



**Health Promotion  
and Protection**

**Women and Alcohol in Nova Scotia - An Analysis of  
information in the “Culture of Alcohol Use in Nova Scotia”  
Report 2008**

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Any errors or omissions are solely the responsibility of the principal investigator. The opinions expressed in this report are those of the authors and do not necessarily reflect the views or policies of the Nova Scotia Department of Health Promotion and Protection, or any regulatory, group or organization in the province. The purpose of this report is to present the findings of a preliminary analysis and as such should neither be viewed as final nor comprehensive.

## INTRODUCTION

While Nova Scotia Health Promotion and Protection (NSHPP) has credible information about the scope and prevalence of alcohol use in Nova Scotia, very little could be said of the context of such use and influences that prevent, reduce, or promote alcohol use. In order to move forward in addressing cultural shifts identified previously and to monitor the impact of the Nova Scotia Alcohol Strategy, NSHPP commissioned a random representative benchmark survey with Nova Scotians, 15 years of age and older.

The primary research goal for the study was to compile a reliable database of information for NSHPP to use as a resource for the following purposes:

1. To obtain feedback and information for focused prevention, community education and early intervention strategies to address harmful alcohol use among Nova Scotians;
2. To continue to monitor alcohol consumption and assess drinking patterns among the population at large;
3. To obtain information for on-going development and delivery of policy communication, prevention and early intervention.

During April and May 2008, 1,200 Nova Scotians aged 15 years and older living in 798 randomly selected households throughout the province completed a telephone survey incorporating various standardized and validated instruments to measure:

- alcohol consumption
- harmful and hazardous drinking (AUDIT)
- opinions about alcohol and its effects
- contexts and influences of alcohol use
- drinking and driving
- pregnancy and substance use
- knowledge of support services
- current state of general health
- tobacco use

The end result of this endeavor was the “2008 Culture of Alcohol Use in Nova Scotia” report, which offered several insights into the context of alcohol use in Nova Scotia. More specifically, the report documented that 55% of male respondents and 34% of female respondents had engaged in **heavy drinking**<sup>1</sup> in the past year, and that 14% of Nova Scotians (22% male versus 6% female) could be classified as drinking alcohol at **harmful and hazardous levels** (based on the AUDIT<sup>2</sup>). Other key findings from the “2008 Culture of Alcohol Use in Nova Scotia” report included:

- **1 in 5** respondents were insulted or humiliated by someone who had been drinking
- **1 in 6** respondents experienced serious arguments or quarrels (15%)
- **1 in 7** respondents were verbally abused (14%)
- **1 in 8** respondents had been pushed or shoved (12%)
- **1 in 25** respondents had been hit or physically assaulted (4%)
- **1 in 3** young adult (aged 19-24 years) respondents had been exposed to verbal or some type of physical abuse (34%). This group was most likely to experience physical harms due to someone else’s drinking.

The latter findings seem especially applicable to women who are not only more likely to follow the drinking patterns of their partner but also much more likely (than men) to be injured from domestic violence (Cantos, Neidig, & O’Leary, 1994; Kyriacou et al., 1999; Nolen-Hoeksema, 2004; Tjaden & Thoennes, 2000) and then use alcohol as a coping mechanism (Hammer & Vaglum 2006; Miller & Downs, 2006). Consultation with key stakeholders combined with the belief that women may face unique issues and challenges related to alcohol consumption led to conducting a post-hoc analysis of the survey data through a “female lens.” Female alcohol use is now attracting greater attention as sex -related patterns of alcohol use begin to converge. Not only are women consuming alcohol at greater rates than before but also recent studies have indicated that women are facing increasingly more health and social problems from alcohol misuse (Epstein, Fischer-Elber, & Al-Otaiba, 2007; Mancinelli, Binetti & Ceccanti, 2007). In

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<sup>1</sup> “**Heavy drinking**” is defined as 5+ drinks per sitting (males), 4+ drinks per sitting (females)

