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Comparing the Perceived Seriousness and Actual Costs of Substance Abuse in Canada



Analysis drawn from the 2004 Canadian Addiction Survey

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The Canadian Addiction Survey (CAS) was a collaborative initiative sponsored by Health Canada, the Canadian Centre on Substance Abuse (CCSA) and the Canadian Executive Council on Addictions (CECA)—which includes the Alberta Alcohol and Drug Abuse Commission (AADAC), the Addictions Foundation of Manitoba (AFM), the Centre for Addiction and Mental Health (CAMH), the Prince Edward Island Provincial Health Authority, and the Kaiser Foundation—the Centre for Addictions Research of BC (CAR-BC), and the provinces of Nova Scotia, New Brunswick and British Columbia. Analysis presented in this and similar reports is intended to supplement the original CAS detailed report.

Introduction

This paper documents and analyzes the divergence between the perceived seriousness and actual social costs associated with various substances in Canada using public opinion data collected from the Canadian Addiction Survey (CAS) in 2004 (Racine et al., in press), and a 2006 study estimating the social costs of various substances in 2002 (Rehm et al., 2006). The first section presents background information on the psychological, institutional and socio-cultural factors that can lead to either the amplification or attenuation of perceptions of risk in society. The next two sections present data on perceived seriousness and the social costs of substance abuse for comparison. The last section develops a discussion of the implications of this analysis for substance abuse policy in Canada.

Background

Research has long documented the divergence between perceived and actual risks across a wide range of domains. One of the most highly developed frameworks for understanding the complex dynamics influencing perceptions of risk is the Social Amplification of Risk Framework (SARF) developed by Kasperson and his colleagues over the past two decades.¹ Explanations for the public's misperception of hazards focus on three major sources: psychological, institutional and social/cultural. From a psychological perspective, perceptions of risk can become amplified when people feel a lack of personal choice or control, when the issue is unfamiliar to them, and when the results of failure are potentially catastrophic (Sjöberg, 2001). Institutions, groups and organizations influence risk perceptions to the extent that they direct attention toward (or away from) certain behaviours and interpretations of events. Indeed, it is well recognized that the media exert significant influence on the public's perception of the seriousness of a problem or threat by their choices of what news they report and how they report it. For example, focusing attention on relatively rare and extreme events may increase the perceived seriousness of a given threat. Socio-cultural influences on the perception of risk refer

¹ See Pidgeon et al., 2004, for an accessible summary and critique of the SARF.

to cultural norms that may amplify or attenuate risk assessments. For instance, cultures where cigarette use is considered normal may underestimate the health consequences of this behaviour.

While the SARF framework is most often used to explain instances where public perceptions of risk are *amplified* in society, it can also be used to analyze social conditions and processes that lead to the *attenuation* of perceived risk. “Hidden hazards” are events or conditions in society whose risk level and seriousness tend to be consistently and significantly underestimated by the public. This paper will explore the topic of hidden hazards in relation to alcohol.

Perceived Seriousness of Substance Use in Canada (2004)

In late 2003 and early 2004, a coalition of organizations implemented the first national survey in a decade dedicated to assessing substance abuse behaviours in Canada. Among other things, the Canadian Addiction Survey (CAS) assessed public opinion and knowledge about general substance abuse issues and specific substances of abuse (i.e., alcohol, illicit drugs, etc.).² Of particular relevance to this paper are lines of questioning that assessed the perceived seriousness of problems associated with various substances at the national, provincial and local levels. Figure 1 depicts the proportion of CAS respondents reporting that alcohol abuse, illicit drug abuse and injection drug use are “very serious” problems in Canada, in their province and in their city or town.³

Two main effects are apparent in these data. First, the proportion indicating “very serious” for all substances decreases as the level of analysis moves from the national to the provincial to the local level.⁴ The public appears to believe that substance abuse is a serious problem in Canada, generally speaking, but perceives that the problem is relatively less serious

closer to home (Racine et al., in press). These data tend to support the idea that people’s perceptions of risk increase when they are less personally familiar with a hazard since the risks of substance abuse are perceived as higher the farther one moves away from the more familiar local level.

