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Genderedness of bar drinking culture and alcohol-related harms: A multi-country study

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Abstract

This study explores whether associations between consuming alcohol in bars and alcohol-related harms are consistent across countries and whether country-level characteristics modify associations. We hypothesized that genderedness of bar drinking modifies associations, such that odds of harms associated with bar drinking increase more rapidly in predominantly male bar-drinking countries. Multilevel analysis was used to analyze survey data from 21 countries representing five continents from Gender, Alcohol, and Culture: An International Study (GENACIS). Bar frequency was positively associated with harms overall. Relationships between bar frequency and harms varied across country. Genderedness modified associations between bar frequency and odds of fights, marriage/relationship harms, and work harms. Findings were significant only for men. Contrary to our hypothesis, odds of harms associated with bar drinking increased less rapidly in countries where bar drinking is predominantly male. This suggests predominantly male bar drinking cultures may be protective for males who more frequently drink in bars.

Keywords

gender; alcohol consumption; bars; multinational perspectives

1 Introduction

Drinking in bars is associated with heavier drinking (Clark 1981, 1991; Nusbaumer, Mauss, & Pearson, 1982) and numerous alcohol-related harms, including fights, sexual risk-taking, and drunk driving (Graham and Wells, 2001; Perrine, Mundt, Searles, & Walter, 1997; Stall, Huertin-Roberts, Mckusick, Hoff, & Lang, 1990; Wells and Graham, 1999; Wells, Graham, Speechley, & Koval, 2005). While bars may attract heavier drinkers and those looking for a fight or a sexual partner, the association between drinking in bars and harms persists even after controlling for volume and frequency of heavy drinking (Nyaronga, Greenfield, & McDaniel, 2009). This suggests that there could be something about the context of bar drinking itself that leads to such harms. Some of the increased risk of harms associated with bar drinking may be due to factors such as having to drive to get home from bars and being around other intoxicated people, which could increase risks for drunk driving and fighting respectively. Further, as has been argued previously, bars may also provide cues and social

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learning mechanisms that reinforce heavy drinking (Brown 1985; Nyaronga, et al., 2009) and thus may contribute to alcohol-related harms.

While some evidence exists that drinking in bars is associated with harms in countries such as South Africa (Morojele et al. 2006), the vast majority of research has been conducted in North America (Graham and Wells 2001; Perrine et al. 1997; Stall et al. 1990; Wells and Graham, 1999; Wells et al. 2005). Thus, an important question is whether associations between rate of bar drinking and alcohol-related harms are consistent across countries, especially across low, middle, and high-income countries.

Further, if associations are inconsistent across countries, another key question is which cultural factors contribute to this variation. This paper examines one such cultural factor, measured at the country-level: "genderedness" of bar drinking. In a recent study where we found an association between country-level gender equality in economic participation and gender differences in drinking in public settings (such as bars), we argued that the significance of our work was that we expected the gender differences in (or "genderedness" of) drinking in public settings to be associated with level of harms associated with bar going (Bond et al., 2010). This study extends previous research by examining this hypothesis. Specifically, we argue that "genderedness" of bar going, similar to "genderedness" of organizations (Acker 1990), is integral to bar culture at both bar- and country-levels and is likely connected to expectations around gender-appropriate behavior for both men and women and thus likely to affect alcohol-related harms associated with bar going. Previous research has found that alcohol consumption in bars and other public settings is one way through which men construct masculinity or "be men" (Campbell 2000; Suggs 1996, 2001). Other research connects masculinity to higher levels of drinking and other unhealthy behaviors, such as violence (Lemle and Mishkind 1989; Mahalik, Burns, & Syzdek, 2007). Thus, we hypothesize that predominantly male drinking contexts could plausibly contribute to heavy consumption as well as more alcohol-related harms, such as fighting, especially for men. Women may also suffer more consequences in more male settings. For example, women drinking in settings such as bars in a cultural context where this is predominantly a male activity may be seen as a marker of gender deviance (Eriksen 1999; Lyons and Willott 2008; Room 1996; Wojcicki 2002). Thus, we expect that women who drink in bars in cultures where this is predominantly a male activity would be more likely to face social sanctions – such as problems at work - due to perceived gender deviance of bar drinking.