<sup>2</sup> **AUDIT**: The scores on the AUDIT range from 0 to 40, with higher scores representing a greater likelihood of excessive drinking (as well as an increased likelihood of alcohol dependence and subsequent problems). Scores of 8 or more are typically used as the cut-off for harmful and hazardous drinking.

order to inform these issues, the data from 459 female respondents 15 years of age and older who self-reported alcohol use in the year leading up to the *2008 Culture of Alcohol Use in Nova Scotia* survey were segmented according to risk level: high-risk versus low-risk drinkers; and drinking patterns: heavy drinkers versus other current drinkers. Group comparisons would thus provide relevant information regarding differences between alcohol users and misusers.

In order to determine risk level, *Culture of Alcohol Use* respondents' scores on the Alcohol Use Disorders Identification Test (AUDIT)<sup>3</sup> were evaluated and incorporated into the current study. The AUDIT was developed by the World Health Organization (WHO) in 1989 and updated in 1992 to screen for individuals who are engaging in excessive drinking. The AUDIT is a simple assessment tool that consists of ten questions. These questions pertain to three domains of alcohol use:

1. Hazardous (or risky) Alcohol Use (frequency of drinking, typical quantity and frequency of heavy drinking)
2. Harmful Alcohol Use (guilt after drinking, blackouts, alcohol-related injuries and others concerned about drinking)
3. Dependence Symptoms (impaired control over drinking, increased salience of drinking and morning drinking).

Individuals who consume alcohol at hazardous levels are at increased risk for harmful physical, mental, and social consequences (e.g., hypertension, liver cirrhosis, depression, accidents, injuries, family tensions, job loss). Harmful alcohol use refers to consumption that results in at least some of these negative consequences. Dependence symptoms can occur after excessive alcohol use and result in such symptoms as impaired control over the use of alcohol, persistent drinking despite harmful consequences and increased alcohol tolerance. The scores on the AUDIT range from 0 to 40 with higher scores representing a greater likelihood of excessive drinking (as well as an increased likelihood of alcohol dependence and subsequent problems). Scores of 8 or more are typically used as the cut-off for harmful and hazardous drinking. In the

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<sup>3</sup> Babor, T.F., Higgins-Biddle, J.C., Saunders, J.B., & Monteiro, M.G. (2001) AUDIT: The Alcohol Use Disorders Identification Test, Guidelines for Use in Primary Care, 2nd ed., World Health Organization, Geneva.

*Culture of Alcohol Use* study, respondents scoring 8 or above were classified as “high-risk,” and respondents scoring below 8 were considered “low risk.”

In order to measure drinking patterns, information related to the frequency and amount of alcohol consumption (defined as “drinks”) was collected for each respondent. Respondents were told that a “drink” referred to “one 341 ml or 12 ounce bottle of beer or a glass of draft; one 142 ml or 5 ounce glass of wine or a wine cooler or one straight or mixed drink with one ounce and a half or 43 ml of liquor.”

In the *Culture of Alcohol Use* study, the term “non-drinker” referred to someone who had not consumed alcohol in the past 12 months including former drinkers and those who had never consumed alcohol. Heavy drinking in the *Culture of Alcohol Use* study was defined as the consumption of 5+ drinks per sitting for males or 4+ drinks per sitting for females.

The purpose of this analytical study was to re-explore the patterns of alcohol use observed in the 2008 *Culture of Alcohol Use* Study but this time focussing on the female respondents. By doing this, alcohol-related harms from a woman’s perspective could be examined and used to inform future initiatives. Because the objective of this analysis was to investigate patterns of female alcohol consumption, non-drinking respondents were excluded from the current study. In summary, a series of analytical tests were performed on data collected only from female respondents from the *Culture of Alcohol Use* study.

## METHODOLOGY

The 2008 *Culture of Alcohol Use in Nova Scotia* data were used for all calculations. Only female respondents who reported having consumed alcohol in the year leading up to the survey were included in the analysis. This yielded an overall group size of 459 women aged 15 years and older.

