looking the other way" reaction might be more frequent but possibly not noted on the questionnaire. It may also be noteworthy that a sizable proportion of employers (12% to 24%) did not respond to particular aspects of this general question.

Table 7.5: Organizational response to onsite incidents involving substance use or gambling (rank in parentheses)[†]

	No Action	Warning	Counselling	Re-assign	Suspension	Dismissal	D.K. or N/A
Drunk or high (alcohol or drugs)	0.8% (6)	36.9% (2)	24.8% (3)	2.8% (5)	40.5% (1)	17.1% (4)	13.3%
Hung over (alcohol)	7.4% (4)	57.0% (1)	11.8% (3)	4.1% (6)	20.9% (2)	6.3% (5)	12.2%
Property damage (alcohol or drugs)	1.1% (5.5)	27.8% (2)	21.8% (4)	1.1% (5.5)	30.9% (1)	25.3% (3)	20.9%
Near miss (alcohol or drugs)	0.8% (6)	30.9% (1)	22.0% (3)	1.9% (5)	28.4% (2)	19.0% (4)	24.2%
Injury accident (alcohol or drugs)	0.6% (6)	14.3% (4)	21.8% (3)	2.2% (5)	30.9% (2)	38.6% (1)	22.3%
Theft (gambling-related)	0.6% (6)	14.0% (4)	16.3% (3)	1.4% (5)	17.6% (2)	52.6% (1)	20.1%
Total	1.9% (6)	30.2% (1)	19.8% (4)	2.3% (5)	28.2% (2)	26.5% (3)	

*p<.01 **p<.005 ***p<.001

[†]Note that more than one could be selected by each organization

As an additional note, the Canadian Human Rights Commission (2009) has made it clear that some forms of alcohol and drug testing are permissible if the employer is prepared to "accommodate the needs" of employees found to be dependent on the substance in question. Although the findings here are not definitive, the frequency of endorsement of suspension and dismissal, in comparison to the more accommodating "referral for counselling", begs the question of whether many Alberta employers are not acting in line with the Canadian Human Rights Commission's policy in this instance.

Treatment

As a consequence of the findings from the previous section, the response option of counselling or treatment was given some additional attention. Table 7.5 shows that about 20% of the organizations would refer workers for counselling (range of about 12% to 25% across incidents). Further in this vein, employers were asked to choose the single, most likely, response in the event a worker required treatment for a substance use problem. Table 7.6 shows the level of support (ranked from most to least) for workers deemed to need such treatment. About 40% would offer time to pursue treatment, but without pay. Approximately another 40% would offer time for treatment with either full or partial pay, and the remaining 20% would opt for the more severe response of either suspension or dismissal. The fact that 20% would suspend or terminate a person with a substance use problem and a mental health problem is not in line with the views of mental health advocacy groups, nor is it in accord with the statements set out by the Mental Health Commission of Canada (2009) or, as noted just above, the policy of the Canadian Human Rights Commission (2009). It should be understood, however, that mental health disorders that are comorbid with substance use disorders are often very difficult to treat successfully.

Table 7.6: Likely options for substance use treatment

Level of Support	%
Sick leave – full pay	20.1%
Sick leave – partial pay	20.9%
Short leave – no pay	39.6%
Suspension	8.6%
Dismissal	10.8%
Missing 95 (26.2%)	

Employee Assistance Programs (EAPs)

About one in ten (9.9%) of the respondent employees did not know if their organization provided or facilitated worker access to EAPs. Of those thought to be "in the know", 172 cases, or just over one-half (52.6%) responded in the affirmative. Most were funded by the employer alone (68%), with 29.1% being funded in some joint fashion by the employee and the employer. In five cases (2.9%), the employee was solely responsible for the costs. Among organizations with EAP provisions, an employee advisory or steering committee was in place in 42.8% of the cases. Eligibility criteria were known in 167 of the cases. In addition to the provision of EAPs for full-time employees, 67.7% of the organizations provided such services to part-time employees, 58.7% to worker family members, and 15% provided EAPs to retired employees.

Employers that did not provide EAPs for their employees were asked to respond to a list of reasons for this omission. The results are shown in Table 7.7. The most common reason was deemed to be a matter of critical mass; 44.5% of the organizations were thought to be too small for that sort of program. Perhaps surprisingly, just over one-third thought the program was not needed and nearly one in five employers reported that it was unaffordable (although cost may have also been a factor in the determination of the first two reasons).

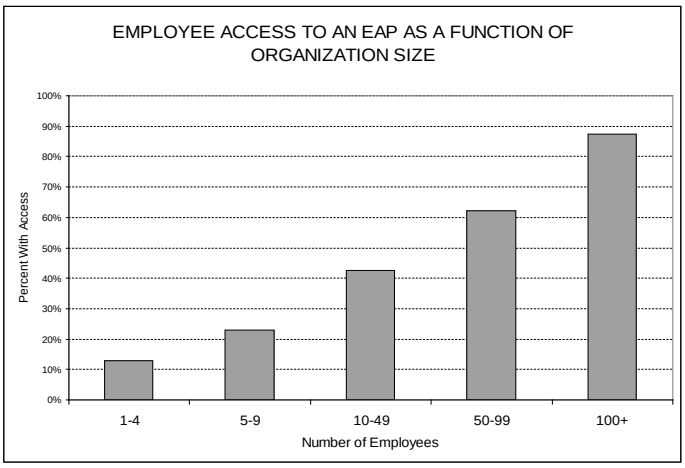


Table 7.7: Reasons for the absence of an employee assistance program*

Reason	%
Too small	44.5%
Not needed	36.1%
Unaffordable	18.3%
Scattered work sites	8.4%
Other	15.2%
Don't know	16.2%

*Multiple options could be selected; thus total exceeds 100%

There is some apparent validity to the "too small" claim which suggests that EAP provision can be a matter of scale. The accompanying figure shows that the larger the establishment, the greater the access to an EAP. In fact, the largest (100+ employees) approach 90% access on average. Thus, the primary resistance to the provision of EAPs seems to be of cost-benefit and that the economies of scale make these programs prohibitive for smaller firms, perhaps affecting up to 70% of these organizations.

Table 7.8: Referral sources for employee assistance programs*

Source	%
Self- referral	73.8%
Supervisor	73.3%
Co-worker	42.4%
Substance use testing	32.0%
Other	19.2%
Don't know	2.9%

*Multiple options could be chosen; thus, total exceeds 100%

Sources of referrals to EAPs (employer ratings) are shown in Table 7.8. The figures show that each of the four possibilities has a considerable impact; however, self-referrals and referrals by supervisors, both reported by about three-quarters of the respondents, were more common than the others.

Member assistance programs (MAPs) are similar to EAPs, but are generally sponsored by labour unions or employee associations. Only 11.7% of the employers reported that their employees had access to a MAP. Of those with knowledge of the issue (22.2% did not know), 48.3% reported that their MAP was cost-shared between the union or association and the employer, while the remaining 51.7 were funded by the union or association alone.

Information from the Employee Survey indicated that of those who had access to an EAP (62.6%), a large majority (91.9%) felt that this kind of program was a good way to deal with problems like gambling, alcohol and drug abuse. Much of this opinion must have been based on reputation, rather than experience, since the proportion using their EAP program was quite low (1.7% within the last year). But the results for this small user group were reasonably positive. Of this group of 27 persons with EAP experience, 8.3% stated that their condition had returned to normal, another 66.7% had improved, 20.8% had stayed the same, and 4.2% had become worse since using the EAP.

It is clear that access to EAPs has grown over the three waves of the survey. In 1992, 27.4% of employees (age and sex adjusted) reported having access, but this had more than doubled to 57% in 2002, and reached 62.1% in 2009.

Mental Health Treatment

Within the year preceding the interview, only 8.2% of the workers had seen someone for a mental health problem. This is in contrast to the finding, noted in an earlier section, that 38.8% of the sample had exhibited a lifetime diagnosable mental illness of some sort. As a rule of thumb, the 1 year prevalence is generally about one-half of the lifetime figure. Although we did not collect 1 year prevalence figures for three of the diagnoses, such was collected for major depression. Indeed, about one-half (48.2%) of those with a lifetime diagnosis of depression did experience a major depressive episode within the 12 months prior to the interview. Thus, if we assume the 50% rule is correct, this produces an estimated 12-month prevalence of "any disorder" of 19.4%. We can further estimate that of those with some form of diagnosis, about 42% overall receive treatment (i.e. 8.2% / 19.4%).

Table 7.9 shows estimates of treatment-seeking for each diagnosis (i.e the proportion with a lifetime diagnosis who received treatment in one-year, adjusted according to the 50% rule). Note that the mood disorders (anxiety and depression) showed the highest likelihood of treatment, and phobias the lowest. Interestingly, the proportion for "Any Disorder" (33%) is lower than the 42% noted just above. This appears to be due to the fact that a number of persons were not included in this latter calculation because our assessment process did not produce a mental health diagnosis for them (see below) even though they had visited a mental health professional.

Table 7.9: The proportion seeing a therapist within the past year by diagnosis

	Observed	1-Year Estimate
Anxiety	31.1%	62.2%
Depression	28.9%	57.8%
Antisocial Pers.	21.4%	42.8%
Phobia	15.3%	30.6%
Any Disorder	16.5%	33.0%

This latter point may be addressed somewhat by a comparison of the derived diagnoses just mentioned and the respondents' direct statement about the kind of problem that prompted their mental health visit. First of all, of those who did see someone for a mental health problem, 87.0% stated that they did so because of a mood disorder (65.7% were depressed and 21.3% suffered from anxiety). Another 11.6% reported relationship problems, and the remaining 1.4% (three persons) showed symptoms of psychosis or a learning disability).

Table 7.10: The proportion with each presenting problem showing a current diagnosable disorder.

	Presenting Problem		
Diagnosis	**Depression**	**Anxiety**	**Relationship**
Anxiety	25.9%	34.1%	29.2%
Phobia	58.8%	47.7%	66.7%
Depression	57.4%	11.4%	45.8%
Antisocial per	9.0%	4.5%	20.8%
No diagnosis	17.6%	31.8%	12.5%

The relationship between the derived lifetime diagnoses and the directly-stated, presenting problem is shown in Table 7.10 (Self-reported "other" comprised only three persons and was thus excluded). First of all, each self-reported problem was associated with more than one lifetime diagnosis. For example, among those who saw a health professional for depression, just as many had a past history of phobia (59%) as depression itself (57%). Although some had exhibited antisocial personality disorder (ASP), the two were not actually associated since the ASP proportion was about the same as it was for persons who were not depressed. Note that nearly 18% of those whose problem was depression did not meet the criteria for any of the diagnoses assessed in the 2009 survey. For those whose problem was anxiety, the percentage with no diagnosis was not very different from the proportion with an anxiety diagnosis. Interestingly, phobia was the leading correlate for each of the three problems.

Employees reported seeing a variety of treatment professionals in the year prior to the survey. These are shown in Table 7.11. It is well-known that general practice physicians are the first choice for a variety of health-related concerns, and this seems to be repeated here. A similar pattern was found in Alberta nearly three decades ago when respondents were asked to rate their first choice for assistance in a variety of crisis situations (Thompson and Barnsley 1981). In fact, physicians came first in eight of nine categories, which included crises related to alcohol, drug use, suicide, and mental health. It is interesting that the generalist discipline is given preference over any one mental health specialist. It could be argued that, taken together, the specialist choices outnumber those for physicians, but general practitioners may be less stigmatizing and more accessible. Furthermore, Thompson and Barnsley (1981) concluded that physicians are generally preferred because they can either help solve a problem or, if not, refer to someone who can.

Table 7.11: Service used for a mental health problem

Treatment Professional	%
Physician	42.0%
Counsellor	25.6%
Psychologist	24.8%
Psychiatrist	18.1%
EAP	4.6%
Social Worker	2.1%
Other	2.9%
Can not remember	4.2%

Note: More than one could be selected; thus total exceeds 100%

Substance use testing

Overall, 85 (24.3%) of the employers who were surveyed used a substance testing program (alcohol or drugs). There are a variety of situations where an employer may wish to test for drug or alcohol use. These are shown in Table 7.12. Programs with a drug-testing program tended to also have an alcohol testing program. A variety of testing applications were used across organizations, with the highest-risk situation (after an accident causing injury or property damage) showing the highest frequency of use, followed by supervisor referral.

Table 7.12: Type of drug and alcohol testing among the 85 organizations that conduct testing

Form of Testing	Yes alcohol	Yes drugs	No for both	Don't know
Random: All employees	30.6%	32.9%	60.0%	5.9%
Random within target group	35.3%	36.5%	52.9%	5.9%
After injury/damage accident	87.1%	85.9%	3.5%	7.1%
After a "near miss"	49.4%	49.4%	32.9%	14.1%
On referral by a supervisor	72.9%	71.8%	17.6%	9.4%
Pre-employment testing	58.8%	63.5%	30.6%	3.5%
Periodic medicals	23.5%	23.5%	63.5%	9.4%

A large proportion of employers (79%) reported that testing had been either "very" or "somewhat" effective in reducing workplace problems due to alcohol (46.8% and 32.3%, respectively). Twenty-one percent felt that there had been no noticeable effect. The results were even stronger for drug testing, with 87.3% (47.6% and 39.7%, respectively) reporting a positive effect, and only 12.7% finding no detectable difference**.** The evaluation literature, however, has not been so clear, with very few credible scientific studies of the issue and the majority opinion is that evidence for the effectiveness of substance testing programs is not strong (e.g. Cook and Schlenger 2002).