2 Methods

2.1 Data sources

Data collected as part of Gender, Alcohol, and Culture: An International Study (GENACIS) (Wilsnack and Wilsnack, 2002) are the main data. For the present analyses, 21 countries participating in GENACIS were included. These countries represent five continents or regions such as Australasia and represent a range of low, middle, and high-income countries [See Table 1]. While there was some variation in survey methods across country, methods were similar. Details on approaches in each country have been published previously (Bond, et al., 2010; Graham et al. 2011; Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, & Gmel, 2009). Data collection approaches included telephone surveys, combined telephone and postal surveys, and face-to-face interviews conducted by trained interviewers. Sampling strategies included random digit dialing, registry based, and multi-stage cluster sampling. Sampling frames were mostly national. A few countries had sampling frames that covered individual states (e.g., India) or regions including large population centers (e.g., Costa Rica). In most cases, one individual in the specified age range (usually between 18 and 65 or 75) was systematically or randomly selected per enumerated or selected household. Only data from people 18-65 who reported consuming one or more alcoholic beverages in the past 12

months are included in analyses for the current study. Response rates across all countries participating in GENACIS ranged from 38% - 96% with a median of 68% (Wilsnack et al. 2009). Data were collected between 2000 and 2007.

2.2 Measures

2.2.1 Dependent variables—The following dependent variables measuring *alcohol-related harms* were considered. All were dichotomous variables pertaining to the past 12 months. *Fighting*: respondent reported having gotten into a fight while drinking. In contrast to the rest of the included countries, the Canadian survey specified physical fights. A sensitivity analysis for fight without Canada did not change coefficient estimates, although findings were significant at $p<.10$ rather than .05. *Injury*: respondent reported that either he/she or someone else had been injured as a result of his/her drinking. We also considered five disaggregated harms from an alcohol-related harms measure, similar to an approach used in a study of harms related to drinking in different contexts (Nyaronga et al. 2009). *Financial harms*: respondent's drinking had a harmful effect on his/her finances. *Friendship harms*: respondent's drinking had a harmful effect on his/her friendships or social life. *Health harms*: respondent's drinking had a harmful effect on his/her physical health. *Marriage/relationship harms*: respondent's drinking had a harmful effect on his/her marriage/intimate relationships. *Work harms*: respondent's drinking had a harmful effect on his/her work, studies, or employment opportunities.

2.2.2 Independent variables—Individual-level variables included: *Bar frequency*: the frequency of drinking in a bar, pub, or disco in the past 12 months. Frequency, rather than usual quantity or volume, was included because only frequency data were collected in most surveys. *Bar frequency* (and frequency of drinking in other settings) was assessed through a series of questions that began by asking: "Thinking back over the *last 12 months*, about how often did you drink in the following circumstances? Think of all the times that apply in each situation." Additional contexts assessed included at meals; at parties or celebrations; in one's own home; in a friend's home; at one's workplace; and in restaurants. Sweden and Canada included nightclubs in their bars, pubs, discos category. Belize and Nicaragua used bars, shops, and discos as their response category. In most countries, eight possible response categories ranged from "Never in the last 12 months" to "Every day or nearly every day." Categories were converted to number of bar drinking days per year using category midpoints and further refined for interpretability so that each value represents 36 bar drinking days (range 1- 10). Sweden only asked these questions in a random third of their sample. However, this third is similar in size to many other samples. *Other frequency:* To control for frequency of drinking not attributable to frequency of bar drinking, other frequency of drinking subtracts bar drinking frequency from usual frequency of drinking in the past year. Other frequency is scaled so that each value represents 36 drinking days (range 1-10). *Sex* is a dichotomous variable with male=1 and female=0. Age is a continuous variable. Marital status is coded as 1 if married or living with a romantic partner, 0 otherwise (most often single).

The two country-level variables considered were: *Genderedness of Bar Drinking* and *Detrimental Drinking Pattern (DDP)*. *Genderedness of Bar Drinking* is defined as proportion of all days of drinking in bars in a country in the past 12 months that are done by men. This measure was created using responses to frequency of drinking in different situations described above and was based on respondents aged 18-65. Values ranged from .613 (Sweden) to .998 (India) [See Table 1]. Thus, the proportion of bar drinking days by Swedish men accounts for .613 of all reported bar drinking days, whereas bar drinking in India is almost completely by men. Genderedness of bar drinking proportions were standardized for interpretation of multivariate models. *DDP* is an existing measure of

country-level drinking pattern (Global Information System on Alcohol and Health 2007). DDP is based on parameters of drinking patterns expected to modify the effect of volume of drinking on alcohol-related harms at the country-level. DDP includes three indicators of *heavy drinking occasions* (quantity per occasion, proportion of daily drinking that involves getting drunk and festive drinking); *drinking daily* (reverse coded); *drinking with meals*; and *drinking in public places* (Rehm 2001; Rehm 2003). Values range from 1 – 4, with 1 as least and 4 as most severe. For example, Spain has a DDP of 1, while Kazakhstan, Belize, and Nicaragua have DDPs of 4 (Global Information System on Alcohol and Health, 2007).