In the *Culture of Alcohol Use* report, 39 women met the definition of “high risk” according to the AUDIT and as such were allocated to the “high-risk” group for the purpose of this analysis. The remaining 420 female respondents (459 female respondents less 39 female respondents assigned to the high-risk group) were allocated to the “low-risk group.” By segmenting female respondents in this way, data could be compared by AUDIT risk level (high-risk drinkers versus low-risk drinkers). As previously noted, “high risk” and “low risk” drinkers are defined according to their relative scores on the AUDIT (e.g., high-risk drinkers are respondents who score 8 or more on AUDIT).

The *Culture of Alcohol Use* study included 80 female respondents who reported having had four or more drinks per sitting at least once a month or on a weekly basis. These respondents were allocated to the “Heavy Drinking” group. The remaining 379 female respondents were allocated to the “Other Current Drinking” group as those women who reported alcohol use in the 12 months prior to the survey but did not meet the criteria for heavy drinking. The majority of women categorized as high-risk also met the criteria for heavy drinking.

Dichotomous variables were derived where possible to compensate as much as possible for the small sample sizes of the populations of interest. The relationship between drinking type (i.e., risk level and drinking patterns) and several characteristics related to alcohol consumption was initially explored using chi square tests. If an association was statistically significant at a 95% confidence interval using the chi square test, logistic regression was then applied adjusting for age, marital status and age at onset of drinking.

## RESULTS

### High-Risk Versus Low-Risk Drinkers

Demographic, self-reported health and risk factors among female drinkers are displayed in Tables 1 and 2. Women who drink hazardously (i.e., classified as “high-risk”) are generally younger than low-risk drinkers, with 64.1% of High-Risk drinkers aged 34 years and younger compared to only 28.3% of low-risk drinkers. High-risk drinkers are less likely to be in a supportive relationship than low-risk drinkers; with only 1 in 3 High-Risk respondents married or living common-law compared to seven out of ten low-risk drinkers. No differences were observed between the two groups for education level achieved, current working status, annual household income, place of residence, and self-reported health status. High-risk drinkers were more likely to be smokers and started drinking at an earlier age than low-risk drinkers.

**Table 1      Demographic characteristics by female drinking type (n=459)**

Characteristics	Hazardous (n=39)	Low-risk (n=420)	p- value
	%*	%	
<b>Age (years)</b>			<0.05
15-24	35.9	11.9	
25-34	28.2	16.4	
35-44	15.4	20.2	
45 and over	20.5	51.4	
<b>Education</b>			ns
Did not complete high school	10.3	18.3	
Completed high school/or some post secondary education	43.6	31.9	
Completed post secondary education	46.2	49.8	
<b>Marital Status</b>			<0.05
Single (never married)	53.9	15.7	
Married/common-law Separated/Divorced/Widowed	33.3 12.8	70.0 14.3	
<b>Current working status</b>			ns
Not working	30.8	39.1	
Working (full or part-time)	69.2	61.0	
<b>Annual household income**</b>			ns
< \$60,000	41.0	36.0	
≥\$60,000	59.0	64.1	
<b>Residence</b>			ns
Urban	61.5	49.5	
Rural	38.5	50.5	

\* Percentages may not equal 100% due to rounding off

\*\* Annual household income based on Statistics Canada’s 2006 median total income of \$56,400 for Nova Scotia

**Table 2 Self-reported health and risk factors among female drinking types**

Characteristics	Hazardous (n=39)	Low-risk (n=420)	p- value
	%	%	
<b>Self-report physical health</b>			ns
<b>Good/very good/excellent</b>	89.7	94.5	
<b>Fair/poor</b>	10.3	5.5	
<b>Self-report mental health</b>			ns
<b>Good/very good/excellent</b>	89.7	94.5	
<b>Fair/poor</b>	10.3	5.5	
<b>Current smoking status</b>			<0.05
<b>Smoker</b>	46.2	18.1	
<b>Non-smoker</b>	53.8	81.9	
<b>Age at onset of drinking</b>			<0.05
<b>≤ 18 years</b>	89.7	59.3	
<b>≥ 19 years</b>	10.3	40.7	