Substance Use and Gambling Policy

For reasons of accountability and clear guidance, it is generally accepted that policies need to be in place that set out the limits of acceptable behaviour and to guide decisions when addictive behaviour becomes an issue. Both, employers and employees were asked whether their organizations had a policy in place to deal with substance use and gambling. Their responses are shown in Table 7.13. In no case did we find 100% affirmation, or close to it. The supposed presence ranged from 22% for gambling policy to about 70% for alcohol and drug policies. Note that the employers and the employees showed similar results, especially for drug use and alcohol use. There was a difference of about 14 points for both tobacco and for gambling, but the ranking across addictive behaviours was the same for both employers and employees with the same general message – policies are less frequent for gambling, but perhaps all should be more common. The figures in Table 7.13 were based on only those respondents that expressed an opinion (yes or no) – they do not include the proportion who reported that they did not know.

Table 7.13: The proportion of organizations with a substance use / gambling policy

	Employer	Employee
Tobacco	54.3%	68.3%
Alcohol	69.1%	68.9%
Drugs	70.1%	70.6%
Gambling	21.8%	35.7%

There was a clear distinction between gambling and the remainder in this regard; 14.3% of employers and 19.7% of the workers did not know whether their firm had a gambling policy. All of the remaining "don't know" values fell within 4.1% and 7.5%. Thus, in many situations a policy may have been in place but the respondent was unaware of its existence. However, since lack of awareness has about the same effect as non-existence, a problem still exists – but it is of a slightly different nature; one to be solved by policy creation, the other by policy education and communication.

Table 7.14 shows the components of existing policies. Employer Survey participants responded to a list of possibilities. Policy components are ranked from most to least common. Note that the "Yes" and "No" percentages would be higher if the "Don't Know" responses had been excluded from the calculation.

Table 7.14: Components of addictive behaviours policy among worksites with one or more policies

	Yes	No	DK/ NA
Prohibition of alcohol and drug use across the organization	81.7%	10.6%	7.7%
Promotion of work wellness (or health promotion in the workplace)	76.2%	19.4%	4.4%
Progressive discipline to deal with workplace substance use problems	65.2%	23.4%	11.4%
Information sessions on substance use policies for all employees	53.5%	35.5%	11.0%
Provision of sick leave for employees undergoing treatment	52.4%	28.2%	19.4%
Training supervisors to recognize drug and alcohol problems	47.6%	40.7%	11.7%
Prohibition of gambling at the workplace	39.6%	46.9%	13.6%
Training supervisors to help others see their drug and alcohol problems	38.1%	48.4%	13.6%
Provision of a smoke-free workplace	38.0%	13.9%	4.4%
Provision to reassign employees with alcohol and drug use problems	33.3%	42.9%	23.8%
Training all employees re: preventing drug and alcohol problems	30.0%	55.3%	14.7%
Information provided on workplace gambling policy for all employees	29.3%	54.9%	15.8%
Security procedures to prevent the presence of drugs in the workplace	27.1%	63.4%	9.5%

This information represents "what is" regarding responses to substance use, gambling and mental health problems among Alberta's working population, not what should be. As such, the findings may be useful in monitoring policy change and also to suggest areas for improvement. For example, it might be asked why the provision for sick leave for employees in treatment is not at 100%. The outcomes of treatment are also important. Fifty-seven percent of the employers that claimed to know about this issue (30.0% did not provide a response) reported that their firms assist employees who are returning to work after substance use treatment. Of those that claimed to provide assistance, 50.7% provided follow-up or aftercare programs at work, 70.1% provided time off for ongoing treatment, 43.8% were able to reassign workers to other areas, 44.4% provided coaching and training of co-workers and supervisors, and 9.7% used a variety of other approaches.

There is an apparent contradiction between policy and practice regarding consumption of alcohol at the worksite. As indicated in Table 7.14, 82% of the organizations claimed to have a policy of

"prohibition of alcohol and other drug use across the organization". However, 21.3% of these reported that alcohol is permitted on the premises, and 10.4% noted that alcohol is "regularly" served there. The figures are only moderately higher for organizations that had not formally prohibited alcohol (42.9% and 24.1%, respectively).

Although a majority of the employers (52.1%) felt that more needed to be done about alcohol and drug abuse, a surprising 23.4% responded in the negative to this suggestion. Perhaps representing an even greater surprise, 24.5% did not know. The "Don't Know" grouping was stronger yet in response to a similar question about gambling, where the "Yes", "No" and "Don't Know" responses were divided about equally (35.3%. 30,0%, and 34.7%, respectively). The large proportion of respondents who did not feel that they knew enough to answer this kind of question should perhaps be taken as an indication of a need for greater education on addictive behaviours. Interestingly, those that reported that they did not know whether or not more needed to be done for alcohol and drug abuse were less likely to endorse the effectiveness of information on alcohol and other drugs use in the workplace (21.3%) than either those who thought that more was needed (46.0%) or those that thought not (28.2%; $X^2 = 18.81$, $p < .001$).

All employers were asked to rate their observations on the effectiveness of a number of other activities that may affect alcohol use, drug abuse and gambling. The endorsation percent for each of these is shown in Table 7.15.

Table 7.15: Proportion of employers (excluding "Don't Know") deeming selected activities to be effective in dealing with substance use and gambling in the workplace

Activity	%	Activity	%
Promotion of alcohol-free workplaces	35.3%	Residential treatment for alcohol and drug problems without job loss	42.3%
Promotion of drug-free workplaces	40.1%	Residential treatment for gambling problems without job loss	36.0%
Promotion of gambling-free workplaces	27.6%	Residential treatment for mental illness without job loss	43.0%
Promotion of tobacco-free workplaces	37.5%	Outpatient treatment for alcohol and other drugs without job loss	43.4%
Provision of promotional materials for workplace wellness programs	52.9%	Outpatient treatment for gambling without job loss	39.7%
Provision of information on alcohol and other drug use	47.8%	Outpatient treatment for mental illness without job loss	44.1%
Provision of model policies on alcohol and drug use	50.0%	Use of last chance agreements with employees	37.5%
Provision of literature and promotional material on gambling	28.7%	Use of drug testing	34.6%
Provision for training supervisors to identify alcohol & drug problems	47.4%	Other	9.2%

Addressing Addictive Behaviours

Key participants

It is often useful to understand who it is that stakeholders perceive to be key participants when addressing a particular issue and who it is that they feel should take a leadership role. These two points are addressed here from the point of view of the employer sample.

Table 7.16: Employer-suggested involvement to address alcohol, drug & gambling problems

Involved Party	%
Employers	88.7%
Workers/employees	82.9%
Medical/health care profs.	70.5%
Worker/mgnt. committees	61.6%
Unions/associations	54.0%
Worker committees	54.0%
Professional associations	50.6%
Industry associations	50.3%
Educational institutions	45.1%
Community groups	43.4%
Government	42.5%
Other	6.9%
Don't know (% of total 363)	4.7%

Table 7.16 shows the proportion from each of a number of categories that were endorsed for involvement as problem-solvers. Unsurprisingly, employers, employees, and health care professionals top the list. However, every choice was above 40%. This suggests that the respondents would prefer the involvement of multiple stakeholders. In fact the average was 6.5 choices per employer.

Respondents who endorsed "Government" were asked to specify the department or section of government that seemed to be appropriate. Of the 147 that selected "Government", 114 added more specificity. The health department was the most common designate among these at 37.7%. The Alberta Alcohol and Drug Abuse Commission followed at 12.3%. Since this body is now part of Alberta Health Services, the proportion choosing the health department would now stand closer to 50%. Eight percent felt that all departments should be involved. Occupational Health and Safety and Labour were tied at 6.1%. In spite of the interest in gambling, only 4.4% mentioned the government department that deals with gaming. All other choices were below 4%.

Respondents were encouraged to add key players that were not on the list. Twenty-four made "other" selections. Four suggested family members and three suggested supervisors/managers, but the remainder of suggestions were singular responses that defied categorization.

Choosing leadership for major initiatives is often a contentious issue. The employer point of view is shown in Table 7.17. Again, employers top the list, but the second-place position is that leadership should be set aside in favour of a collaborative model. The third choice seems to place the responsibility onto the shoulders of the workers, and the fourth suggests that leadership should come from treatment professionals. Four different models could perhaps be consolidated as follows: Employer responsibility (employers + industry associations); Collaborative (should collaborate + worker/management committees); Worker Responsibility (workers + unions + worker committees); and Intervention Expertise (health care professionals + professional associations + Educational Institutions).

Table 7.17: Employer-suggested leadership for substance & gambling problems

Suggested Leadership	%
Employers	42.2%
Should collaborate	27.7%
Workers/employees	20.5%
Government	15.9%
Health care profs.	10.1%
Worker/mgnt. committees	9.0%
Unions/associations	8.7%
Worker committees	8.7%
Professional associations	7.2%
Industry associations	6.4%
Community groups	4.9%
Educational institutions	4.9%
Other	4.9%
Don't know	4.9%

Table 7.18 shows the reassignment of percentages to these derived categories. Government is added separately as it is not easily categorized due to its multiple roles. In the end, the largest proportion of employers prefers employer-led initiatives, but there is no overall consensus.

Table 7.18: Employers suggestions for leadership in dealing with addictive problems

Leadership	%
Employer responsibility	49.7%
Worker responsibility	39.3%
Collaborative	38.4%
Experts	22.3%
Government	15.9%

Section Summary

The important conclusion to be drawn from this section is not that the findings point to the best entity for dealing with substance use in the workplace, but rather that they indicate which would be most acceptable to Alberta's employers. As it stands, many employers prefer to see their own involvement and leadership, but a variety of positions are embraced and there is a significant wish to adopt a collaborative approach.

SECTION VIII: DISCUSSION OF SELECTED POLICY ISSUES

Rating the Seriousness of Substance Abuse and Gambling in the Alberta Workforce

The survey that produced the data for this report was the third in a series that was commissioned because of concerns about the serious effects of substance use on workplace productivity and worker well-being. It is important here to discriminate between the seriousness of the consequences for an individual and the level of seriousness for the community or worksite, the latter being largely due to the frequency of such cases. The worst conditions would be those that have very serious individual consequences with many persons being affected. From one perspective, the data from the third wave indicate that most drug and alcohol users and gamblers do not get into serious difficulty, and addictive behaviours are not widely perceived to be a large

problem in the workplace by either employers or workers. From the other view, those involved in addictive behaviours do show some difficulties (e.g. raised likelihood of a mental health problem), even at moderate use levels that were previously thought to be benign.

Where does this leave us? With problems that can be serious for the individual and that have a moderate, but not catastrophic, effect on workplace productivity and well-being. This suggests there is no need to panic but that initiatives that are designed to reduce the negative effects of substance use and gambling are still worthwhile, as are programs focused on improving worker mental health.

Drug Testing – Good Organization Policy, Dubious Social Policy

An important public policy issue is the concern about privacy and human rights issues that are involved in mandatory testing. Also of concern is the risk that worksite safety and productivity that may be compromised by the effects of substance use. The findings here (and elsewhere) do show that drug testing is popular with employers and is on the rise, but that addictive behaviours in the workplace do not represent a large problem in Alberta overall. But there is some possibility that the apparently low, or lowering, level of substance-related work problems can be attributed to the ability to screen out substance-using job applicants or to terminate substance abusers.

While there are many arguments about the effective administration of testing programs, there does not seem to be much doubt about the ultimate outcome – that a very large number of substance users will be barred or removed from employment. This is likely to be a very good thing for the organizations and business establishments that follow this approach. The problem is that individuals who have been screened out or dismissed as a consequence of a positive drug test will have to look for employment elsewhere. Will they aggregate in organizations that do not test for substances? End up on welfare? Escalate their substance abuse and end up on the street? Generally, as the findings reported earlier indicate, these people are likely to show mental health and social problems. Losing a job because of substance abuse will not be therapeutic.

The issue, then, is that no matter how "positive" drug testing might appear to be for most establishments – it will do nothing for substance abuse and other social problems at the societal level. As the practice of testing grows, those excluded may have their health deteriorate, will congregate in certain organizations, will take on low-paying jobs, or will have to be supported by the state. This is a difficult problem to solve. Employers will be drawn to support the pro-testing side of the debate and union officials and human rights activists will support the other view. Contingencies associated with the vested interests of these parties do not bode well for a balanced societal-level solution. However, above and beyond the data collected here, some of our Advisory Committee members have made it clear that the area of dispute can be seen to be quite circumscribed and addressable. Most people would agree that in ordinary circumstances, drug and alcohol testing are undesirable and perhaps problematic. But most people would also agree that when safety, liability, and productivity are involved, testing may well be justified. Thus, it seems that the devil is in the exceptions. In practice, a safety issue will be reinterpreted as a safety risk, which will ultimately be taken to mean any safety risk. The decision criterion in such a situation can become rapidly meaningless. Clearly it is the government that has the mandate to address this broader interest. It may be useful, then, to engage in a two-pronged approach involving (1) the creation of a short-tenured commission, whose interest is biased toward the society overall, to investigate this issue and suggest a balanced approach where

efficiency and safety are increased and human rights are maintained, and (2) to conduct research into the relationship between the shift in the decision criterion and said balance.

Tailoring Services to Regional needs

There is no such thing as a large health region that can be characterized by one or two factors that define the level of the need for addiction or mental health services. In spite of differences in population density, remoteness, industry, weather, and infrastructure, the distribution of each of the human conditions of interest in this survey does not vary dramatically – certainly not enough to determine the presence or absence of treatment or prevention programs. These will also continue to be governed significantly by a critical mass of those in need (population density) and economics.