A second effect evident in Figure 1 is that Canadians perceive that injection drug use and illicit drug abuse are more serious than alcohol abuse at the national and provincial levels. For example, at the national level just over 25% of respondents reported that alcohol abuse is a “very serious” problem while the percentage for injection drug use is 39% and the percentage for illicit drug abuse is almost 45%.⁵ At the local level, however, there is no statistical difference between the proportion of Canadians answering “very serious” for alcohol abuse and injection drug use, both registering at just over 15%, while the percentage for illicit drug abuse is substantially higher at approximately 28%. The next section presents the estimated social costs of substance abuse in Canada in 2002 in order to develop comparisons with these data on perceived seriousness.

The Costs of Substance Abuse in Canada (2002)

In 2006 a team of researchers published estimates of the social costs of substance abuse in Canada across several domains based on 2002 data (Rehm et al., 2006). Total costs of substance abuse for all substances (including tobacco) were estimated to be \$39.8 billion in 2002, which translates into \$1,267 per capita. Of this, approximately 39% are direct costs to the economy associated with health care, enforcement, prevention/research and “other costs”⁶, and 61% are indirect costs associated mainly with productivity losses resulting from premature death and disability. Figure 2 depicts the estimated direct social costs associated with alcohol, illicit drugs and cannabis in 2002.

² A detailed account of the design and methodology of the CAS is available in Adlaf & Rehm, 2005.

³ The CAS survey was panellized such that one-third of participants were asked about seriousness of use/abuse at the national level, one-third at the provincial level and one-third at the local level.

⁴ While we focus on the percentage of people responding “very serious” in this chart, using mean scores of perceived seriousness produces identical rankings except in the case of seriousness in city/town where alcohol abuse is on average perceived as significantly more serious than injection drug use.

⁵ We compared the proportion of people in each province indicating that alcohol abuse, illicit drug abuse and injection drug use are “very serious” problems to a variety of objective indicators of these problems (e.g., proportion reporting problematic alcohol and drug use [Adlaf et al., 2005], age-standardized hospital separation rates for alcohol and illicit drugs [CIHI, 2006], and age-standardized rates of alcohol- and illicit drug-related morbidity [CIHI, 2001]). Results indicate that people in all provinces underestimated the extent to which alcohol abuse is a problem relative to illicit drug abuse and injection drug use. Further, when comparing across provinces, the perceived seriousness of alcohol abuse, injection drug use and illicit drug abuse were generally not positively correlated (or, in some cases, slightly negatively correlated) with objective measures of these problems.

⁶ The “other direct costs” category includes fire damage, traffic accident damage, costs associated with the workplace (e.g., EAP and other health promotion programs) and administrative costs for transfer payments.