Table 3 indicates that high-risk drinkers in this study tend to rely on alcohol as a coping mechanism. More high-risk drinkers than low risk drinkers used alcohol to help them relax, forget their worries, and to feel less inhibited or shy. High-risk drinkers reported enjoying the taste of alcohol more than low-risk drinkers, and are ten times more likely to get high or drunk (High-Risk: 51.3% versus Low-Risk: 5.0%). In the 12 months prior to the survey, 35.9% of high-risk women changed their drinking pattern compared to 11.4% of low-risk drinking women. After controlling for age, marital status and age at onset of drinking, women who changed their drinking pattern in the past year and drink hazardously were six times more likely to drink more often than low-risk women. In social situations, more high-risk drinkers consume alcohol and feel out of place if they don't drink. Greater proportions of women who drink hazardously reported that drinking is an important part of their lives and that in their social circles it is important to show how much they can drink and still hold their liquor. Fifteen percent of high-risk women reported the belief that they couldn't make it socially in their crowd without drinking. Twice as many high-risk drinkers (89.7%) reported that someone in their social crowd was intoxicated all, most, or some of the time compared to low-risk drinking women.

**Table 3 Drinking context and influences by female drinking type**

	Hazardous (n=39)	Low-risk (n=420)		
Characteristics	%	%	Adj* OR	p- value
<b>Why do you consume alcohol?</b>				
To be sociable	84.6	81.2	-	ns
To add to the enjoyment of a meal	48.7	45.0	-	ns
To help me relax	69.2	34.8	4.9	<0.05
To forget my worries	25.6	4.8	6.4	<0.05
To feel less inhibited or shy	25.6	4.8	5.0	<0.05
To get high or drunk	51.3	5.0	10.5	<0.05
To celebrate	74.4	57.9	1.8	ns
To enjoy the taste	71.8	51.0	3.0	<0.05
<b>Changed your drinking in some way in the past 12 months?</b>	35.9	11.4	2.9	<0.05
<b>Among those who have changed drinking pattern:</b>				
Drinking more often	42.9	12.5	5.0	<0.05
Drinking less often	42.9	75.0	0.3	ns
Having more drinks when drinking	7.1	8.3	-	ns
Having fewer drinks	28.6	52.1	-	ns
<b>In social situations:</b>				
Usually drink	94.9	68.3	5.3	<0.05
Feel pressured to drink	18.0	5.5	2.0	ns
Feel out of place if don't drink	35.9	8.1	3.9	<0.05
<b>Agree that:</b>				
Drinking is an imp part of my life	28.2	3.8	10.2	<0.05
Imp to show how much you can drink and still hold your liquor	10.3	0.1	13.0	<0.05
Can't make it socially in your crowd without drinking	15.4	2.9	4.1	<0.05
Some people you socialize with have problems with their alc use	61.5	43.8	1.8	ns
<b>How often is someone in your social crowd intoxicated?</b>				
All/most/some of the time	89.7	44.5	6.9	<0.05

\* If the proportions of females by drinking type were different for a specific variable under consideration using chi-square test, the relationship was then adjusted for age, marital status and age at onset of drinking and again tested for statistical significance.

High-risk drinkers were between five and eight times more likely to have felt that their alcohol use has had a harmful effect on their friendships or social life, physical health, home life or marriage, work, studies or employment opportunities and/or legal problems (Table 4). High-risk respondents were much more likely to have had unplanned sex under the influence of alcohol in the 12 months prior to the survey, 23.1% versus 1.9% of low-risk women. In the prior year, high-risk drinkers were also more likely to have been involved in serious arguments or verbally abused by someone else who had been drinking.