2.3 Analysis

Logistic regression using SPSS version 17.0 (SPSS 2009) was conducted to assess individual-level associations between *Bar frequency* and alcohol-related harms (a specialized case of a risk curve).

Hierarchical Linear Modeling (HLM), using HLM V6.02 (Bryk and Raudenbush 1992), was used to study variation across countries in associations between *Bar frequency* and each *alcohol-related harm* and to determine whether *Genderedness of bar drinking* modifies associations between *Bar frequency* and each alcohol-related harm. Other frequency, sex, age, marital status (individual, or level-1) and *DDP* (country, or level-2) were controlled in analyses. Each variable was centered around its overall mean to obtain interpretable intercepts and coefficients from the HLM model. *Genderedness of bar drinking, DDP*, and *Bar frequency* were entered as random variables; other level-1 variables were entered as fixed. Sampling weights, accounting for survey design, were used for all analyses.

Separate, multilevel logistic regression models were estimated for each alcohol-related harm. In each case, Model 1 includes a random intercept, with *Genderedness of bar drinking* included as a predictor of the intercept. Model 2 is the same as model 1 except DDP is included as a predictor of the random intercept along with *Genderedness of bar drinking.* Model 3 is a random coefficient model that includes a cross-level interaction of *Genderedness of bar drinking* with *Bar frequency*, still controlling for DDP. Models 4 and 5 are the same as Model 3, only stratified by *sex*.

3 Results

3.1 Individual-level models

Controlling for other frequency, sex, age, and marital status, *Bar frequency* was positively associated with each harm (ORs ranged from 1.21 for health to 1.32 for work and financial harms, all significant at $p<.001$). In each case, as assessed by inclusion of an interaction term, the relationship was stronger for women than men. (ORs for women ranged from 1.28 for health to 1.47 for financial harms; for men from 1.19 for health to 1.29 for work and financial harms, all significant at $p<.001$.) [See Table 2]

The association between *Bar frequency* and each alcohol harm is not consistent across countries [See Table 3]. Descriptively, in some countries, *Bar frequency* is consistently positively associated with most harms (e.g., Belize, Canada, Japan, New Zealand, the United Kingdom, and the United States). In other countries, there is a positive association between *Bar frequency* and most harms for men, but not for women (Australia, Brazil, Costa Rica, Isle of Man, India, and Uganda). Finally, in some countries, there does not appear to be an association between bar frequency and most harms for either women or men (Argentina, Kazakhstan, Nicaragua, Nigeria, Spain, Sri Lanka, Sweden, Uruguay). The adjusted odds ratio for fights for women in Argentina is high (13.6). However, only five women in Argentina reported a fight and, of these five, two reported high values for bar frequency indicating unstable estimates for this subgroup.

To confirm that there was enough variation to warrant examining potential effects of level-2 variables, random coefficients were included for the intercept and then for the intercept and *Bar frequency* slope. Both models indicated significant variation in the random intercept ($p<.001$) and *Bar frequency* slope ($p<.05$) for each alcohol-related harm. Therefore, we examined the potential of country-level variables to explain variation in coefficients.

3.2 Multi-level findings

Genderedness of bar drinking was positively associated only with odds of work (OR=1.44, p=.01) and financial harms (OR=1.55, p=.03) in models without DDP. Controlling for DDP, genderedness of bar drinking was no longer associated with odds of work harms. [See Table 4, Models 1 & 2]. All multi-level models controlled for other frequency, sex, age, and marital status and included bar frequency.

Genderedness of bar drinking modified the relationship between bar frequency and the odds of fighting, work harms, and marriage/relationship harms (p=.02, p=.01, p=.01, respectively) [See Table 4, Models 3]. While only significant for fighting, work harms, and marriage/relationship harms, interaction terms in each case were negative, indicating decreased odds of the harm with increasing bar frequency. Contrary to our hypothesis, the odds of fighting, work harms, and marriage/relationship harms increased more slowly in high genderedness (more male bar going) than low genderedness countries. Additional models that included interactions of bar drinking frequency with DDP were estimated. Only findings for marriage/relationship harms were changed, with the interaction term in the same direction, but no longer statistically significant (p=.07). Models are not shown, but are available from the first author upon request.