Figure 1: Perceived Seriousness of Substance Abuse, Canada, 2004⁷

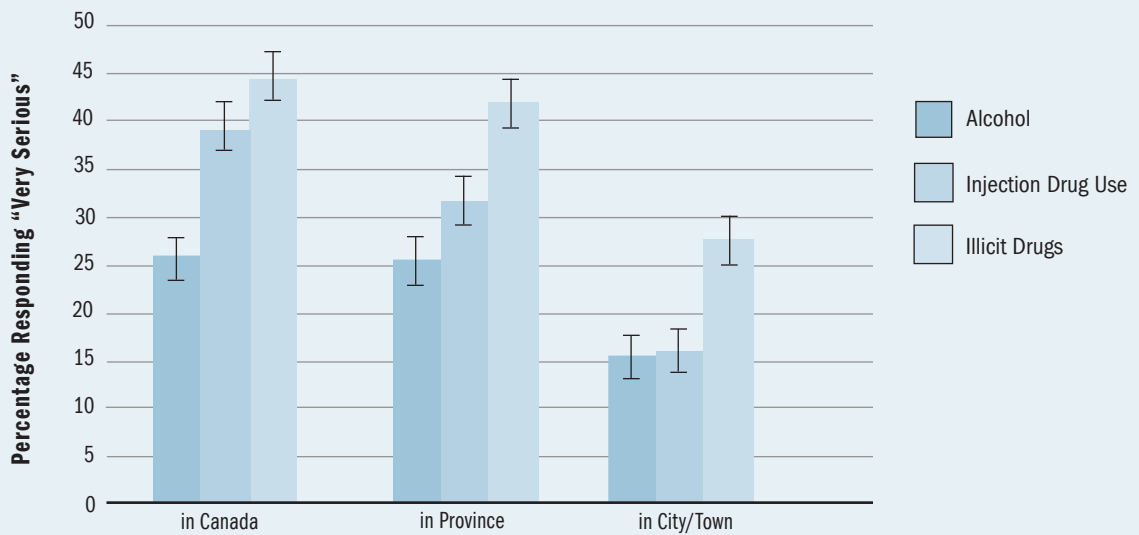
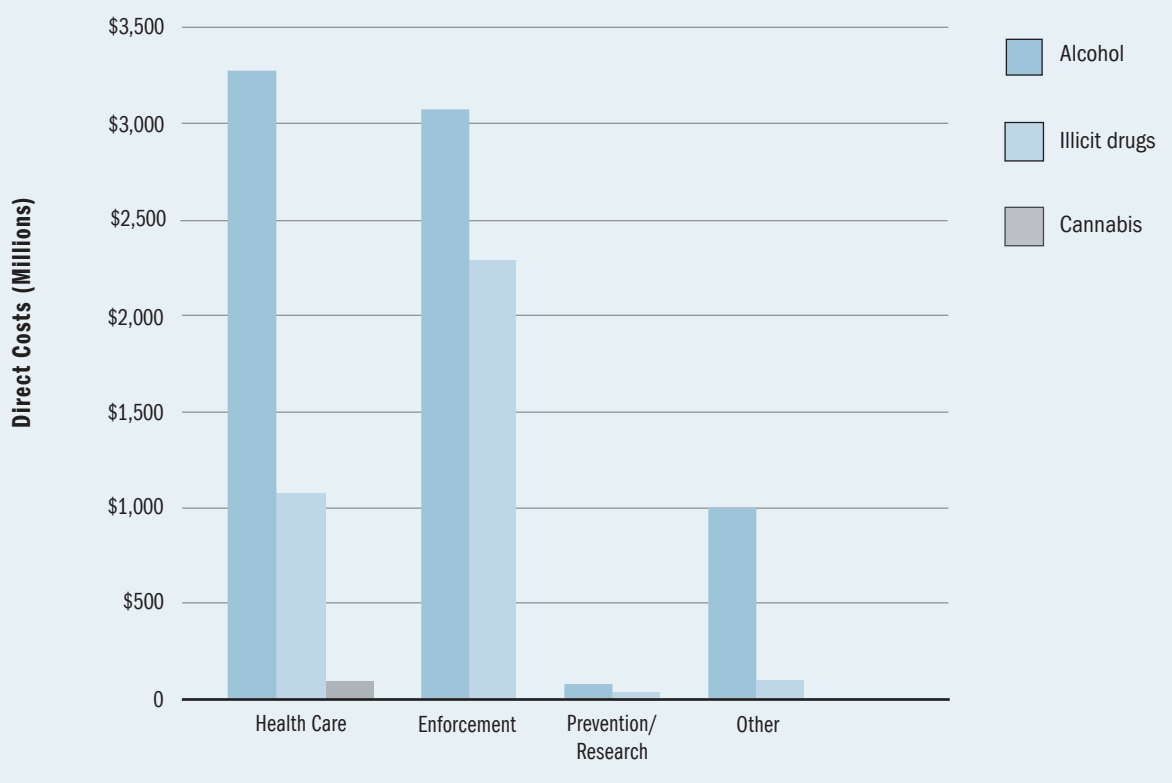


Figure 2: Direct Social Costs of Alcohol, Illicit Drugs and Cannabis, Canada, 2002⁸



Important findings evident from Figure 2 include the fact that (1) total direct social costs associated with alcohol (\$7,427.5 million) are more than double those for all illicit drugs combined (\$3,565.5 million); (2) direct alcohol-related health care costs (\$3,306.2

million) are nearly three times as high as for all illicit drugs, excluding cannabis (\$1,061.6 million), and over 45 times higher than the direct health care costs of cannabis (\$73 million); and (3) annual direct costs for health care (\$4,440.7 million) are 31 times higher, and

⁷ The questions asked of participants were: "How serious a problem is [alcohol abuse / injection drug use (e.g., heroin) / illicit drug use] in [Canada / <Province> / your own city or town]? Would you say 'very serious', 'somewhat serious', 'somewhat not serious', or 'not at all serious'?" Error bars in Figure 1 represent 95% confidence intervals.