Even for those differences that were found, it is difficult to know about the cause. Zones differ on a variety of factors like those noted just above as well as on urbanization, culture, and many other factors. [1]

It should be noted that the five Health Zones noted in Section VI are not "regions" in the historical sense where they served as semi-autonomous units, but rather they serve a purpose in describing and planning health delivery. That is, at present, Alberta does not have a regional system, but rather a central authority that oversees most aspects of health services (including mental health and addictions). Nonetheless, there will be some need to tailor programs to local needs, and it is likely that a more regionalized system will return at some time in the future if the oft-noted cycle of centralization-decentralization of health services (Saltman and Vrangbœk 2007) continues in Alberta.

While responding to local needs is a laudable goal, the evidence is that some forms of local leadership produce service characteristics that correlate more highly with the predilections of local leaders than with the needs of the populace.

Many senior managers would agree that it would not be wise to make major local program decisions solely on the basis of a single survey. The usefulness of zone data, then, is to identify "hot spots", to assist in the evaluation of requests for additional funding, to formulate policy questions, and to evaluate progress at a macro level. Utility can be dramatically increased by linking survey findings to other databases, such as those operated by Statistics Canada and the anonymized data-linkage administrative bases now being developed in Alberta.

Employee Assistance Programs

The findings noted above show that the provision of employee assistance programs is growing in Alberta and that about one-half of the workers now have access to an EAP of some sort. However, the results also show that smaller firms are much less likely to provide an EAP, simply because of economies of scale. These findings are very similar to those for the United States as reported in a review by Jacobson and Attridge (2010). The fact that nearly 90% of large employers provide this kind of service (Section VII) rules out a view that resistance is widespread for any non-economic reason. Simply put, a critical mass of resources required for the provision of a stand-alone EAP is too expensive for many smaller employers but is cost-

[1] While not described in this report, the database for the study allows geography to be broken down into smaller, more homogeneous regions that could allow more definitive ecological studies.

effective for the larger ones. Thus, it appears that many small firms would support EAPs given a suitable arrangement.

It seems clear that broader access to EAPs would be of significant benefit to Alberta's workers and to the functioning of their employing organizations. Furthermore, that this could be achieved through some relatively straight-forward interventions that would improve the cost-benefit ratios for smaller firms. A policy analysis could be initiated that would investigate a variety of facilitative approaches, such as support for the banding together of small establishments to share a single good quality EAP or the formation of larger EAP providers that could provide services to a number of employers.

Mental Illness and Addictions

Discussions on this relationship have filled volumes, but it is clear that there is some form of strong relationship between the two, although the nature of this relationship is not so clear. This may be the explanation for the wide array of approaches used across the country and within provinces and territories across time. We have had examples of mental health and addictions organized into separate department-like entities (with health sometimes forming a third component) or housed within the same department. In the latter case, though, functional separation was maintained, so "togetherness" varied from collaboration to something approaching integration.

The data from this survey of workforce members is in line with general population findings in that they favour a more integrated approach. There is not a one-to-one correspondence between mental health diagnoses and specific addictive behaviours, but the relationships are very strong. As science progresses, particularly in the neuroscience area, our understanding of the similarities and differences will grow stronger as well. At present, the data support Alberta's recent move to place mental health and addictions under the same umbrella.

Having said the above, services are also affected by policy and service delivery acumen. We still have not completely solved the problem of how to integrate services or to determine when this is necessary.

Psychologically Safe Workplaces

An issue that will be increasingly be faced by all in the working environment is the relatively recent legal interpretation of our laws indicating that there is a requirement that the workplace practices of employers "should lead, at a minimum, to no serious and lasting harm to employee mental health" (see Shain 2009, p. 5). Of importance here is that the evidence from our study indicates that mental vulnerability is far from uncommon in the workforce and that it is significantly and meaningfully related to many workplace issues, including substance use and gambling. Thus, one can foresee legal questions and judgments that may take policy and practice in directions that will be sometimes unforeseen and impactful. Shain has noted that there is a great deal of uncertainty about what defines mental injury at work and we do not yet have a good method for such determinations. One hopes that this will lead to that which is intended – a workplace that improves mental well-being without loss of productivity. Indeed, gains in productivity might be the most likely outcome, but the legal road is most rocky and we should attend to this now to avoid diversions that might satisfy the law without the provision of any other benefit.

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APPENDICES

APPENDIX A: THE WORKER (EMPLOYEE) QUESTIONNAIRE

Employee Survey Introduction

Hello, my name is _____. The Institute of Health Economics is conducting an important survey on employment for Alberta Health Services. R.A. Malatest & Associates Ltd. has been contracted to conduct this survey.

We would like you to pick one person in your household to be interviewed, who has worked in the last 12 months. Considering the people in your household that are 18 years or older, could I please speak to the person who had the last birthday?

[ONLY PEOPLE WHO ARE IN THE WORKFORCE SHOULD BE INCLUDED]

1. Yes
2. No [set up appointment time to call back] Name of Person [FIRST NAME ONLY]

[SELECT INDIVIDUAL RESPONDENT & IF A NEW PERSON REPEAT 1ST PARAGRAPH]

First, I need to provide you with some important information. Taking the survey is your personal choice. This information will be kept confidential and anonymous. Because some of the questions are rather sensitive, you can skip any question or stop at any time without negative consequences. It will take about 23 minutes to complete. For security, all of the data collected will be stored in a locked site at the Institute of Health Economics and kept for at least five years.

The survey's focus is on substance use, gambling, and mental health in the workplace. Your contribution will impact the future by helping policymakers improve services available to you and other Albertans.

Finally, if you should wish it, we are happy to provide you with contacts for help in your area. And, if you would like more information about the survey, please contact the Project Director, Dr. Angus Thompson, at 780 448 4881 or the University of Alberta's Health Research Ethics Board at 780 492 0302.

Do you have any questions about the survey before we begin?

Employee Survey

id _____ location _____ Postcode _____

EMPLOYMENT

emp1. What is your current employment status? [Don't read list, select one. Probe if necessary] __

1. Working full time
2. Working part time
3. Laid off (temporarily)
   [Refer to usual or last workplace]
4. On worker's compensation /disability
   [Refer to last workplace]
5. Unemployed but looking for work
   [Refer to last or usual workplace]
6. On maternity lave (paid)
7. Self-employed
   [If YES, GOTO TOBACCO use]
8. Never worked
   [THANK AND END SURVEY]
9. Retired [THANK AND END SURVEY]
10. Student, not working
    [THANK AND END SURVEY]
11. Homemaker (unpaid)
    [THANK AND END SURVEY]
12. Not working & not looking for work
    [THANK AND END SURVEY]

88. Don't know / no response
    [THANK AND END SURVEY]

emp2. What is your main or primary occupation? [RECORD VERBATIM]

_____

[SELECT THE MOST APPROPRIATE CODE THAT DESCRIBES THE PRIMARY OCCUPATION DESCRIBED ABOVE – WATCH QUOTAS FOR OCCUPATION] __

1. **Manager** (plans/organizes/controls functions of a department/division/program/other unit)
2. **Professional** (teacher, lawyer, doctor, nurse, engineer, dentist, accountant etc)
3. **Clerical / office worker**
4. **Sales** (selling and buying commodities, selling services, wholesale and retail businesses)
5. **Services** (providing protection, catering, accommodation, assistance, funeral service, hair styling, beauty treatments, personal services, washing or cleaning, operating elevators, minor maintenance repair)
6. **Farmer** (wheat/grain grower, dairy, rancher, etc)
7. **Other primary occupations** (upstream oil and gas, fishing/hunting/trapping and related occupations, forestry and logging operations, mining/quarrying)
8. **Processing** (refining, mixing compounding, chemically treating, conditioning, or otherwise treating materials for direct use, or to produce semi-finished materials for tiles, processed food, newsprint, lumber, plywood and cloth)
9. **Construction** (erecting, repairing and maintaining buildings and other works)
10. **Transportation equipment operating** (truck driver, bus driver, airline pilot etc.)
11. **Material handling** (occupations not elsewhere classified concerned with moving, lifting, loading and packaging materials and products)
12. **Other** [USE IF THEIR OCCUPATION DOES NOT FIT IN OTHER CODES]

88. **DK /NoResponse**

WORK ENVIRONMENT

These questions are about your workplace.
On a 4-point scale, with 0 being Never, 1 Sometimes, 2 Most of the time and 3 being Almost always, please tell me how often each of the following occur in your workplace:

	Never 0	Some-times 1	Most of the time 2	Almost always 3	Don't know/ No Resp 8
wkp_alc1. Alcohol is permitted on the premises at work	ρ	ρ	ρ	ρ	ρ
wkp_alc2. Alcohol is available near the workplace	ρ	ρ	ρ	ρ	ρ
wkp_alc3. People who work here go for drinks after work together	ρ	ρ	ρ	ρ	ρ
wkp_drg1. Street drugs are available near the workplace	ρ	ρ	ρ	ρ	ρ
wkp_drg2. Street drugs are used in my workplace	ρ	ρ	ρ	ρ	ρ
wkp_gam. Workers here gamble together after work (slots, bingo, lottery, betting, Internet gambling)	ρ	ρ	ρ	ρ	ρ
wkp_tob. Tobacco use is allowed at the workplace	ρ	ρ	ρ	ρ	ρ

On a 5-point scale, with 1 being Strongly Disagree and 5 being Strongly Agree, please tell me how much you agree with the following statements:

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5	Don't Know/ No Response 8
acc_drg. Street drug use is a socially accepted activity among people that work here	ρ	ρ	ρ	ρ	ρ	ρ

acc_gam. Gambling is a socially acceptable activity among people that work here	ρ	ρ	ρ	ρ	ρ	ρ
acc_lot. Sports pools, betting and joint lottery purchases are a common activity among the people that work here	ρ	ρ	ρ	ρ	ρ	ρ
acc_tob. Smoking is a socially accepted activity among people that work here	ρ	ρ	ρ	ρ	ρ	ρ

TOBACCO USE

tob1. In the past month, have you smoked or used tobacco (e.g. smoked cigarettes, pipe or cigar, or used snuff or chewing tobacco)?

0. No [GO TO alc1]
1. Yes [CONTINUE TO NEXT ITEM]
8. Don't know / No response [GO TO alc1]

tob2. How many cigarettes do you usually smoke per day? ___

888 Don't know / No response

tob3. In the past month did you smoke or use tobacco while at work?

0. No [GO TO alc1]
1. Yes [CONTINUE TO NEXT ITEM]
8. Don't know / No response [GO TO alc1]

Which of the following tobacco products have you used while at work? [8 if refusal]

tob4a. cigarettes 1. Yes __ [Otherwise leave blank]

tob4b. pipe 1. Yes __ [Otherwise leave blank]

tob4c. cigar 1. Yes __ [Otherwise leave blank]

tob4d. snuff 1. Yes __ [Otherwise leave blank]

tob4e. chewing tobacco 1. Yes __ [Otherwise leave blank]

ALCOHOL USE

alc1. During the past 12 months have you had a drink of any alcoholic beverage?

0. No [GO TO alc6]
1. Yes [CONTINUE TO NEXT ITEM]
8. Don't know / No response [GO TO alc6]

alc1a. How often do you have a drink containing alcohol? [READ LIST]

1. Never [GO TO alc6]
2. Less than monthly
3. Two to four times a month
4. Two to four times a week
5. Four or more times a week
8. Don't know/no response

alc1b. How many drinks containing alcohol do you have on a typical day when you are drinking? [READ LIST]

1. 1 or 2
2. 3 or 4
3. 5 or 6
4. 7 to 9
5. 10 or more
8. Don't know/no response

alc1c. How often do you have six or more drinks on one occasion? [READ LIST]

1. Never
2. Less than monthly
3. Monthly
4. Two to three times per week
5. Four or more times per week
8. Don't know/no response

alc1d. How often during the last year have you found that you were not able to stop drinking once you had started? [READ LIST]

1. Never

2. Less than monthly

3. Monthly

4. Two to three times per week

5. Four or more times per week

8. Don't know/no response

alc1e. How often during the last year have you failed to do what was normally expected from you because of drinking? [READ LIST]

1. Never

2. Less than monthly

3. Monthly

4. Two to three times per week

5. Four or more times per week

8. Don't know/no response

alc1f. How often in the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? [READ LIST]

1. Never

2. Less than monthly

3. Monthly

4. Two to three times per week

5. Four or more times per week

8. Don't know/no response

alc1g. How often during the last year have you had a feeling of guilt or remorse after drinking? [READ LIST]

1. Never

2. Less than monthly

3. Monthly

4. Two to three times per week

5. Four or more times per week

8. Don't know / No response

alc1h. How often during the last year have you been unable to remember what happened the night before because you had been drinking? [READ LIST]

1. Never
2. Less than monthly
3. Monthly
4. Two to three times per week
5. Four or more times per week
8. Don't know/no response

alc1i. Have you or someone else ever been injured as a result of your drinking? [READ LIST]

1. Never
2. Yes, but not in the last year
3. Yes, during the last year
8. Don't know / No response

alc1j. Has a friend or relative or a doctor or other health worker been concerned about your drinking or suggested you cut down? [DO NOT READ LIST. If yes, probe to see if the concern was raised during the last year or not during the last year – if not, assume response # 2]

1. Never
2. Yes, but not in the last year
3. Yes, during the last year
8. Don't know / No response

alc2prob. Over the last 12 months, have you had any work-related problems that have occurred as a result of alcohol?