Models 4 and 5 [See Table 5] show that genderedness of bar drinking modifies the relationship between bar frequency and fighting, work harms, and marriage/relationship harms only for men, not for women.

4 Discussion

The results showed that the relationship between bar drinking frequency and alcohol-related harms varied across country and that, in some cases, genderedness of bar drinking in a country modified this relationship. Contrary to our hypothesis, results showed that in more male bar drinking cultures, the odds of experiencing harms associated with bar going (specifically, fighting, work harms, and marital/relationship harms) increased less rapidly than in more mixed gender bar going countries. We also found that this relationship existed for men, but not women. These results suggest that rather than cultural contexts involving predominantly male bar drinking increasing the odds of alcohol-related harm, countries with predominantly male bar drinking may be protective for those men frequently drinking there, who showed relatively less rise in harms than in gender equivalent places.

These findings seem counterintuitive based on larger concerns with the role of masculinity in elevating alcohol-related harms (Campbell 2000; Lemle and Mishkind 1989; Mahalik et al. 2007; Suggs 1996, 2001) described in the introduction. However, extant literature regarding specific harms suggests our findings are plausible. Mostly western literature on bar-related aggression suggests that desire to demonstrate masculinity is a reason men are aggressive in bars (Wells, Graham, & Tremblay, 2007). However, rather than a reason to avoid fighting, presence of women in bars could give men more reasons to fight. For example, Wells, et al. found that competition over women, including protecting a girlfriend when other men approach her, and wanting to maintain image in front of women are reasons some men fight in bars (2007).

Further, a priori, we expected that more male bar drinking cultures would be associated with men drinking more, and thus frequent consumption of alcohol in bars would be more strongly associated with marital and work-related harms in predominantly male bar drinking countries. We found the opposite. Again, a number of studies suggest our findings are plausible. Recent studies in Botswana, Taiwan, and China suggest that bar drinking in predominantly male bar going cultures may not be about drinking a lot to show masculinity as much as it is about having time with other men (Suggs 1996) for friendship or work-related purposes (Bedford and Hwang 2011; Uretsky 2008). Further, in predominantly male bar environments, research in New Zealand, Taiwan, and the Netherlands suggest that men may actually prove masculinity by demonstrating restraint in amount drunk, level of drunkenness displayed, and sexual desires expressed towards female servers (Bedford and Hwang 2011; Campbell 2000; Roberts 2004). The sexual banter and even occasional sexual contact men engage in with servers in Taiwan, China, and Japan (Allison 1994; Bedford and Hwang 2011; Uretsky 2008) may in some cases be accepted by men's wives rather than be seen as a threat to marriage (Allison 1994). In contrast, when bar going is more mixed, genderwise, men may engage in sexual contact with other (female) patrons. This may not be as accepted by the men's girlfriends and wives, thus leading to men experiencing increased odds of marriage/relationship harms in these more mixed settings. Further, in predominantly male bar cultures where men are expected to go to bars with other men from work, going less often could result in lack of advancement or inability to build or maintain networks necessary for success (Bedford and Hwang 2011; Uretsky 2008).

We note that genderedness of bar going did not modify the relationship between bar frequency and alcohol-related harms for women. One plausible explanation is that the harms considered excluded harms most relevant for women drinking in bars, such as sexual assault (Eriksen 1999; Parks and Scheidt 2000; Room 1996; Wolff, Busza, Bufumbo, & Whitworth, 2006). Unfortunately, the dataset only measured sexual assault experienced after 16 years of age while it measured bar drinking for the past 12 months. The lack of proximal and temporal timing make it unrealistic to assess sexual assault as an outcome, although this should be considered in future research.

While the relationship between bar frequency and harms for women may not be influenced by genderedness of bar drinking, it is worth noting that associations between bar frequency and each alcohol-related harm were stronger for women than men, i.e. the odds of experiencing harms associated with bar drinking increased faster for women than men. Higher levels of alcohol-related harms for bar drinking women could be due to perceived deviance of women's bar drinking. On the other hand, findings could relate to actual drinking by women in bars, which would suggest that women experience more harms than men at similar frequency of bar drinking.