⁸ Costs for cannabis are included with all other illicit drugs except under health care where they are reported separately.

annual direct costs for enforcement (\$5,407.7 million) are 36 times higher than annual costs for prevention and research (\$147.6 million). The next section discusses the implications of these data for Canadian substance abuse policy.

Discussion

Our analyses suggest that public perceptions of the relative seriousness of substance abuse problems are incongruent with the actual costs they impose on Canadian society. In particular, the total social costs associated with alcohol are more than twice those for all other illicit drugs in 2002, yet the public consistently rated the overall seriousness of illicit drugs as higher at the national, provincial and local levels in the Canadian Addiction Survey (2004). Interpreting these findings it is possible to suggest that perceptions of the seriousness of illicit drugs are relatively *amplified* while perceptions of the seriousness of problems associated with alcohol are relatively *attenuated* in Canadian society. Possible explanations for these findings are discussed below.

As suggested by the Social Amplification of Risk Framework (SARF), the incongruity between perceived seriousness and actual social costs of substance abuse in Canada likely derives from a complex set of psychological, institutional and socio-cultural factors. To begin with, alcohol is a legal, socially-accepted product that is regularly used by the vast majority of Canadians.⁹ Indeed, nearly 80% of those over the age of 15 reported that they had consumed alcohol at least once in the past year in 2004, while 13.5% were classified as former drinkers. Thus, when current and former drinkers are combined, over 90% of Canadians have direct, personal experience with alcohol (Demers

& Poulin, 2005:25). The SARF framework suggests that this widespread familiarity will tend to exert an attenuating influence on perceptions of risk.¹⁰ In contrast, only 3% of CAS respondents reported past-year use of the five most popular illicit drugs (excluding cannabis) in 2004 so perceptions of risk will likely be inflated for these substances due to the unfamiliarity factor.¹¹ A second psychological influence that may contribute to the attenuation of perceived seriousness of alcohol is the fact that most people view alcohol consumption as a personal “lifestyle” choice. As stated previously, research has shown that perceptions of risk tend to be lower when people feel a sense of personal control over a hazard (Sjöberg, 2001).

As important as psychological factors may be in explaining misperceptions about the seriousness of various substance abuse behaviours in Canada, there are also important institutional and social/cultural factors that may be amplifying or attenuating perceived risks within this domain. From an institutional perspective, dynamics involving the mass media and advertising may help explain why the public’s perceptions of substance abuse hazards are not in line with their actual seriousness as measured by social costs. First, the tendency of the media to report on vivid but relatively rare cases involving illicit drugs likely contributes to the amplification of perceptions of seriousness for this issue in society. Second, as a legal commodity, alcohol is heavily promoted via advertising and, as a result, the public is reminded daily of its positive aspects while its negative aspects are relatively under-exposed.^{12, 13} These dynamics provide some possible institutional explanations for the amplification of perceived seriousness around illicit drugs and the attenuation of perceived seriousness for alcohol.

⁹ Approximately 62% of Canadians drank at least once a month and 35% drank at least once a week in 2004 (Demers & Poulin, 2005:27).

¹⁰ Supplemental analyses of the CAS data indicate that abstainers and former drinkers were significantly more likely to perceive alcohol abuse as a “very serious” problem than those who drank alcoholic beverages in the past 12 months (current drinkers). Indeed, the more frequently people reported drinking alcoholic beverages, the less likely they were to perceive alcohol abuse as a serious problem.

¹¹ While 44.5% of CAS respondents reported lifetime use of cannabis, only 16.5% reported lifetime use of the next five most popular illicit drugs (cocaine, speed, ecstasy, hallucinogens and heroin) (Patton and Adlaf, 2005:52; Adlaf & Ialomiteanu, 2005:61). Supplemental analyses from the CAS data indicate that those who reported no lifetime use of illicit drugs (including cannabis) were more likely to perceive illicit drug abuse and injection drug use as “very serious”.