0. No [GO TO alc3cons]
1. Yes [CONTINUE TO NEXT ITEM]
8. Don't know / No response [GO TO alc3cons…]

What types of problems have occurred? [DO NOT READ LIST]

For all: YES = 1, otherwise leave blank [8 for each if this question refused]

1. __alc2prob1. I was late for work
2. __alc2prob2. I missed a day of work
3. __alc2prob3. I could not work at the same speed/level (poor productivity)
4. __alc2prob4. The work I did was not of the same quality (poor work quality)
5. __alc2prob5. I caused an accident
6. __alc2prob6. I hurt myself or others
7. __alc2prob7. I received a warning

8. __alc2prob8. I was sent home
9. __alc2prob9. I was fired
10. __alc2prob10. I had a conflict with a colleague/co-worker
11. __alc2prob11. I had a conflict with my supervisor
12. __alc2prob12. Other (specify)_____

How often have you consumed alcohol in the past 12 months…

	Never 1	Once a week 2	2-3 times a week 3	4+ times a week 4	Don't Know/ No Response
alc3cons_wk. while at work?	ρ	ρ	ρ	ρ	ρ
alc3con4hrs. within 4 hours of coming to work?	ρ	ρ	ρ	ρ	ρ

alc4abs1. In the past 12 months, did drinking result in your not coming into work the next day?

0. No
1. Yes
8. Don't know/no response

alc4absnum. How many times did you not come to work due to drinking? ____

In the past 4 weeks, have you been invited to have a drink by:

	Yes 1	No 0	DK/No Resp 8
alc6a. A customer or client?	ρ	ρ	ρ
alc6b. A co-worker?	ρ	ρ	ρ
alc6c. A supervisor / manager [Do not ask owner-mgrs]	ρ	ρ	ρ
alc6d. A supplier	ρ	ρ	ρ

SUBSTANCE USE: OTHER DRUGS

Now about drug use. Have you used any of the following in the last 12 months?

	No 0	Yes →	DK/ NA 8	If yes, how often (over the last 12 months)						
				< 1 time/ month 1	1-3 times a month 2	Once a week 3	2-3 times a week 4	4-6 times a week 5	Daily + 6	DK/ NA 88
drg1anti. Any anti-depressants or other mood stabilizers?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1tran. Any tranquilizers (Ativan, Librium, Valium)?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1sleep. Sleeping pills?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1cold. Medications for cough, cold, sinus problems or allergies?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1pain. Over the counter painkillers (Tylenol, IBuprofen)?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1painsc. Prescription painkillers?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg1stim. Over the counter stimulants (diet pills, wake-up pills)?	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ

drg1wk_prob. Over the last 12 months, have you had any work-related problems that have occurred as a result of medication use?

0. No
1. Yes
8. Don't know/no response

drg2any. Have you used any of the following in the last 12 months: marijuana, hash, opiates, LSD or PCP, Ecstasy, GHB, Cocaine/crack, heroin, any other street drugs?

0. No [GO TO drg4nonmed]
1. Yes [CONTINUE]
8. Don't Know/No Response [GO TO drg4nonmed]

Specifically, Have you used any of the following in the last 12 months?

				If yes, how often in the last 12 months…						
	No 0	Yes →	DK/ NA 8	**< 1 time/ month** 1	**1-3 times a month** 2	**Once a week** 3	**2-3 times a week** 4	**4-6 times a week** 5	**Daily +** 6	**DK/ NA** 88
drg2hash. Marijuana, hash	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg2coca. Cocaine, crack	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg2halo. LSD, PCP other hallucinogens	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg2amph. Amphet-amines & other stimulants (Ecstasy)	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg2narc. Heroin or other street opiates; morphine	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg2str. Other street drugs (GHB)	ρ	ρ →	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ

How often have you used street drugs in the past 12 months?

	Never 0	< 1 time/ month 1	1-3 times a month 2	Once a week 3	2-3 times a week 4	4+ times a week 5	Don't Know/ No Resp 8
drg3str_wk. While at work?	ρ	ρ	ρ	ρ	ρ	ρ	ρ
drg3str4hr. Within 4 hours of coming to work?	ρ	ρ	ρ	ρ	ρ	ρ	ρ

In the last 12 months …

	Yes 1	**No 0**	**DK/NA 8**
drg4nonmed. Have you used drugs other than those required for medical purposes?	ρ	**GO TO GAMBLING**	**GO TO GAMBLING**
drg4multi. Do you abuse more than one drug at a time?	ρ	ρ	ρ
drg4stop. Are you always unable to stop using drugs when you want to?	ρ	ρ	ρ
drg4flash. Have you ever had black-outs or flashbacks as a result of drug use?	ρ	ρ	ρ
drg4guilt. Do you ever feel bad or guilty about your drug use?	ρ	ρ	ρ
drg4compl. Does your spouse (or parents) ever complain about your involvement with drugs?	ρ	ρ	ρ
drg4negl. Have you ever neglected your family because of your drug use?	ρ	ρ	ρ
drg4legal. Have you engaged in illegal activities in order to obtain drugs?	ρ	ρ	ρ
drg4wdraw. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	ρ	ρ	ρ
drg4ill. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?	ρ	ρ	ρ

drg5wkprob. Over the last 12 months, have you had any work-related problems that have occurred as a result of street drug use?

0. No

1. Yes

8. Don't know / No response

What types of problems have occurred? _____ [DO NOT READ LIST. SCORE 1 IF ENDORSED, OTHERWISE LEAVE BLANK]

drg5wkpr1.	I was late for work ……	__
drg5wkpr2.	I missed a day of work	__
drg5wkpr3.	Could not work at the same speed/level (poor productivity)	__
drg5wkpr4.	My work was not of the same quality (poor work quality)	__
drg5wkpr5.	I caused an accident	__
drg5wkpr6.	I hurt myself or others ……....	__
drg5wkpr7.	I received a warning	__
drg5wkpr8.	I was sent home……..	__
drg5wkpr9.	I was fired	__
drg5wkpr10.	I had a conflict with a colleague/co-worker…….	__
drg5wkpr11.	I had a conflict with my supervisor	__
drg5wkpr12a.	Other (Please specify) _____	__
drg5wkpr12b.	Other (coded)	__

drg6abs1. In the past 12 months, did use of street drugs result in your not coming into work the next day?

0. No

1. Yes

8. Don't know / No response

drg6absnum. How many times did you not come to work due to drugs? ____

GAMBLING

The next section is about gambling. When I talk about gambling, I mean such things as buying lottery or scratch tickets, playing bingo, playing slot machines or VLT's, playing casino table games, betting on sports, betting at the racetrack, Internet gambling, or betting against other people on games such as pool, darts, video games, cards, etc

gam1. In the past 12 months, how often have you done any of the activities I listed as gambling?

1. Not at all [GO TO “Job Factors”]
2. Less than once a month
3. 1-3 times a month
4. Once a week
5. 2-3 times a week
6. 4-6 times a week
7. daily
8. Don’t Know/No Response

Still thinking about the past 12 months, please answer the following questions using a 4 point scale, with 0 being Never, 1 is Sometimes, 2 is Most of the time and 3 is Almost Always…

	Never 0	Some-times 1	Most of the time 2	Almost always 3	Don’t know/ No Response 8
gam2cpgi1. Have you bet more than you could really afford to lose?	ρ	ρ	ρ	ρ	ρ
gam2cpgi2. Have you needed to gamble with larger amounts of money to get the same feeling of excitement?	ρ	ρ	ρ	ρ	ρ
gam2cpgi3. Have you gone back another day to try to win back the money you lost?	ρ	ρ	ρ	ρ	ρ
gam2cpgi4. Have you borrowed money or sold anything to get money to gamble?	ρ	ρ	ρ	ρ	ρ
gam2cpgi5. Have you felt that you might have a problem with gambling?	ρ	ρ	ρ	ρ	ρ
gam2cpgi6. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	ρ	ρ	ρ	ρ	ρ
gam2cpgi7. Have you felt guilty about the way you gamble or what happens when you gamble?	ρ	ρ	ρ	ρ	ρ
gam2cpgi8. Has your gambling caused you any health problems, including stress or anxiety?	ρ	ρ	ρ	ρ	ρ

gam2cpgi9. Has your gambling caused any financial problems for you or your household?	ρ	ρ	ρ	ρ	ρ

gam3atwk. In the past year, how often did you gamble while at work (For example, sports pools, betting and joint lottery purchases)?

Not at all

1. Less than once a month
2. 1-3 times a month
3. once a week
4. 2-3 times a week
5. 4-6 times a week
6. Daily
7. Don't Know/No Response

In the past 4 weeks, have you been invited to go gambling by…	**Yes 1**	**No 0**	**DK/No Resp 8**
gam4wkcli. A customer or client?	ρ	ρ	ρ
gam4wkco. A co-worker?	ρ	ρ	ρ
gam4wkmgr. A supervisor/manager [Do not ask of owner-managers A2=1 and A3=1, or if A1a=7]	ρ	ρ	ρ
gam4wksup. A supplier	ρ	ρ	ρ

gam5a. Over the last 12 months, have you had any work-related problems that have occurred as a result of gambling?

0. No [GO TO "Job Factors"] ⟶

1. Yes

8. Don't know / No response [GO TO "Job Factors"] ⟶

gam5b. What type of problems have occurred? [DO NOT READ LIST. SCORE 1 IF ENDORSED, OTHERWISE LEAVE BLANK]

gam5pr1. I was late for work __

gam5pr2. I missed a day of work __

gam5pr3. I could not work at the same speed/level (poor productivity) __

gam5pr4. My work was not of the same quality (poor work quality) _ __

gam5pr5. I caused an accident __

gam5pr6. I hurt myself or others _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ __

gam5pr7. I received a warning __

gam5pr8. I was sent home __

gam5pr9. I was fired __

gam5pr10. I had a conflict with a colleague/co-worker __

gam5pr11. I had a conflict with my supervisor _ _ _ _ _ _ _ _ _ _ _ _ __

gam5pr12. Other (Please specify)_____ __

gam6abs1. In the past 12 months, did gambling result in your not coming into work the next day?

0. No
1. Yes
8. Don't know / No response

gam6absnum. How many times did you not come to work due to gambling?_____

JOB FACTORS

Presenteeism

pres5. On a scale from 0 to 10 where 0 is the worst job performance anyone could have at your job and 10 is the performance of a top worker, how would you rate the usual performance of most workers in a job similar to yours? [DK/NoResp = 88]

Worst Performance										Best Performance
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

pres6. Using the same 0-to-10 scale, how would you rate your usual job performance over the past year or two? [DK/NoResp = 88]

Worst Performance										Best Performance
0	1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

pres7. Using the same 0-to-10 scale, how would you rate your overall job performance on the days you worked during the past 4 weeks (28 days)? [DK/NoResp = 88]

Worst Performance — Best Performance

0 1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Job & Worksite

Does your work involve any of the following characteristics?

		Yes 1	No 0	DK/No Resp 8
wkcult_bore	**Boredom?**	ρ	ρ	ρ
wkcult_rep	**Repetitive tasks?**	ρ	ρ	ρ
wkcult_call	**On-call work?**	ρ	ρ	ρ
wkcult_rem	**Worksite remote from home?***	ρ	ρ	ρ
wkcult_trav	**Travelling on the job?**	ρ	ρ	ρ
wkcult_ent	**Entertaining &/or entertained by clients, suppliers, or other business contacts?**	ρ	ρ	ρ
wkcult_shift	**Working shift-work?****	ρ	ρ	ρ
wkcult_com	**Working a compressed work week?*****	ρ	ρ	ρ
wkcult_long	**Working long work hours, including overtime**	ρ	ρ	ρ

*WORKSITE REMOTE FROM HOME defined as: a work situation in which you do not come home at night and are required to sleep in a town other than were you live.

**SHIFT WORK defined as: Work that does not have a set schedule and may require the worker to work varying times of the day and night.

***COMPRESSED WORK WEEK defined as a full work week (37-40 hrs) worked in fewer than 5 work days of 7.5 or 8 hrs each]

Does your organization have formal policies on

		Yes 1	No 0	DK/No Resp 8
wkpol_smo.	**smoking?**	ρ	ρ	ρ
wkpol_gam.	**gambling?**	ρ	ρ	ρ

wkpol_alc.	**alcohol?**	ρ	ρ	ρ
wkpol_drg.	**drugs?**	ρ	ρ	ρ

wkp_stress. How stressful do you consider your job?

0. Not at all stressful
1. Somewhat stressful
2. Extremely stressful
8. Don't Know/No Response

If, for any reason, you did not do your job well, please indicate what are the chances of each of the following occurring - using a 4 point scale, where 0 is No Chance, 1 is Very Slight Chance, 2 is a Moderate Chance, and 3 is Quite a Good Chance.

	No chance 0	**Very slight chance 1**	**Moderate chance 2**	**Quite a good chance 3**	**Don't Know/ NoResp 8**
wkmis_inj. Physically injuring yourself or a co-worker?	ρ	ρ	ρ	ρ	ρ
wkmis_out. Physically injuring someone outside the organization?	ρ	ρ	ρ	ρ	ρ
wkmis_dam. Damaging / polluting the environment?	ρ	ρ	ρ	ρ	ρ
wkmis_equ. Damaging the company's equipment or property?	ρ	ρ	ρ	ρ	ρ
wkmis_rep. Hurting the reputation of the organization?	ρ	ρ	ρ	ρ	ρ
wkmis_$$$. The organization losing a lot of money?	ρ	ρ	ρ	ρ	ρ

wksat1. How would you rate your overall job satisfaction? Would you say your overall job satisfaction is … [READ LIST]

1. Very high
2. High
3. Moderate
4. Low
5. Very low

8. Don't Know/No Response

wkpsat2. Do you view your work as a job or as a career?

1. As a job
2. As a career
3. Both
8. Don't Know/No Response

WORKPLACE ISSUES

wkp_eap1. If you felt that you or a co-worker had a drug, alcohol or gambling problem, would you know where to go for help in the workplace?

0. No
1. Yes
8. Don't Know/No Response

wkp_eap2. Is there a formal Employee Assistance program (EAP) at your workplace?