Results should be interpreted in light of study limitations. First, due to limitations of data collected for GENACIS surveys, frequency of bar drinking, as opposed to usual quantity or volume from bar drinking is the main independent individual-level variable. If frequent bar-drinkers in countries where bar-drinking is primarily a male activity drink smaller quantities of alcohol in bars than frequent bar-drinkers in countries where bar-drinking is less male, this could help explain seemingly counter-intuitive findings. Future research exploring this relationship is necessary. However, we sought to address this limitation by including DDP as a level-2 variable. While DDP predicted harms in some cases, including it in models did not change the main findings. Further, previous research found that frequency of drinking – including in bars - also predicts harms (Parks and Zetes-Zanatta 1999; Miller and Plant 2005). Second, because harms were those attributed to alcohol in self reports, if a country's genderedness of bar drinking is related to overall willingness to report problems because of social desirability, particularly among frequent bar patrons, the key result could be explained

by country differences in social construction of problems rather than actual harms. This conjecture would be difficult to verify without considerable further research including social desirability measures, unfortunately not available in GENACIS. Third, the direction of associations between bar going and harms in some cases could be opposite of our directional assumption, e.g. having alcohol-related marital/relationship problems could lead a person to spend more time in bars. Fourth, genderedness of bar drinking may also vary at lower levels of aggregation, such as region or bar-level. To address this limitation, a sensitivity analysis with the United States broken into six wet/dry regions (Kerr 2010) was conducted. This sensitivity analysis treated the regions as separate country (or level 2 units), and included genderedness of bar drinking in each region as equivalent of a country-level (level-2) variable. Findings were similar; the only change was that the genderedness-bar frequency interaction for financial harms was marginally significant, whereas it had been insignificant previously ($p<.10$). Finally, the lack of significant findings for women may be due to not having relevant outcomes for women, such as sexual assault. However, that individual-level relationships between bar frequency and alcohol-related harms for women across the entire sample (although not in all countries) were strong suggests that these harms are relevant for women in some countries (e.g., Belize, Canada, Japan, New Zealand, Uganda, UK, and USA), but may not be influenced by genderedness of bar drinking culture.

This study also has strengths. First, it explicitly tested a hypothesis regarding how a culture's genderedness of bar drinking influences relationships between bar drinking and alcohol-related harms. While findings were opposite of what we expected, that we started out with a conceptually-informed hypothesis allows us to advance the field in relation to this important question. Specifically, our findings challenge the assumption that predominantly male bar settings are more harmful than mixed-gender settings. For men, we found that predominantly male settings may actually be protective for more frequent drinkers, while for women we did not find a relationship. Second, the sample of countries (21 countries) represents countries on five continents as well as a range of low, middle, and high income countries. The countries conducted surveys with generally comparable methods, including comparable questions about drinking context and alcohol-related harms based on a core-questionnaire developed by an international group of scholars (Wilsnack et al. 2009). The similarity in methods makes this multinational study possible. Further, while there were large samples available for the majority of countries at the individual-level, the number of countries available for analysis challenged efforts to detect significant country level modifiers. Even with the limited sample size available at the country level, that significant findings were observed for genderedness as a modifier of the relationship between frequency of drinking in bars and several harms is indicative of the presence of substantial effect sizes for this effect modifier.

In conclusion, our results suggest that frequency of bar drinking and alcohol-related harms are positively associated overall, but that this association varies across country, with no association between bar drinking and harms in some countries. Thus, interventions targeting bars or people who drink frequently in bars may not be appropriate in all countries. Further, the odds of experiencing harms associated with bar drinking for men increased less rapidly with frequency of bar drinking in countries where bar drinking is predominantly a male activity. Our previous work found that higher country-level gender equality was associated with smaller gender differences in drinking in public settings (another way to operationalize genderedness) (Bond, et al., 2010). Our intuition was that the significance of this finding was that in countries with higher levels of gender equality, men would experience fewer harms associated with drinking in bars and that women would experience more harms, i.e. that genderedness of bar drinking would mediate the gender equality-bar harms association. However, our findings run counter to this intuition. Further research disentangling the relationship between gender equality, genderedness of bar drinking, and alcohol-related

harms is warranted. In addition, future research is needed to examine whether this relationship is consistent at lower-levels of aggregation, such as the bar-level. In addition, future research is needed to identify other factors that may explain variation in relationships between bar frequency and harms across countries.