¹² For an example of relatively rare “negative messaging” around alcohol in Canada see: <http://www.beundrunk.com/>.

¹³ While a similar analysis does not exist for Canada, recently in the U.K. it was reported that in 2004 the government spent approximately £25,000,000 on its anti-smoking campaign while at the same time investing £40,000 on messaging to promote safer drinking. In contrast, the drinks industry spends approximately £180 million a year on advertising to promote the sale of alcoholic beverages in the U.K. (Alcohol Concerns, 2004). Current data are unavailable, but in the late 1990s, the two largest breweries in Canada (Molson and Labatt) are reported to have spent a total of approximately \$200 million a year on measurable advertising (e.g., TV, radio and print) (Brent, 1999a and b).

Other aspects of society besides the media are also involved in processes that lead to the social amplification of perceptions of the risks of illicit drug abuse and these include police, concerned citizen groups, political leaders and policy makers. An excellent example of this from current events is that of methamphetamine. While it is true that methamphetamine is a dangerous drug that is relatively easy to manufacture and whose use is increasing in some jurisdictions in Canada, overall rates of use are small compared to other substances (e.g., alcohol, cannabis and cocaine) as are the total health and social harms derived from its misuse. Thus, the current emphasis in substance abuse policy on crystal methamphetamine in many jurisdictions appears to be incongruent with the relative seriousness of this drug for society. This is not to suggest that crystal methamphetamine abuse (or the abuse of any other illicit drug) is not a serious problem worthy of response, but it does raise questions about the appropriateness of methamphetamine as a primary driver for substance abuse policy, which it currently appears to be in a number of jurisdictions in Canada.¹⁴

Returning to the topic of alcohol, one of the most interesting concepts emerging from the Social Amplification of Risk Framework is that of a “hidden hazard” (Kasperson & Kasperson, 1991). A hidden hazard is a condition whose characteristics interact with processes in society in such a way as to allow the hazard to be ignored or de-emphasized over time. Kasperson and Kasperson suggest that there are often strong psychological, social, economic or cultural incentives that serve to conceal or downplay the true nature of certain hazards in society. Although public awareness of the hazards of alcohol misuse has likely increased in the past two decades (think of drinking and driving), alcohol is still the Canadian “drug of choice” and as such commands a somewhat privileged position in our society.¹⁵ Data on the significant costs of alcohol to Canadian society, however, suggest that it is appropriate to confront this position and expose alcohol as a significant yet relatively under-recognized social risk.

¹⁴ Giffen et al. (1991) provide an excellent historical analysis of Canadian drug policy in *Panic and Indifference* where they document the influence of “drug panics” on the evolution of Canada’s drug laws.

¹⁵ The socially privileged position of alcohol is evident in the fact that it is the only potentially toxic substance sold for human consumption in Canada that is not required to carry a warning label.

Conclusion

Much effort has been expended over the past few decades on raising awareness about the hazards of alcohol and other drug abuse in Canada. Using the principle that policy should be evidence-based, the inclusion of alcohol in our response to problems associated with substance abuse is both logical and appropriate given the significant health and social harms derived from alcohol misuse. What this paper demonstrates is that there continues to be pervasive public misperceptions regarding the relative seriousness of different substance abuse behaviours in Canada and that these misperceptions are likely based on a complex set of psychological, institutional and social/cultural processes.

At this point it may be useful to consider what could be done to correct the misperceptions documented above. Just as the wide dissemination of evidence on the health risks of tobacco changed the public's perceptions of smoking, a concerted and sustained effort is necessary to correct misperception of the relative risks and costs associated with alcohol and other drug abuse.¹⁶ These efforts could take many forms, but one of the most effective would be for experts from the public health

and addictions fields to actively respond in the media to better inform the public about the true nature of these risks. This could take the form of op-ed articles in major newspapers or respectful letters to the editor providing direct responses to media reports that misrepresent the true nature and relative significance of the risks of various substances. As well, messaging on the relative risks of various substances should be actively incorporated into the design and delivery of prevention programs across Canada so that, over time, the public becomes better informed about the relative seriousness of substance abuse behaviours.