0. No [GO TO SUMMARY]
1. Yes
8. Don't Know/No Response [GO TO SUMMARY]

wkp_eap2a. Do you feel that the program available at your work is a good way to deal with problems like gambling, alcohol and drug abuse?

0. No
1. Yes
8. Don't Know/No Response

wkp_eap2b. In the past year, have you used the Employee Assistance program (EAP) or the program available at your work for alcohol, other drug or gambling problems?

0. No [GO TO SUMMARY]
1. Yes
8. Don't Know/No Response [GO TO SUMMARY]

wkp_eap2b1. If 'yes', since using the EAP, did you:

1. Return to normal
2. Improve
3. Stay the same
4. Get worse
8. Don't Know/No Response

SUMMARY

I'd like to get your opinion on the degree of impact alcohol and other drug use and gambling currently have on your workplace, using a 3 point scale where 1 is not very serious, 2 is moderately serious and 3 is extremely serious.

Currently what impact does….	Not Very Serious 1	Moderately Serious 2	Extremely Serious 3	Don't Know/ No Resp 8
impact_alc. alcohol use have on the work performance of people you work with?	ρ	ρ	ρ	ρ
impact_drg. other drug use have on the work performance of people you work with?	ρ	ρ	ρ	ρ
impact_gam. gambling have on the work performance of people you work with?	ρ	ρ	ρ	ρ

I. BACKGROUND

I'd just like to get a bit of background about you and the kind of work you do.

cobus. What type of business is your company in? [RECORD VERBATIM] [INDUSTRY QUESTION]

_____

bakuni1. Are you a union member?

0. No
1. Yes
8. Don't Know/No Response

baknum. How many people work for/in your company in Alberta?

1. 1-4 employees
2. 5-9 employees
3. 10-49 employees
4. 50-99 employees
5. 100+ employees
8. Don't Know/No Response

bakuni2. Does your company or business have a union(s) or a collective bargaining unit(s)?

0. No
1. Yes
8. Don't Know/No Response

age. How old are you? _____ (years) [NoResp = 888]

mar_stat. Are you…

1. Married (including common law)
2. Separated

3. Divorced
4. Widowed
5. Never married
8. Don't Know/No Response

educ. Which of the following best describes your highest level of education?

1. Did not graduate from high school
2. High school graduate or equivalent
3. Completed technical school / trade school
4. Completed a university degree
8. Don't Know/No Response

ethnic. Which ethnic group do you most closely identify with? [DO NOT READ]

1. Canadian
2. Caucasian/White/European
3. Chinese
4. Japanese/ Korean
5. South Asian (includes India, Pakistan)
6. Caribbean
7. African
8. Central and South American
9. Australian / New Zealand
10. Mexican
11. Other (please specify)_____
88. Don't Know/No Response

[NOTE: to describe "ethnic" use the prompts "where (what country) did your family come from?" "where (what country) did you come from"]

aborig. Are you of Aboriginal descent?

1. Yes – Status
2. Yes – Non-status
3. Yes – Metis
4. No
8. Don't Know/No Response

empl. How long have you been working for your current employer/running your own business?

1. Less than one year __
2. 1 year or more but less than 5 years
3. 5 years or more but less than 10 years
4. 10 years or more but less than 25 years
5. More than 25 years
8. Don't Know/No Response

income. What is your gross annual household income? __

1. Under $10,000
2. $10,000 to $19,999
3. $20,000 to $34,999

4. $35,000 to $49,999
5. $50,000 to $99,999
6. $100,000 or over
8. Don't Know/No Response

sex. [INTERVIEWER RECORD] Gender of interviewee __

1. Male
2. Female
8. Don't Know/No Response

MENTAL HEALTH

mh_hope. Has there ever been a period of time when you felt that life was hopeless?

0. No __
1. Yes
8. Don't Know/No Response

mh_anx1. Have you ever had a spell or attack when all of a sudden you felt frightened, anxious, or very uneasy in situations when most people would not be afraid? __

0. No [SKIP NEXT QUESTION – Goto mh_agor]
1. Yes
8. Don't Know/No Response

mh_anx2. Have you ever had 3 spells like this close together – say within a 3-week period? __

0. No
1. Yes
8. Don't Know/No Response

mh_agor. Have you ever had such an unreasonable fear of any of the following that you tried to avoid it/them: __

- Being in a crowd.
- Being on any kind of public transportation e.g. bus or elevator [not aircraft]
- Going out of the house alone.
- Being alone."

0. No
1. Yes
8. Don't Know/No Response

mh_socph. Have you ever had such an unreasonable fear of any of the following that you tried to avoid it/them: __

- Speaking in front of a small group of people you know.
- Speaking to strangers or meeting new people."

0. No
1. Yes
8. Don't Know/No Response

mh_simph1. Have you ever had such an unreasonable fear of being in an enclosed space that you tried to avoid it: __

0. No
1. Yes [GOTO mh_dep1a]
8. Don't Know/No Response

mh_simph2. Is there anything else you were unreasonably terrified to do or be near? __

0. No
1. Yes
8. Don't Know/No Response

mh_dep1a	Have you ever been consistently depressed or down, most of the day, nearly every day, for at least two weeks? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep1b	Have you ever been much less interested in most things or much less able to enjoy the things you used to enjoy most of the time over at least 2 weeks? 0. No 1. Yes 8. Don't Know/No Response	__
	SCREEN: IF NEITHER mh_dep1a NOR mh_dep1b ARE CODED YES, THEN GO TO suiclev1 Over the two week period when you felt depressed or uninterested…	
mh_dep2ap	Was your appetite decreased or increased nearly every day? or did your weight decrease or increase without trying intentionally (I.E., BY ±5% OF BODY WEIGHT OR ±8 LBS. OR ±3.5 KGS. FOR A 160 LB./70 KGS. PERSON IN A MONTH)? 0. No 1. Yes 8. Don't Know/No Response [IF YES TO EITHER WEIGHT OR APPETITE, CODE = YES]	__

mh_dep3sp	Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively)? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep4sl	Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still almost every day? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep5ti	Did you feel tired or without energy almost every day? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep6gu	Did you feel worthless or guilty almost every day? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep7co	Did you have difficulty concentrating or making decisions almost every day? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep8su	Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead? 0. No 1. Yes 8. Don't Know/No Response	__
mh_dep9im	Did the symptoms of depression cause you significant distress or impair your ability to function at work, socially, or in some other important way? 0. No 1. Yes 8. Don't Know/No Response	__
mh_deploss	Did any of these spells occur just after someone close to you died? 0. No 1. Yes	__

	8. Don't Know/No Response	
mh_dep_yr	Did such a two week period when you felt depressed or uninterested occur within the last 12 months? 0. No 1. Yes 8. Don't Know/No Response	__

suiclev1	Has there ever been a period when you felt like you wanted to die? 0. No 1. Yes 8. Don't Know/No Response	__
suiclev1age	How old were you when this first occurred? Years	__
suiclev2	Have you felt so low you thought of committing suicide? 0. No [GOTO mh_asp1] 1. Yes 8. Don't Know/No Response	__
suiclev2age	How old were you when you first thought of committing suicide?	__
suiclev3	Have you ever made definite plans to commit suicide (even though you may not have actually made an attempt)? 0. No 1. Yes 8. Don't Know/No Response	__
suiclev3age	How old were you when you first made such a plan? Years	__
suiclev4	Have you ever attempted suicide? 0. No 1. Yes 8. Don't Know/No Response	__
suiclev4age	How old were you when you first made an attempt? Years	__

Since you were 15 years old, have you:

mh_asp1	repeatedly behaved in a way that others would consider irresponsible, like failing to pay for things you owed, deliberately being impulsive or deliberately not working to support yourself? 0. No 1. Yes 8. Don't Know/No Response	__
mh_asp2	done things that are illegal even if you didn't get caught (for example, destroying property, shoplifting, stealing, selling drugs, or committing a felony)? 0. No 1. Yes 8. Don't Know/No Response	__
mh_asp3	been in physical fights repeatedly (including physical fights with your spouse or children)? 0. No 1. Yes 8. Don't Know/No Response	__
mh_asp4	often lied or "conned" other people to get money or pleasure, or lied just for fun? 0. No 1. Yes 8. Don't Know/No Response	__
mh_asp5	exposed others to danger without caring? 0. No 1. Yes 8. Don't Know/No Response	__
mh_asp6	felt no guilt after hurting, mistreating, lying to, or stealing from others, or after damaging property? 0. No 1. Yes 8. Don't Know/No Response	__
mh_aid1	In the past 12 months did you see someone for a mental health problem? 0. No [THANK AND END] 1. Yes 8. Don't Know/No Response	__

mh_aid2a	Who did you see? [LIST UP TO 3 CHOICES] 1. Psychiatrist 2. Psychologist 3. Counsellor 4. Physician 5. Social Worker 6. Employee Assistance Program 7. Other 8. Cannot remember	__
mh_aid2b		__
mh_aidf2c		__
mh_aidprob	What kind of problem was it? 1. Depression 2. Anxiety 3. Phobia 4. Delinquent / Illegal behaviour / fighting 5. Seeing things / Hearing voices 6. Romantic / Relationship problems 7. Learning Disability 8. Don't Know/No Response	__

APPENDIX B: EMPLOYEE (WORKER) SURVEY ADMINISTRATION

A field test of the *Employee Survey* was completed with 20 respondents prior to full data collection. The results of the field test indicated two consistent concerns among the surveyors:

1) The introduction to the survey was too long causing, in the opinion of the majority of the surveyors, potential respondents to decline to participate; and
2) The survey required too much time to complete.

In response to these concerns, and with client participation and approval, the survey was modified before full survey administration began. The survey introduction was streamlined to inform respondents of relevant information in a more succinct fashion. To address the timing concern, the psychosis scale and previously unused absenteeism questions were removed from the final survey.

Employee surveys were conducted over the phone from August 24, 2009 to November 23, 2009. Prior to conducting the survey, surveyors received a training session and project materials. Training discussed the overall study including its goals and objectives, as well as the survey instrument in particular.

Throughout survey administration, feedback from surveyors and survey supervisors were incorporated into adjustments and refinements of the surveying process. Successful recruitment strategies were disseminated to other surveyors, questions and concerns about the survey were resolved, and high achieving surveyors were sequestered for the study.

Survey Results

A total of 2817 surveys were completed. The call dispositions of the sample accessed are listed in Table B.1.

Employee Disposition Codes

Completions: Respondent finished the survey.

Refusals: Individual declined to participant in the survey.

Emotional refusals: Individual was upset when declining to participate.

Incomplete survey: Individual refused to continue with survey before completion.

Busy Signal: Phone line was engaged when called by surveyor.

No Answer: Phone line was not picked up when called by surveyor.

Left Message: Phone line was picked up by answering machine.

Hang up: Individual hung up on surveyor without hearing about purpose of the study.

Hard Appointment: Surveyor set up a specific time with individual to complete survey.

Soft Appointment: Individual indicated that surveyor should call back.

Soft Refusal: Individual indicated they were unable to complete survey now.

Communication Problem: Difficulty with phone line or connection.

Table B.1: Final employee call dispositions*

Call Status	Total Cases
Completions	2817
Refusals	3800
Emotional refusals	36
Incomplete survey	6
Busy Signal	272
No Answer	889
Left Message	4786
Hang up	1793
Hard Appointment	7
Soft Appointment	113
Soft Refusal	226
Communication Problem	76
Language Case	193
Duplicate Case	4
Non-Qualifier	3887
Not in service/wrong number	4405
Fax/Modem line	1084
Total	24394

The final response rate for the study was calculated at 42.3%[2].

Language Case: Non-English speaking individual (where possible surveyors who spoke respondent's language were utilized)

Duplicate Case: Same household was contacted through two different numbers.

Non-Qualifier: Individual did not meet study criteria.

Not in service/wrong number: Phone number was invalid.

Fax/Modem line: Phone number was a data transmission line.

[2] Response rate was calculated as: $\frac{Completions}{Completions + Refusals + Emotional\ Refusals + IncompleteSurveys}$

APPENDIX C: THE EMPLOYER QUESTIONNAIRE

Survey of Substance Use and Gambling in the Alberta Workplace, 2009

INTRODUCTION

Substance Use and Gambling in the Alberta Workplace

Survey Director:

Dr. Angus Thompson
Institute of Health Economics
(780) 448-4881

The Institute of Health Economics is conducting a survey on substance use and gambling for the Addiction and Mental Health section of Alberta Health Services. R.A. Malatest & Associates Ltd. has been contracted to conduct this survey. We hope to learn more about addiction-related issues in the workplace. This survey is being conducted with employers in Alberta.

Approximately 350 Alberta employers will take this survey. It will take about 20 minutes to complete. This survey will be confidential and anonymous. No identifying information will be retained. All of the data collected will be stored in a locked site at the Institute of Health Economics for at least five years.

The survey will include questions about policies and practices on substance use and gambling in your place of work. The expected benefits arising from your participation will be in the future – your responses will help policymakers and service deliverers work towards improvements in service quality and availability for Albertans, particularly those in the workforce.

Taking the survey is your personal choice. Please try to complete the whole survey, but if you feel uncomfortable with any question, please feel free to skip to the next one. There are no negative consequences for you if you choose to decline to participate.

If you would like to inquire further about the survey, or your rights as a participant in this survey, you may call the Project Director, Dr. Angus Thompson, at 780-448-4881 or the University of Alberta Health Research Ethics Board at 492-0302.