**Table 4 Harmful effects of your own or another person’s alcohol use by female drinking type**

	<b>Hazardous (n=39)</b>	<b>Low-risk (n=420)</b>		
<b>Characteristics</b>	<b>%</b>	<b>%</b>	<b>Adj* OR</b>	<b>p- value</b>
<b>Ever felt your alcohol use had a harmful effect on:</b>				
<b>Friendships or social life</b>	28.2	5.2	7.6	<0.05
<b>Physical health</b>	30.8	5.5	6.8	<0.05
<b>Home life or marriage</b>	15.4	2.1	7.0	<0.05
<b>Work, studies or employment opportunities</b>	18.0	2.4	4.8	<0.05
<b>Financial position</b>	15.4	1.4	5.3	<0.05
<b>Legal problems</b>	2.9	0.5		ns
<b>Housing problems</b>	0	0.2		ns
<b>Difficulty learning things</b>	2.6	0.7		ns
<b>Unplanned sex in past 12 months while under the influence of alcohol?</b>	23.1	1.9	7.8	<0.05
<b>Experience with other people’s drinking in past 12 months:</b>				
<b>Insulted or humiliated</b>	38.5	21.7	2.1	ns
<b>Family or marital difficulties</b>	23.1	11.0	2.2	ns
<b>Pushed or shoved</b>	20.5	8.3	1.6	ns
<b>Serious arguments or quarrels</b>	51.3	16.2	4.4	<0.05
<b>Verbally abused</b>	33.3	13.8	3.0	<0.05
<b>Hit or physically assaulted</b>	5.1	2.6		ns

\* If the proportions of females by drinking type were different for a specific variable under consideration using chi-square test, the relationship was then adjusted for age, marital status and age at onset of drinking and again tested for statistical significance.

One in five high-risk drinking women (20.5%) drove a vehicle within an hour after having two or more drinks in the past year compared to only 2.4% of low-risk drinkers. From a policy standpoint, only 2.9% of high risk drinkers reported they would drink as much regardless of how hard it was to get a drink (Table 5). However, if alcohol were less expensive, more high-risk drinking women would increase their alcohol consumption (23.1% versus 3.4%).

**Table 5 Policy-related indicators of alcohol use by female drinking type**

Characteristics	Hazardous (n=39)	Low-risk (n=420)	P- value
	%	%	
<b>Driven a vehicle within an hour of having 2 or more drinks in past year</b>	20.5	2.4	<0.05
<b>If alcohol cost more, would your own alcohol consumption:</b>			ns
<b>Increase</b>	0.2	0	
<b>Decrease</b>	14.3	23.1	
<b>Remain the same</b>	85.5	76.9	
<b>If alcohol cost less, would your own alcohol consumption:</b>			<0.05
<b>Increase</b>	23.1	3.4	
<b>Decrease</b>	0	0.5	
<b>Remain the same</b>	76.9	96.0	
<b>Heavy drinkers will drink just as much regardless of how hard it is to get a drink:</b>			
<b>Agree with statement</b>	2.9	15.4	<0.05

## Heavy drinkers and other current drinkers

Demographic, self-reported health, and risk factors for female drinkers in this study are displayed in Tables 6 & 7. The results for heavy drinking women are similar but less pronounced than those for high-risk drinking women (86.6% of high-risk drinkers can also be found in the heavy drinking group). Slightly more than half of all heavy drinking females (53.8%) were 34 years of age or less compared to 26.7% of other female drinkers. Heavy drinkers are less likely to be in a supportive relationship than other current drinkers, with 45% married or living common-law compared to 71.5% of other current drinkers. No differences were observed between the two groups for education level achieved, current working status, annual household income, place of residence, or self-reported health status. Heavy drinkers were more likely to be smokers and started drinking at an earlier age than other current drinkers.