Finally, it should be noted that alcohol was identified as priority in the National Framework for Action to Reduce the Harms Associated with Alcohol and Other Drugs and Substances in Canada. In response, a broad coalition of stakeholders has been meeting for the past year to review a range of potential responses that could form part of a proposed national alcohol strategy. The recommendations would provide a more coordinated and active response to the problems associated with alcohol misuse in Canada.

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- > Nova Scotia Health Promotion and Protection
- > Public Safety and Emergency Preparedness Canada

¹⁶ It is important to recognize that there are significant differences between alcohol and tobacco on the issue of health. For example, while there are no known health benefits associated with any level of tobacco use, the moderate use of alcohol is associated with some protective health effects for certain segments of the population. Most notable is the case of coronary heart disease in men over the age of 45. While the existence of limited health benefits from moderate alcohol use distinguishes alcohol from tobacco and has important implications for public policy, the significant health and social harms derived from alcohol misuse provide compelling justification for raising awareness in Canadian society of the relative seriousness of alcohol abuse.

References

- Adlaf, E., Begin, P. & Sawka, E. (2005). *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report*. Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>
- Adlaf, E. & Rehm, J. (2005). Survey design and methodology. In E. Adlaf, P. Begin & E. Sawka (Eds.), *Canadian Addiction Survey, Detailed report* (pp. 11–19). Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>
- Adlaf, E. & Ialomiteanu, A. (2005). Other drug use and problems. In E. Adlaf, P. Begin & E. Sawka (Eds.), *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report* (pp. 55–70). Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>
- Alcohol Concerns (2004). Advertising Alcohol Factsheet. Available online: http://www.alcoholconcern.org.uk/files/20040506_085240_Advertising%20factsheet%20April%202004.pdf
- Brent, P. (1999a, February 22). Labatt bets \$8M on a cheap bear suit. *Financial Post*.
- Brent, P. (1999b, May 18). Molson pulls plug on 30-year advertising relationship. *Financial Post*.
- Canadian Institute for Health Information. (2006). *Age-standardized separation rate for alcohol and illicit drugs by province and territories, 2003–2004*. Table derived from the Hospital Mental Health Database. Data on file with authors).
- Canadian Institute for Health Information. (2001). *Age-adjusted rates: Alcohol and illicit drug-related morbidity by province and territories, 2000–2001*. (Table derived from the Hospital Person Oriented Information Database. Data on file with authors).
- Demers, A. & Poulin, C. (2005). Alcohol use. In E. Adlaf, P. Begin & E. Sawka (Eds.), *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report* (pp. 20–32). Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>
- Giffen, P.J., Endicott, S. & Lambert, S. (1991). *Panic and indifference: The politics of Canada's drug laws*. Ottawa: Canadian Centre on Substance Abuse.
- Kasperson, R. & Kasperson, J. (1991). Hidden hazards. In D. Mayo and R. Hollander (Eds.), *Acceptable evidence: Science and values in risk management* (pp. 9–28). New York: Oxford University Press.
- Kellner, F. (2005). Alcohol-related problems: Prevalence, incidence and distribution. In E. Adlaf, P. Begin & E. Sawka (Eds.), *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report* (pp. 33–47). Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>
- Patton, D. & Adlaf, E. (2005). Cannabis use and problems. In E. Adlaf, P. Begin & E. Sawka (Eds.), *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report* (pp. 48–54). Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca/NR/rdonlyres/6806130B-C314-4C96-95CC-075D14CD83DE/0/ccsa0040282005.pdf>

References (cont'd)

Pidgeon, N., Kasperson, R. & Slovic, P. (2003). *The social amplification of risk*. New York: Cambridge University Press.

Racine, S., Flight, J. & Sawka, E. (in press). *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Public opinion, attitudes and knowledge*. Ottawa: Health Canada.

Rehm, J., Baliunas, D., Brochu, S., Fischer, B., Gnam, W., Patra, J., Popova, S., Sarnocinska-Hart, A. & Taylor, B. (2006). *The costs of substance abuse in Canada 2002*. Ottawa: Canadian Centre on Substance Abuse. Available online: <http://www.ccsa.ca>

Sjöberg, L. (2001). Political decisions and public risk perception. *Reliability engineering and system safety*, 72(2), 115–123.

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