Survey of Substance Use and Gambling in the Alberta Workplace, 2009

Employer Survey

About this questionnaire:

- The manager or company owner should complete this survey.
- The information you provide will be treated with the **strictest confidence**; only the researchers will have access to the individual survey responses and the results will be reported to Alberta Health Services by Institute of Health Economics in summary form only.
- If you have any questions, please feel free to contact the independent research firm conducting this survey, **R.A. Malatest & Associates Ltd.**, at **1-877-665-6252**.
- You can participate in this survey in one of three ways. You can:
  - Fill out the hard copy of the questionnaire enclosed and return it by mail in the envelope provided, or by toll-free fax at 1-866-448-9047.
    PLEASE MAKE SURE TO INCLUDE ***ALL*** PAGES WHEN FAXING**.**
  - Go to www.sug.malatest.net and enter the access code provided in the footer of the survey.
  - Call 1-877-665-6252 between the hours of 9:00am and 9:00pm, Monday to Friday and complete

This first section asks for some background information on your organization. It will help us understand the different approaches taken by Alberta employers in handling alcohol, other drug abuse and gambling problems.

A. BACKGROUND

A1a. Your position in the company/firm:

Owner Manager Other: (Specify:_____)

A1b. Which of the following best describes the primary business of your organization? [**PLEASE CHOOSE ONLY ONE RESPONSE**]

θ Agriculture	θ Wholesale and retail trade
θ Upstream oil and gas	θ Finance, insurance, real estate
θ Forestry	θ Education (including schools and universities)
θ Mining, including oil sands	
θ Manufacturing and processing (including oil and gas processing)	θ Hospitals, health care
	θ Social services
θ Construction	θ Other services
θ Transportation, including rail, truck, bus, air, water and pipeline operations	θ Public administration
	θ Other (Specify:_____)
θ Telecommunications, broadcasting	θ Don't Know
θ Utilities, including water and electricity	

A1c. Is your organization a casino, bingo hall, or race track?

- θ Yes
- θ No
- θ Don't Know

A2a. Where is the headquarters of your organization?

- θ In Alberta
- θ Outside Alberta but within Canada
- θ Outside Canada
- θ Don't Know

A2b. Please enter the postal code of your business: _____

A3. How many people does your organization currently employ in Alberta? PLEASE NOTE: Do not include sub-contractors when calculating this number. [**PLEASE CHOOSE ONLY ONE RESPONSE**]

- θ less than 10 employees
- θ 10 to 49 employees
- θ 50 to 199 employees
- θ 200 to 499 employees
- θ 500+ employees
- θ Don't Know

A4. Approximately what percentage of your Alberta workforce are other than permanent full-time employees? %_____

A5. Approximately what percentage of your Alberta workforce work shifts other than Monday to Friday, days? %_____

A6. Approximately what percentage of your Alberta workforce worked overtime (paid or unpaid) in the last week? %_____

A7. Approximately how many work sites do you have in Alberta? _____

A8. How many people work at the smallest work site? _____

A9. Approximately what percentage of your employees belong to a union(s)?

- θ none
- θ less than 10%
- θ 10 - 24%
- θ 25 - 49%
- θ 50 – 74%
- θ 75% or more
- θ Don't Know

A10. Which of the following best indicates the total operating budget (i.e. expenditures) of your organization IN ALBERTA?

- θ less than $1 million
- θ $1 million to $4.9 million
- θ $5 million to $19.9 million
- θ $20 million to $99.9 million
- θ $100 million or more

This section of the survey seeks information on the extent of substance use among the Alberta workforce and patterns of usage, which may affect work performance. For the purpose of this research, substance use includes the use of alcohol, illicit drugs, tobacco and other medications with psychoactive properties consumed in a manner which potentially influences the individual's performance at work.

B. PREVALENCE AND PATTERNS OF SUBSTANCE USE

B1. Over the last 4 weeks, which of the following substance use incidents have been brought to your attention

(NOTE: AN INCIDENT IS DEFINED AS ONE SINGLE OCCURRENCE INVOLVING ANY EMPLOYEE)

	No	Yes ↓				Don't Know	N/A
		Once	2-5 times	6-9 times	10+ times		
a. An employee arrived late for work apparently due to alcohol or other drug abuse	ρ	ρ	ρ	ρ	ρ	ρ	ρ
b. An employee missed a day of work, apparently due to alcohol or other drug abuse	ρ	ρ	ρ	ρ	ρ	ρ	ρ
c. An employee was sent home from work due to apparent impairment from alcohol or other drugs	ρ	ρ	ρ	ρ	ρ	ρ	ρ
d. An employee was sent home from work due to a hangover	ρ	ρ	ρ	ρ	ρ	ρ	ρ
e. An employee was caught using alcohol on the job	ρ	ρ	ρ	ρ	ρ	ρ	ρ
f. An employee was caught using drugs on the job	ρ	ρ	ρ	ρ	ρ	ρ	ρ
g. An employee was assigned other duties for the day due to apparent impairment alcohol or other drugs	ρ	ρ	ρ	ρ	ρ	ρ	ρ
h. An employee was reassigned for a longer period due to an alcohol or other drug use problems	ρ	ρ	ρ	ρ	ρ	ρ	ρ
i. An employee made a lot of mistakes due to apparent impairment from alcohol or other drugs	ρ	ρ	ρ	ρ	ρ	ρ	ρ
j. An employee took leave to undergo treatment for an alcohol or other drug use problem	ρ	ρ	ρ	ρ	ρ	ρ	ρ

	No	Yes ↓				Don't Know	N/A
		Once	2-5 times	6-9 times	10+ times		
k. An employee's work pace was slowed due to impairment from alcohol or other drugs	ρ	ρ	ρ	ρ	ρ	ρ	ρ
l. An employee was dismissed due to an alcohol or other drug use problem	ρ	ρ	ρ	ρ	ρ	ρ	ρ
m. An employee was suspended due to an alcohol or other drug use problem	ρ	ρ	ρ	ρ	ρ	ρ	ρ
n. An employee took extended sick leave to deal with an alcohol or other drug use problem	ρ	ρ	ρ	ρ	ρ	ρ	ρ
o. An employee was injured on the job due to his/her impairment	ρ	ρ	ρ	ρ	ρ	ρ	ρ
p. An impaired employee's actions resulted in injury to a co-worker	ρ	ρ	ρ	ρ	ρ	ρ	ρ
q. An impaired employee's actions resulted in injury to someone outside the organization	ρ	ρ	ρ	ρ	ρ	ρ	ρ
r. An impaired employee's actions resulted in accidental damage to equipment or property	ρ	ρ	ρ	ρ	ρ	ρ	ρ
s. An employee with an alcohol or other drug use problem was caught stealing company or client property	ρ	ρ	ρ	ρ	ρ	ρ	ρ
t. An employee with an alcohol or other drug use problem was suspected of sabotaging equipment	ρ	ρ	ρ	ρ	ρ	ρ	ρ
u. Two or more workers got into a fight due to alcohol or other drug use	ρ	ρ	ρ	ρ	ρ	ρ	ρ
v. An impaired employee was the subject of a customer or client complaint	ρ	ρ	ρ	ρ	ρ	ρ	ρ
w. An employee was caught smoking on the job in an area where smoking is not permitted	ρ	ρ	ρ	ρ	ρ	ρ	ρ
x. An employee was late for work or took too many breaks from work due to smoking	ρ	ρ	ρ	ρ	ρ	ρ	ρ

B2. Please indicate whether the following applies to your organization:

	Never	Sometimes	Almost Always	Don't Know	Not Applicable
a. Alcohol is served at organization functions	ρ	ρ	ρ	ρ	ρ
b. Alcohol is served at the organization's premises, on special occasions	ρ	ρ	ρ	ρ	ρ
c. Alcohol is regularly served on the organization's premises	ρ	ρ	ρ	ρ	ρ
d. Alcohol is permitted on the premises	ρ	ρ	ρ	ρ	ρ
e. Tobacco use is permitted on the premises	ρ	ρ	ρ	ρ	ρ
f. Alcohol is readily available near our main worksite(s)	ρ	ρ	ρ	ρ	ρ
g. Street drugs are available near our main worksite(s)	ρ	ρ	ρ	ρ	ρ
h. Co-workers go for a drink together after work	ρ	ρ	ρ	ρ	ρ
i. Co-workers go for a drink together at lunch	ρ	ρ	ρ	ρ	ρ

B3. On a 3-point scale, with 1 being Extremely Serious, 2 being Moderately Serious and 3 being Not Very Serious, please tell me, in your opinion, how serious a problem are the following:

	Extremely Serious	Moderately Serious	Not Very Serious	Don't Know/No Response
a. Employee tobacco use in your ORGANIZATION	ρ	ρ	ρ	ρ
b. Employee tobacco use in your INDUSTRY	ρ	ρ	ρ	ρ
c. Employee alcohol use in your ORGANIZATION	ρ	ρ	ρ	ρ
d. Employee alcohol use in your INDUSTRY	ρ	ρ	ρ	ρ
e. Employee drug use in your ORGANIZATION	ρ	ρ	ρ	ρ
f. Employee drug use in your INDUSTRY	ρ	ρ	ρ	ρ

C. PREVALENCE AND PATTERNS OF GAMBLING

The next questions refer to incidents involving gambling. By gambling, we mean such things as buying lottery or scratch cards, playing bingo, playing slot machines or VLT's, playing casino table games, betting on sports, betting at the racetrack, Internet gambling, or betting against other people on games such as pool, darts, video games, cards, etc.

C1. Over the last 4 weeks, which of the following gambling incidents have been brought to your attention (PLEASE NOTE: AN INCIDENCE IS DEFINED AS ONE SINGLE OCCURRENCE INVOLVING ANY EMPLOYEE)

	No	**Yes** ↓				**Don't Know**	**N/A**
		Once	**2-5 times**	**6-9 times**	**10+ times**		
a. An employee arrived late for work apparently due to gambling or problems associated with gambling	ρ	ρ	ρ	ρ	ρ	ρ	ρ
b. An employee missed a day of work apparently due to gambling or problems associated with gambling	ρ	ρ	ρ	ρ	ρ	ρ	ρ
c. An employee took leave to undergo treatment for a gambling problem	ρ	ρ	ρ	ρ	ρ	ρ	ρ
d. An employee with gambling problems was caught stealing from the company or a client	ρ	ρ	ρ	ρ	ρ	ρ	ρ

C2. On a 5-point scale, with 1 being Strongly Disagree and 5 being Strongly Agree, please tell me how much you agree with the following statements:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know/No Response
a. Gambling is a socially acceptable activity among people that work at my organization	ρ	ρ	ρ	ρ	ρ	ρ
b. Sports pools, betting, and joint lottery purchases are a common activity among the people that work at my organization	ρ	ρ	ρ	ρ	ρ	ρ

C3. On a 3-point scale, with 1 being Extremely Serious, 2 being Moderately Serious and 3 being Not Very Serious, please tell me, in your opinion, how serious a problem are the following:

	Extremely Serious	Moderately Serious	Not Very Serious	Don't Know/No Response
a. Employee gambling in your ORGANIZATION	ρ	ρ	ρ	ρ
b. Employee gambling in your INDUSTRY	ρ	ρ	ρ	ρ

D. WORKPLACE IMPACTS OF SUBSTANCE USE AND GAMBLING

D1a. Which employee group (i.e. sales clerk, carpenter, auto mechanic) is the LARGEST of your organization? Please give a DETAILED description of the Occupational group.

_____

_____

_____

_____

_____

D1b. Please choose the one group below that best corresponds with the LARGEST occupational group of your organization? [**PLEASE CHOOSE ONLY ONE RESPONSE**]

θ **Manager** (plans/organizes/directs/controls functions of a department/division/program/ regional office/other unit)	θ **Processing** (refining, mixing, compounding, chemically treating, conditioning, or otherwise treating materials for direct use; or to produce semi-finished materials for further machining or fabricating; or to produce finished products such as bricks, tiles, processed food, newsprint, lumber, plywood and cloth)
θ **Professional** (teacher, nurse, doctor, engineer, dentist, accountant, etc.)	
θ **Clerical/office worker**	θ **Construction** (erecting, repairing and maintaining buildings and other works)
θ **Sales** (selling/buying commodities, selling services, wholesale and retail businesses)	θ **Transportation equipment operating** (truck driver, bus driver, airline pilot, etc.
θ **Service** (providing protection, catering, accommodation, assistance, funeral services, hair styling, beauty treatments, personal services, washing or cleaning, operating elevators, minor maintenance repairs, technical support, etc.)	θ **Materials handling** (occupations not elsewhere classified concerned with moving, lifting, loading, and packing materials and products)
θ **Primary occupations** (upstream oil and gas, fishing/hunting/trapping and related occupations, forestry and logging operations, mining/quarrying)	θ **Other** (Please Specify): _____ _____

D2. Please consider the OCCUPATIONAL GROUP INDICATED ABOVE. If, for any reason, an employee did not perform his/her job well, how much chance, if any, would there be of the employee

	No Chance	Very slight chance	Moderate chance	Quite a good chance	Don't Know	Not Applicable
a. Injuring him/herself	ρ	ρ	ρ	ρ	ρ	ρ
b. Injuring a co-worker	ρ	ρ	ρ	ρ	ρ	ρ
c. Injuring someone outside the organization	ρ	ρ	ρ	ρ	ρ	ρ
d. Damaging/polluting the environment	ρ	ρ	ρ	ρ	ρ	ρ
e. Damaging the company's equipment or property	ρ	ρ	ρ	ρ	ρ	ρ
f. Hurting the reputation of the organization	ρ	ρ	ρ	ρ	ρ	ρ
g. Causing the organization to lose a lot of money	ρ	ρ	ρ	ρ	ρ	ρ

D3. In general, to what degree are the effects of ALCOHOL and OTHER DRUG USE a concern in your organization in terms of:

	Not a Concern	Somewhat of a Concern	A Very Significant Concern	Don't Know	Not Applicable
a. Absenteeism	ρ	ρ	ρ	ρ	ρ
b. Tardiness	ρ	ρ	ρ	ρ	ρ
c. Productivity	ρ	ρ	ρ	ρ	ρ
d. Quality of product or service	ρ	ρ	ρ	ρ	ρ
e. Turnover	ρ	ρ	ρ	ρ	ρ
f. Employee health (mental/physical)	ρ	ρ	ρ	ρ	ρ
g. Employee safety	ρ	ρ	ρ	ρ	ρ
h. Public safety	ρ	ρ	ρ	ρ	ρ
i. Equipment damage	ρ	ρ	ρ	ρ	ρ
j. Employee theft	ρ	ρ	ρ	ρ	ρ
k. Employee sabotage	ρ	ρ	ρ	ρ	ρ
l. Organization's public image	ρ	ρ	ρ	ρ	ρ
m. Organization's reputation	ρ	ρ	ρ	ρ	ρ

D4. In general, to what degree are the effects of GAMBLING a concern in your organization in terms of:

	Not a Concern	Somewhat of a Concern	A Very Significant Concern	Don't Know	Not Applicable
a. Absenteeism	ρ	ρ	ρ	ρ	ρ
b. Tardiness	ρ	ρ	ρ	ρ	ρ
c. Productivity	ρ	ρ	ρ	ρ	ρ
d. Quality of product or service	ρ	ρ	ρ	ρ	ρ
e. Turnover	ρ	ρ	ρ	ρ	ρ
f. Employee health (mental/physical)	ρ	ρ	ρ	ρ	ρ
g. Employee theft	ρ	ρ	ρ	ρ	ρ
h. Employee sabotage	ρ	ρ	ρ	ρ	ρ
i. Organization's public image	ρ	ρ	ρ	ρ	ρ
j. Organization's reputation	ρ	ρ	ρ	ρ	ρ

D5. There are a number of costs that could be associated with alcohol and other drug use in the workplace. Please indicate whether each of the following have been a cost to your organization as a result of substance abuse among employees.