**Table 6 Demographic characteristics by female drinking type (n=459)**

Characteristics	Heavy drinker (n=80)	Other current drinker (n=379)	p-value
	%	%	
<b>Age (years)</b>			<0.05
15-24	33.8	9.8	
25-34	20.0	16.9	
35-44	16.3	20.6	
45 and over	30.0	52.8	
<b>Education</b>			ns
Did not complete high school	17.5	17.7	
Completed high school/or some post secondary education	41.3	31.1	
Completed post secondary education	41.3	51.2	
<b>Marital Status</b>			<0.05
Single (never married)	43.8	13.7	
Married/common-law	45.0	71.5	
Separated/Divorced/Widowed	11.3	14.8	
<b>Current working status</b>			ns
Not working	40.0	38.0	
Working (full or part-time)	60.0	62.0	
<b>Annual household income**</b>			ns
< \$60,000	42.5	35.1	
≥\$60,000	57.5	64.9	
<b>Residence</b>			ns
Urban	55.0	49.6	
Rural	45.0	50.4	

\* Percentages may not equal 100% due to rounding off

\*\* Annual household income based on Statistics Canada's 2006 median total income of \$56,400 for Nova Scotia

**Table 7 Self-reported health and risk factors among female drinking types**

Characteristics	Heavy drinker (n=80) %	Other current drinker (n=379) %	p-value
<b>Self-report physical health</b>			
Good/very good/excellent	93.8	94.2	ns
Fair/poor	6.3	5.8	
<b>Self-report mental health</b>			
Good/very good/excellent	93.8	94.2	ns
Fair/poor	6.3	5.8	
<b>Current smoking status</b>			
Smoker	40.0	16.4	<0.05
Non-smoker	60.0	83.6	
<b>Age at onset of drinking</b>			
≤ 18 years	80.0	58.1	<0.05
≥ 19 years	20.0	42.0	

Like high-risk drinkers, heavy drinking female respondents reported having used alcohol to help them cope with life stressors (Table 8). More heavy drinkers resorted to alcohol use as a means to help them relax, forget their worries, and to feel less inhibited or shy than non-heavy drinkers. Heavy drinkers also reported enjoying the taste of alcohol more than other drinkers, and are over five times more likely to get high or drunk from alcohol consumption. In the 12 months prior to the survey, three in ten heavy drinkers changed their drinking patterns compared to one in ten other drinkers. After controlling for age, marital status and age at onset of drinking, other current drinkers, who changed their drinking habits in the year prior to the survey, were more apt to drink less often than heavy drinking women. In social situations, more heavy drinking women consume alcohol and feel out of place if they don't drink. Women who drink heavily either on a monthly or weekly basis indicated that drinking is an important part of their lives and that in their social circles it is important for them to show how much they can drink and still hold their liquor. Heavy drinking women were three times more likely to report that they could not make it socially in their crowd without drinking than non-heavy drinkers. Almost twice as many heavy drinkers (80.0%) reported that someone in their social crowd was intoxicated all, most, or some of the time than other current drinkers

**Table 8 Drinking context and influences by female drinking type**

	<b>Heavy drinker (n=80)</b>	<b>Other current drinker (n=379)</b>		
<b>Characteristics</b>	<b>%</b>	<b>%</b>	<b>Adj* OR</b>	<b>p-value</b>
<b>Why do you consume alcohol?</b>				
<b>To be sociable</b>	87.5	80.2	-	ns
<b>To add to the enjoyment of a meal</b>	42.5	45.9	-	ns
<b>To help me relax</b>	58.8	33.3	3.3	<0.05
<b>To forget my worries</b>	21.3	3.4	7.7	<0.05
<b>To feel less inhibited or shy</b>	17.5	4.2	3.9	<0.05
<b>To get high or drunk</b>	31.3	4.2	5.4	<0.05
<b>To celebrate</b>	67.5	57.5	-	ns
<b>To enjoy the taste</b>	63.8	50.4	2.0	<0.05
<b>Changed your drinking in some way in the past 12 months?</b>	30.0	10.0	2.9	<0.05
<b>Among those who have changed drinking pattern:</b>				
<b>Drinking more often</b>	29.2	13.2	-	ns
<b>Drinking less often</b>	50.0	79.0	0.3	<0.05
<b>Having more drinks when drinking</b>	8.3	7.9	-	ns
<b>Having fewer drinks</b>	33.3	55.3	-	ns
<b>In social situations:</b>				
<b>Usually drink</b>	95.0	65.4	7.6	<0.05
<b>Feel pressured to drink</b>	12.5	5.3	1.5	ns
<b>Feel out of place if don't drink</b>	22.5	7.9	2.2	<0.05
<b>Agree that:</b>				
<b>Drinking is an imp part of my life</b>	21.3	2.6	10.0	<0.05
<b>Imp to show how much you can drink and still hold your liquor</b>	6.3	0.8	8.6	<0.05
<b>Can't make it socially in your crowd without drinking</b>	10.0	2.6	2.9	<0.05
<b>Some people you socialize with Have problems with their alc use</b>	57.5	42.7	1.7	ns
<b>How often is someone in your social crowd intoxicated?</b>				
<b>All/most/some of the time</b>	80.0	41.7	4.1	<0.05