	Never Occurred	No Cost	Some or Modest Cost	Major Cost
a. Wages paid to workers who are absent from work due to an alcohol or other drug use problem	ρ	ρ	ρ	ρ
b. Cost of temporary workers to replace absent workers	ρ	ρ	ρ	ρ
c. Lost production from absenteeism or work slowdowns due to alcohol or other drug problems	ρ	ρ	ρ	ρ
d. Expenses associated with treatment of alcohol or other drug use problems	ρ	ρ	ρ	ρ
e. Loss of valued customers/ clients due to a reduction in the quality of a product or service	ρ	ρ	ρ	ρ
f. Cost of insurance	ρ	ρ	ρ	ρ
g. Other (please specify)_____	ρ	ρ	ρ	ρ

D6. There are a number of costs that could be associated with gambling issues in the workplace. Please indicate whether each of the following have been a cost to your organization as a result of employee gambling issues.

	Never Occurred	No Cost	Some or Modest Cost	Major Cost
a. Wages paid to workers who are absent from work due to a gambling problem	ρ	ρ	ρ	ρ
b. Cost of temporary workers to replace absent workers	ρ	ρ	ρ	ρ
c. Lost production from absenteeism or work slowdowns due to gambling problems	ρ	ρ	ρ	ρ
d. Expenses associated with treatment of gambling problems	ρ	ρ	ρ	ρ
e. Loss of valued customers/ clients due to a reduction in the quality of a product or service	ρ	ρ	ρ	ρ
f. Cost of insurance	ρ	ρ	ρ	ρ
g. Other (please specify)_____	ρ	ρ	ρ	ρ

E. RESPONSE OPTIONS

E1. What would be your organization's usual response or disciplinary action for each of the following incidents, assuming that this was the first time for such incidents for the employee [**CHECK ALL THAT APPLY**]:

	No Action	Warning	Suspension	Dismissal	Refer for counseling	Reassign to less sensitive area	Don't Know
a. An employee showed up for work drunk or high	ρ	ρ	ρ	ρ	ρ	ρ	ρ
b. An employee showed up for work hung over	ρ	ρ	ρ	ρ	ρ	ρ	ρ
c. An employee had an accident in which drugs/ alcohol was suspected to have played a role, in which property was damaged but no harm came to anyone	ρ	ρ	ρ	ρ	ρ	ρ	ρ

	No Action	Warning	Suspension	Dismissal	Refer for counseling	Reassign to less sensitive area	Don't Know
d. An employee was involved in a near miss in which drugs/alcohol was suspected to have played a role	ρ	ρ	ρ	ρ	ρ	ρ	ρ
e. An employee was involved in an accident in which drugs/alcohol was suspected to have played a role and which resulted in someone being injured	ρ	ρ	ρ	ρ	ρ	ρ	ρ
f. An employee was caught for theft in which gambling was suspected to have played a role	ρ	ρ	ρ	ρ	ρ	ρ	ρ

E2. If an employee were sent home from work due to apparent impairment from alcohol or other drug use, would your company

θ Escort the individual home?

θ Allow the individual to go home on his/her own?

E3. Which of the following would most likely occur in the event that a worker required treatment for a substance problem? [**PLEASE CHOSE ONLY ONE RESPONSE**]

θ Offer a sick leave with partial pay

θ Offer a short term leave without pay

θ Offer a sick leave (with full pay)

θ Suspension of the employee

θ Dismissal of the employee

θ Don't Know

➔ E4. What percentage of current take home pay would the worker on sick leave receive so he/she could obtain treatment for a substance problem?

%_____

E5. Does your organization have formal policies on:

	Yes	No	Don't Know/No Response
a. Tobacco?	ρ	ρ	ρ
b. Alcohol?	ρ	ρ	ρ
c. Drugs?	ρ	ρ	ρ
d. Gambling?	ρ	ρ	ρ

E6. If you have a formal GAMBLING policy, what is your company's policy?

_____

_____

_____

_____

PLEASE ANSWER E7 ONLY IF YOUR ORGANIZATION HAS A FORMAL POLICY ON SMOKING, ALCOHOL, DRUGS OR GAMBLING, ALL OTHERS PLEASE PROCEED TO QUESTION E8.

E7. Which of the following are included in your organization's policies regarding alcohol, other drug use or gambling in the workplace?

	Yes	**No**	**Don't Know**	**Not Applicable**
a. Prohibition of alcohol and other drug use across the organization	ρ	ρ	ρ	ρ
b. Training for supervisors in recognizing alcohol and other drug use problems	ρ	ρ	ρ	ρ
c. Training supervisors in helping other employees see their alcohol and other drug problems	ρ	ρ	ρ	ρ
d. Training for all employees related to preventing alcohol and other drug use problems	ρ	ρ	ρ	ρ
e. Provision of sick leave for employees undergoing treatment	ρ	ρ	ρ	ρ
f. Provision to reassign employees facing alcohol and other drug use problems	ρ	ρ	ρ	ρ
g. Security procedures to prevent the presence of drugs in the workplace (other than drug testing)	ρ	ρ	ρ	ρ
h. Progressive discipline to deal with substance use problems in the workplace	ρ	ρ	ρ	ρ

	Yes	No	Don't Know	Not Applicable
i. Information sessions for all employees on the organization's substance use policies	ρ	ρ	ρ	ρ
j. Promotion of work wellness (or health promotion in the workplace)	ρ	ρ	ρ	ρ
k. Provision of a smoke-free workplace	ρ	ρ	ρ	ρ
l. Prohibition of gambling at the workplace	ρ	ρ	ρ	ρ
m. Provision of information for all employees on the organization's policies regarding workplace gambling	ρ	ρ	ρ	ρ

E8. Does your company have an alcohol or other drug testing program?

- θ Yes
- θ No ➔ ***[please go to question E11]***
- θ Don't Know ➔ ***[please go to question E11]***

E9. Which of the following components are included in your alcohol or other drug testing program? [**PLEASE CHECK ALL THAT APPLY**]

	Yes for Alcohol	Yes for Drugs	No for either	Don't Know	Not Applicable
a. Random testing of all employees	ρ	ρ	ρ	ρ	ρ
b. Random testing of a defined set of employees (e.g. safety sensitive employees)	ρ	ρ	ρ	ρ	ρ
c. Testing after an accident involving damage or injury	ρ	ρ	ρ	ρ	ρ
d. Testing after a near miss not involving damage or injury	ρ	ρ	ρ	ρ	ρ
e. Testing on referral by a supervisor who has noticed performance problems	ρ	ρ	ρ	ρ	ρ
f. Pre-employment testing	ρ	ρ	ρ	ρ	ρ
g. Periodic medicals	ρ	ρ	ρ	ρ	ρ

E10. How effective has the testing program been in terms of its effects on:

	Very Effective	Somewhat Effective	No Noticeable Effect	Don't Know	Not Applicable
a. Reducing ALCOHOL use problems in the workplace?	ρ	ρ	ρ	ρ	ρ
b. Reducing DRUG use in the workplace?	ρ	ρ	ρ	ρ	ρ

E11. Do employees in your organization have access to an employee assistance program (i.e. EAP) sponsored by the organization?

- θ No ***[please go to question E17]*** ➔
- θ Don't Know ***[please go to question E17]*** ➔
- θ Yes ***[Please answer E12, E13, E14, & E15]*** ⬇

E12. How is the employee assistance program funded?

- θ The employer alone
- θ Employees and the employer
- θ Employees only

E13. Is there an employee advisory or steering committee overseeing the employee assistance program?

- θ Yes
- θ No
- θ Don't Know

E14. What is the annual budget of the assistance program?

$_____

E15. How are employees referred to your organization's assistance program? [**PLEASE CHOOSE ALL THAT APPLY**]

- θ Supervisor referral
- θ Co-workers' referral
- θ Self-referral
- θ Results of alcohol or drug testing
- θ Other
- θ Don't Know

E16. Who is eligible for your assistance program?

- θ Current full-time employees
- θ Current part-time employees
- θ Retired employees
- θ Employees' family members
- θ Other, please specify: _____
- θ Don't Know

E17. Which of the following best describes why your organization does not have an assistance program? [**PLEASE CHOOSE ALL THAT APPLY**]

- θ We are too small
- θ We cannot afford it
- θ We don't think we need one
- θ Our employees are scattered over too many work sites
- θ Other, please specify:
  _____
  _____
  _____
  _____
- θ Don't Know

[Please go to Question E18]

E18. Do employees in your organization have access to Member Assistance Program (MAP) sponsored by a union or employee association?

- θ Yes ***[please go to question E19]*** ➔
- θ No
- θ Don't Know

E19. How is the MAP program funded? [**PLEASE CHOOSE ONLY ONE RESPONSE**]

- θ The union/association and the employer
- θ The union/association alone
- θ Don't Know

E20. Is there an employee advisory committee overseeing the MAP program? [**PLEASE CHOOSE ONLY ONE RESPONSE**]

- θ Yes
- θ No
- θ Don't Know

E21. Does your organization assist employees who are returning to the workforce following treatment for an alcohol or other drug use problem?

- θ Yes ***[please go to question E22]*** ⬇
- θ No
- θ Don't Know

E22. Which of the following approaches do you use? [**PLEASE CHOOSE ALL THAT APPLY**]

- θ Follow-up or aftercare program in the workplace
- θ Time off for ongoing treatment
- θ Reassignment to other work areas
- θ Coaching/training of co-workers and supervisors
- θ Other, please specify: _____ _____ _____
- θ Don't Know

E23a. In your opinion, does more need to be done to deal with alcohol and drug abuse in the workplace in Alberta?

- θ Yes
- θ No
- θ Don't Know

E23b. In your opinion, does more need to be done to deal with gambling issues in the workplace in Alberta?

- θ Yes
- θ No
- θ Don't Know

E24. In your opinion, which of the following actions has worked best for your organization in responding to alcohol/other drug and gambling problems in the workplace? [**PLEASE CHOOSE ALL THAT APPLY**]

- θ Promotion of "alcohol-free" workplaces through the media
- θ Promotion of "drug-free" workplaces through the media
- θ Promotion of "gambling-free" workplaces through the media
- θ Promotion of "tobacco-free" workplaces through the media
- θ Provision of promotional materials for workplace wellness programs
- θ Provision of information on alcohol and other drug use in the workplace
- θ Provision of model policies on alcohol and other drug use in the workplace
- θ Provision of materials to train supervisors/managers in identifying and dealing with alcohol and other drug use problems
- θ Provision of opportunities for workers to undergo residential mental health treatment without threat of job loss
- θ Provision of opportunities for workers to undergo out-patient treatment for alcohol and other drugs without threat of job loss
- θ Provision of opportunities for workers to undergo out-patient treatment for gambling without threat of job loss
- θ Provision of opportunities for workers to undergo out-patient mental health treatment without threat of job loss
- θ Drug testing
- θ Use of last chance agreements with employees
- θ Provision of literature and promotional materials on gambling

θ	Provision of opportunities for workers to undergo residential treatment for alcohol and other drugs without threat of job loss	θ	Other, please specify: _____ _____ _____ _____
θ	Provision of opportunities for workers to undergo residential treatment for gambling without threat of job loss	θ	Don't Know

E25. Who should be involved in dealing with alcohol, other drug and gambling problems in the workplace? [**PLEASE CHOOSE ALL THAT APPLY**]?

θ	Employers	θ	Industry associations
θ	Unions/employee associations	θ	Government: (Please Specify:_____)
θ	Workers/employees	θ	Educational institutions
θ	Worker/employee committees	θ	Professional associations
θ	Community groups	θ	Other: (Please Specify:_____)
θ	Worker/management committees	θ	Don't Know
θ	Medical/health care professionals		

E26. Who should take the lead role? [**PLEASE CHOOSE ONLY ONE RESPONSE**]

θ	Employers	θ	Government: (Please Specify:_____)
θ	Unions/employee associations		
θ	Workers/ employees	θ	Educational institutions
θ	Worker/employee committees	θ	Professional associations
θ	Worker/management committees	θ	No one should take the lead role, should be a collaborative effort.
θ	Community groups	θ	Other: (Please Specify:_____)
θ	Industry associations		
θ	Medical/health care professionals	θ	Don't Know

E27. That completes the survey. Do you have any other comments on any of the issues discussed throughout the survey?

_____

_____

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY.

PLEASE RETURN THE COMPLETED SURVEY BY MAIL USING THE ENCLOSED POSTAGE-PAID SELF-ADDRESSED ENVELOPE OR BY FAX (TOLL-FREE) 1-866-448-9047, BY OCTOBER 16. 2009. PLEASE MAKE SURE TO INCLUDE *ALL* PAGES WHEN FAXING – THANK YOU.

APPENDIX D: EMPLOYER SURVEY ADMINISTRATION

An initial sample of 1,000 businesses were included in the survey mail-out. Surveys were mailed on September 24, 2009. Follow-up phone calls to businesses that had not returned a completed survey commenced on October 13, 2009. On October 23, 2009, an additional 1,500 employers were added to the sample. These employers were not initially sent a mail-out survey, but were rather contacted over the phone.

Employers had the option to participate in the survey in one of three manners:

1) Mail or fax in a completed copy of the survey (businesses initially contacted by phone were given the option of receiving the survey through mail or fax);
2) Complete the survey online at the study website; or
3) Complete the survey over the phone with a trained staff member.

Table D.1 below lists the numbers of surveys completed in each of these three modes.

Table D.1: Number of Survey Completion by Mode of Completion

Mode of completion	Number of completes
Mail/Fax	50
On-line	40
Phone	273

Survey Results

A total of 363 surveys were completed. A total of 2489 cases were accessed during survey administration. The call dispositions of the sample accessed are listed in Table D.2.

Employer Disposition Codes

Completion: Respondent finished the survey.

Refusal: Individual declined to participant in the survey.

Incomplete survey: Individual refused to continue with survey before completion.

Respondent will send in by mail: Individual indicated the completed survey would be mailed in.

Respondent will send in by fax: Individual indicated the completed survey would be faxed in.

Respondent will send in by email: Individual indicated a preference to complete the survey at the webpage

Respondent wants to do online: Individual indicated a preference to complete the survey at the webpage

New survey requested by mail: Individual requested a copy of the survey via mail.

Table D.2: Employer Survey call dispositions*	
Call Status	**Total**
Completions	363
Direct Contact	
Refusal	276
Incomplete survey	2
Respondent will send in by fax	5
Respondent will send by mail	2
Respondent will send by email	9
Respondent wants to do online	19
New survey requested by mail	24
New survey requested by fax	51
New survey request by email	166
Hard appointment	8
Soft appointment	132
Indirect Contact	
Left message	726
No Contact/Inappropriate	
Busy signal	19
No answer	109
Language case	7
Duplicate case	1
Non-qualifier	250
Business no longer exists	13
Not in service/wrong number	272
Fax/Modem line	35
Total	**2489**

New survey requested by fax: Individual requested a copy of the survey via fax.

New survey requested by email: Individual requested a copy

Busy signal: Phone line was engaged when called by surveyor.

No answer: Phone line was not picked up when called by surveyor.

Hard appointment: Surveyor set up a specific time with individual to complete survey

Soft appointment: Individual indicated that surveyor should call back in the future.

Left message: Phone line was picked up by answering machine.

Language case: Non-English speaking individual (where possible surveyors who spoke respondent's language were utilized)

Duplicate case: Same business was contacted through two different numbers.

Non-qualifier: Business did not meet study criteria.

Business no longer exists: Phone # no longer connected to specified business.

Not in service/wrong number: Phone number was invalid.

Fax/Modem line: Phone number was a data transmission line.

APPENDIX E: JOB FACTORS

The questionnaire included a number of questions (18) dealing with worksite factors that could be interpreted individually, but since they seemed to reflect a smaller number of conceptually interesting groupings (possibly job stress, responsibility for risk, job value), a factor analysis was conducted on the data to explore the possibility of a more parsimonious explanation of these questions.

Table E.1 shows the "significant" factor loadings (above 0.45) that were used to create the independent factors. The higher the loading, the more closely related is the item to the factor in question. Selecting the cutoff loading is done with the aim of maximizing the separation between factors. The findings here are somewhat unusual in that the 0.45 cutoff value produced five factors where all questions are associated with one, and only one, factor.

Table E.1: Factor loadings for the 18 work environnment questions on each of the derived factors

	Risk Liable	After Hours	Time Instab.	Job Value	Work Stress
Injure self or co-worker	.76				
Injure others	.76				
Damage environment	.73				
Damage co. property	.84				
Hurt org. reputation	.69				
Could lose org. money	.68				
Work remote from home		.72			
Travel on job		.75			
Supplier/Cli Entertainment		.64			
On call		*.42*	.45		
Shift work			.73		
Compressed work week			.59		
Long hours/Overtime		*.41*	.45		
Work Boredom				.71	
Repetitive tasks				.58	
Job satisfaction				-.68	
As job (vs. career)				.49	*-.44*
Work is stressful					.81

Questionnaire items frequently load on more than one factor, making interpretation of the meaning of each more difficult. However, some were close. To illustrate, those at 0.40 or greater,

but below the 0.45 cutoff are shown in the table (underlined). Being "on call" or having to work "long hours", in addition be being included on the Time Instability factor, show a relationship with the "After Hours" factor. Since all of the three items with marginal loadings surpassed the criterion on some other factor, they were considered only for that factor.

Thus, five sub-scales were created based on the factor analysis results. In theory, these scales should be independent. However, in their final versions, they have been altered by (1) having each sub-scale item weighted equally (rather than using the less practical factor weightings), and (2) items had to be classed in or out, even though (a la the examples above) some were close to inclusion. Table E.2 shows the inter-correlations of the five sub-scales. Time Instability shows correlations with three other factors. These, while statistically significant, are low in magnitude.

Table E.2: Job factor sub-scale inter-correlations

	Risk-Liable	After Hours	Time Instab.	Job Value
After Hours	.19.			
Time Instab.	.34	.31		
Job Value	-.08	.13	-.03	
Work Stress	.18	.14	.24	.06

1. Risk Liability
   Respondents were asked to estimate the likelihood of each of six negative events should they not perform their job well (0 = "No chance" to 3 = "Quite a good chance").

   Scores covered the total range of possible scores (0 to 18). Over twenty percent (22.3%) claimed that their jobs held no such risk at all (i.e. scored zero) and 13.1% averaged "moderate" risk or higher, indicating the likelihood that some form of damage would result from poor job performance.
   Cronbach's Alpha = 0.85.

2. After Hours.
   This reflects work characteristics that indicate the extent that time is taken away from one's personal life (travelling, entertaining). Each of the three items involved a Yes or No response. The "Yes" responses were summed to produce the factor score (range = 0 to 3).

3. Table E.3 shows the distribution of After Hours scores (scores of 2 or 3 = High). About one-half showed no issue with such impositions, with about one-quarter endorsing at least two of the three items.
   Cronbach's Alpha = 0.59

Table E.3: After hours obligations

None	One	High
46.2%	26.4%	27.4%

4. Time Instability.
   This factor includes items that appear to reflect instability in one's work schedule. That is, being on call, shift work, an unusual work week, and sporadic long hours of work. Each of the four items involved a Yes or No response. The "Yes" responses were summed to produce the "Time Instability" score for each person (range = 0 to 4; Table E.4).
   Cronbach's Alpha = 0.54

Table E.4: Time Instability

None	Low (1)	Moderate (2)	High (3 – 4)
28.2%	31.2%	22.0%	18.6%

5. Job Value.
   High scores on this factor reflected lack of boredom, non-repetitive tasks, high job satisfaction, and seeing one's work as a career (rather than as just a job). The latter two items were altered to fit the Yes/No binary format. Scores thus ranged from zero to 4. Only 7.4% rated their work as boring, repetitive, of low satisfaction, and just a job, so this category was combined with the next (only one positive rating) to create the "Low" category (Table E.5). Cronbach's Alpha = 0.52

Table E.5: Job Value categorized

Low (0-1)	Moderate (2)	High (3)	V High (4)
20.5%	25.5%	22.0%	18.6%

6. Work Stress.
   This is a one-item factor, coded in response to the question "How stressful do you consider your job to be?" The three response choices were "Not at all", "Somewhat", and Extremely" (range = 0 to 2). The distribution of these is shown in Table E.6.

Table E.6: Work Stress

None	Somewhat	Extreme
15.1%	67.0%	17.9%

Table E.7 contains a summary of the relationships between the five job factors & selected addictive and mental health behaviours. For the purposes of this analysis, those addictive behaviours that had more than two levels were recoded to form a dichotomous variable. Since any relationships of interest would be linear, Chi-square tests for progressive increases (Mantel 1963; designated by SPSS as a "Linear-by-Linear Association").

Table E.7: Chi-square values for significant changes in addictive / mental health measures "due" to job factors

	Job Factors				
Addictions/Mental Health Measures	Risk Liability	After Hours	Time Instability	Job Value	Work Stress
Smoking Y/N	11.46***	6.78*	20.74***	12.89***	--
Alcohol (Audit)	9.50**	9.94**	7.48*	12.05**	--
Drugs (DAST H/L)	--	11.66***	15.90***	--	--
Gambling (CPGI H/L)	--	--	--	20.51***	--
Suicide Risk (H/L)	10.46***	--	--	71.56***	9.43**
Hopelessness	28.20***	--	17.13***	76.67***	35.50***
Any Disorder	--	--	--	103.6***	--

*p<.01 **p<005 ***p<.001

APPENDIX F: ESTIMATED HOURS LOST & COSTS DUE TO ABSENTEEISM & PRESENTEEISM

The procedure for estimating the number of hours lost and financial costs due to alcohol, illicit drugs and gambling among Alberta workers who were employed in 2009 was based on that used in the 2002 survey. One exception, however, is that the presenteeism estimate for each of the three conditions was based on the supplementary questions that were administered to the final 684 respondents. This, as noted in Section V, was due to a belief that this procedure provided a more accurate picture of presenteeism. These figures were then pro-rated to represent a sample that matched our total sample in size (i.e. n = 2817).

The parameters gleaned from the sample were applied to their counterparts for the Alberta workforce in 2009 to produce Provincial estimates of time lost and financial cost of productivity loss reportedly due to alcohol use, drug use, and gambling. The calculation steps are as follows (results in Table F.1):

1. Raw figures for "cases" were taken directly from the statistical package output for absenteeism and presenteeism.for each of the three conditions.
2. Frequencies were adjusted for age and sex.
3. Presenteeism frequencies were extrapolated to the full sample to produce estimated frequencies as if all 2817 respondents had been surveyed on these measures.
4. The average number of absenteeism and presenteeism days were taken from the basic frequencies output.
5. The frequencies derived in points 2 and 3, above, were multiplied by the average number of occurrences of productivity issues to produce total lost days for absenteeism and low productivity days for presenteeism.
6. Presenteeism days were halved since they could represent up to 50% productivity. This to estimate the total number of lost days for presenteeism. Lost absenteeism days were as recorded in step 5.
7. The total number of days potentially worked by the sample in 2009 was estimated by multiplying the sample size by the number of days in a standard work year (235 days[a]).
8. A lost-time ratio was calculated by dividing the number of lost days (step 6) by the potential days worked by the sample (step 7).
9. The Alberta provincial number of lost days was estimated by multiplying the sample's lost-time ratio (step 8) by the total number of days worked by the Alberta workforce in 2009 (467,203,500[b]).
10. The cost to Alberta's economy was estimated by taking the product of the Alberta "standard" hourly wage in 2009 ($25.16[c]), the "standard" number of hours worked per day (7.5 hours[d]) , and the number of Provincial lost days (step 9).

Table F.1: Results of calculations

	Alcohol	Drugs	Gambling
ABSENTEEISM			
Number "Yes"	26	0	0
Age/Sex Adjusted	49	0	0
Ave Number of Days	1.3	N/A	N/A
Total Days Affected	63.7	0	0
Lost-Time Ratio	0.000100	N/A	N/A
Alberta Lost Days	46852.4	0	0
Cost of Lost Days	$8,841,043	$0	$0
PRESENTEEISM			
Number "Yes"	12	1	4
Age/Sex Adjusted	15.4	1	0.7
Sample Extrapolated	60.1	4.1	2.47
Ave Number of Days	2.92	1.5	1.5
Total Days Affected	175.6	6.2	3.7
Presenteeism adj.	87.8	3.1	1.9
Lost-Time Ratio	0.000138	0.000005	0.000003
Alberta Lost Days	64,569.7	2,271.9	1,362.5
Cost of Lost Days	$12,184,299	$428,703	$257,112

Notes:

[a] 235 days = 365 – 104 (week-end days) – 11 (statutory holidays) – 15 (vacation)

[b] 2009 Annual Alberta Labour Market Review. Government of Alberta. Downloaded on September 26, 2010 from http://www.employment.alberta.ca/documents/LMI/LMI-LFS_labour_market_review.pdf

[c] Labour Force Developments Oct 2009 dated November 6, 2009, Alberta. Downloaded on September 26, 2010 from http://www.finance.alberta.ca/aboutalberta/labour_force/2009/2009_10_developments.pdf

[d] Human Resources and Skills Development Canada. Indicators of Well-Being in Canada: Work – Weekly Hours Worked. Downloaded on September 26, 2010 from http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=19

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ISBN 978-1-897443-98-9 (online)