\* If the proportions of females by drinking type were different for a specific variable under consideration using chi-square test, the relationship was then adjusted for age, marital status and age at onset of drinking and again tested for statistical significance.

Heavy drinkers were three times more likely to believe their alcohol use has had a harmful effect on their friendships or social life, and on their physical health (Table 9). Women who drink heavily were almost 16 times more likely to have had unplanned sex under the influence of alcohol in the 12 months prior to the survey, 17.5% versus 0.8% of other current drinking women. In the prior year, another person's alcohol use caused more heavy drinkers to have family or marital difficulties, and/or serious arguments or suffer verbal abuse than other drinkers.

**Table 9 Harmful effects of your own or another person’s alcohol use by female drinking type**

	<b>Heavy drinker (n=80)</b>	<b>Other current drinker (n=379)</b>		
<b>Characteristics</b>	<b>%</b>	<b>%</b>	<b>Adj* OR</b>	<b>p- value</b>
<b>Ever felt your alcohol use had a harmful effect on:</b>				
<b>Friendships or social life</b>	15.0	5.5	3.0	<0.05
<b>Physical health</b>	17.5	5.5	3.0	<0.05
<b>Home life or marriage</b>	7.5	2.4	2.7	ns
<b>Work, studies or employment opportunities</b>	10.0	2.4	2.7	ns
<b>Financial position</b>	8.8	1.3	3.4	ns
<b>Legal problems</b>	1.3	0.5	-	ns
<b>Housing problems</b>	0	0.3	-	ns
<b>Difficulty learning things</b>	1.3	0.8	-	ns
<b>Unplanned sex in past 12 months while under the influence of alcohol?</b>	17.5	0.8	16.7	<0.05
<b>Experience with other people’s drinking in past 12 months:</b>				
<b>Insulted or humiliated</b>	28.8	21.9	-	
<b>Family or marital difficulties</b>	20.0	10.3	2.0	<0.05
<b>Pushed or shoved</b>	15.0	8.2	-	ns
<b>Serious arguments or quarrels</b>	38.8	15.0	3.0	<0.05
<b>Verbally abused</b>	22.5	14.0	-	ns
<b>Hit or physically assaulted</b>	3.8	2.6	-	ns

\* If the proportions of females by drinking type were different for a specific variable under consideration using chi-square test, the relationship was then adjusted for age, marital status and age at onset of drinking and again tested for statistical significance.

A greater proportion of heavy drinking women (12.5%) drove a vehicle within an hour after having consumed two or more drinks in the past year compared to (2.1%) other drinkers (Table 10). From a policy viewpoint, more than twice as many heavy drinkers than other drinkers would decrease their alcohol consumption if alcohol cost more (28.8 versus 12.4%). If alcohol cost less, however, the proportion of heavy drinkers who would increase their alcohol consumption was much higher, 17.5% versus 2.6%. More heavy drinkers than other current drinkers also believe that they will drink as much regardless of how hard it is to get a drink.

**Table 10 Policy-related indicators of alcohol use by female drinking type**

Characteristics	Heavy drinker (n=80)	Other current drinker (n=379)	p-value
	%	%	
<b>Driven a vehicle within an hour of having 2 or more drinks in past year</b>	12.5	2.1	<0.05
<b>If alcohol cost more, would your own alcohol consumption:</b>			<0.05
<b>Increase</b>	1.3	0	
<b>Decrease</b>	28.8	12.4	
<b>Remain the same</b>	70.0	87.9	
<b>If alcohol cost less, would your own alcohol consumption:</b>			<0.05
<b>Increase</b>	17.5	2.6	
<b>Decrease</b>	0	0.5	
<b>Remain the same</b>	82.5	96.8	
<b>Heavy drinkers will drink just as much regardless of how hard it is to get a drink:</b>			
<b>Agree with statement</b>	10.0	2.6	<0.05

## CONCLUSIONS

The purpose of this analytical study was to re-explore the patterns of alcohol use observed in the 2008 Culture of Alcohol Use Study but this time focussing on the female respondents. By doing this, it was hoped that alcohol-related harms from a woman's perspective could be examined and used to inform future initiatives.

Results followed a similar pattern for women classified as high-risk and heavy drinking. Therefore, the following discussion relates to the Risk level groups (High-Risk and Low-Risk). In terms of demographic characteristics only differences in current age and marital status were observed. Hazardous (i.e., High-Risk) drinkers tended to be younger with less supportive and more destructive home environments (e.g., heavy drinking partner). It is unfortunate that due to the small sample size the latter relationship could not have been explored further. For example, three out of ten separated women (30%) were included in the high-risk group, but this result should not be interpreted without consideration of the relatively small sample size. Still, in light of this high proportion and possible trend, further research should be conducted to explore this group of separated and High-risk women.

Many hazardous drinkers also reported low self-esteem and a lack of safe coping skills. This finding presents prevention and treatment implications for high-risk drinkers. An examination of current prevention and treatment programs is encouraged to ensure that programs for teaching coping skills for women are included.

As expected, high-risk drinking women experience significant harm from their own and other people's alcohol use. Unfortunately, the relatively low group sizes may have prevented statistically significant associations. Still, the results strongly suggest trends toward significance. The largest difference observed between the hazardous and low-risk groups was for unplanned sex while under the influence of alcohol. The guilt and shame over unplanned sex has been shown to contribute to a deregulation of emotions, which can lead to self medication through excessive drinking. Unplanned sexual intercourse can also have serious implications for the woman, in terms of pregnancy, and/or a sexually transmitted disease.

The findings of this study should contribute valuable insights into what is still a relatively unexplored area of research, and inform future policy and treatment initiatives. Furthermore, drinking patterns over a lifespan could not be explored since data was collected during one time period only. High-risk women and pregnancy could also not be investigated due to small sample size. Additional demographic differences are perhaps a limitation of the data sampling frame which excludes women who do not live in traditional households such as women who live in group homes, shelters or are homeless.

In summary, this report, although based on preliminary findings and relatively small group sizes, documents several key findings that correlate with what has been previously reported in the literature. Women represent a distinct group with unique challenges with respect to their health and alcohol consumption. Because of this policy and practice should be developed in accordance with women's health needs.

## RECOMMENDATIONS

### **Recommendation 1**

**The findings from this report and the “2008 Culture of Alcohol Use in Nova Scotia” report should be communicated to key stakeholders throughout the province.**

### **Recommendation 2:**

**The strong associations, trends and findings documented in this report indicate the need for a more comprehensive program of research to explore the patterns of alcohol use and alcohol-related harms for females living in Nova Scotia**

### **Recommendation 3:**

**Strategies aimed at reducing the harms associated with female alcohol use are more likely to succeed with the support of key stakeholders. Meaningful collaboration is needed among government sectors, communities, and allied stakeholders to identify and implement appropriate prevention and treatment strategies. The Department of Health Promotion and Protection, Addiction Services should lead these collaborations.**

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