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Table 1

Characteristics of included countries

Country	Men 18-65 (n=16,204)	Women 18-65 (n=15,425)	Outcomes	Genderedness of bar drinking	Detrimental drinking pattern score
Argentina	367	441	all	.710	2
Australia	747	1041	all	.614	2
Belize	907	381	all except health	.845	4
Brazil	107	73	all	.883	3
Canada	4451	5309	all	.619	2
Costa Rica	269	352	all	.784	3
Hungary[a]	857	730	only injury	.862	3
India	485	37	all	.998	3
Isle of Man	347	374	all except health	.702	3
Japan[b]	915	780	all	.753	2
Kazakhstan	376	363	all	.791	4
New Zealand	635	775	all	.658	2
Nicaragua	262	149	all	.768	4
Nigeria	436	194	all	.764	3
Spain	525	363	all	.778	1
Sri Lanka	308	32	all except fight	.993	3
Sweden	685	619	all	.613	3
Uganda	368	293	all	.780	3
UK	741	726	all except injury	.699	3
Uruguay	305	376	all	.651	3
USA	2111	2017	all	.705	2

[a] Hungary sampled people 19-65

[b] Japan sampled people 20-70, only those 20-65 are included

Table 2

Bar frequency and alcohol related harms, individual-level models using combined data across all countries

	Fight AOR, p value		Injury AOR, p value		Financial harms AOR, p value		Friendship harms AOR, p value	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Bar frequency	1.22(<.001)	1.38(<.001)	1.26(<.001)	1.45(<.001)	1.29(<.001)	1.47(<.001)	1.25(<.001)	1.35(<.001)
Other frequency	1.08(<.001)	1.26(<.001)	1.15(<.001)	1.21(<.001)	1.12(<.001)	1.18(<.001)	1.17(<.001)	1.21(<.001)
Age	0.95(<.001)	0.92(<.001)	0.94(<.001)	0.93(<.001)	0.97(<.001)	0.96(<.001)	0.97(<.001)	0.97(<.001)
Marital status	0.58(<.001)	0.61(.001)	0.55(.001)	0.61(.027)	0.83(.001)	0.56(<.001)	0.72(<.001)	0.44(<.001)
N	14323	12964	15043	13637	14687	13116	14690	13117

	Health harms AOR, p value		Marriage/relationship harms AOR, p value		Work harms AOR, p value	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Bar frequency	1.19(<.001)	1.28(<.001)	1.26(<.001)	1.38(<.001)	1.29(<.001)	1.44(<.001)
Other frequency	1.13(<.001)	1.16(<.001)	1.15(<.001)	1.27(<.001)	1.15(<.001)	1.22(<.001)
Age	0.98(<.001)	0.98(<.001)	0.98(<.001)	0.96(<.001)	0.97(<.001)	0.95(<.001)
Marital status	0.98(.784)	0.80(.005)	1.27(.001)	0.90(.354)	0.86(.071)	0.67(.008)
N	13425	12367	14488	12935	14662	13047

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Table 3

Bar frequency and alcohol-related harms: Adjusted Odds Ratios by country

	Argentina	Australia	Belize	Brazil	Canada	Costa Rica	Hungary	India	Isle of Man	Japan	Kazakhstan	New Zealand	Nicaragua	Nigeria	Spain	Sri Lanka	Sweden	Uganda	UK	Uruguay	USA
Men																					
Fight	1.0	1.4^{b}	1.2^{b}	1.5^{c}	1.2^{c}	1.4^{c}	--	1.3^{c}	1.4^{a}	1.1	1.8^{b}	1.7^{c}	1.3^{a}	1.3^{a}	1.2	--	1.3	1.2^{c}	1.3^{c}	1.3	1.3^{b}
Injury	0.9	1.6^{b}	1.5^{c}	1.6^{b}	1.1	1.5^{b}	1.3^{b}	1.3^{c}	1.6^{b}	0.9	1.5	1.3^{b}	1.2	1.1	1.2	1.2	0.9	1.1^{b}	--	1.4	1.6^{c}
Financial Harms	0.5	1.4^{b}	1.3^{c}	1.3^{b}	1.4^{c}	1.4^{c}	--	1.2^{c}	1.3^{b}	1.3^{c}	1.2	1.2^{b}	1.2	1.2^{c}	1.1^{b}	1.7^{c}	1.5^{b}	1.2^{c}	1.2^{c}	2.3^{b}	1.5^{c}
Friendship Harms	0.9	1.5^{b}	1.3^{b}	1.3^{a}	1.2^{c}	1.4^{b}	--	1.3^{c}	1.2	1.2^{c}	0.4	1.2^{a}	1.1	1.1	1.3^{a}	0.9	1.5^{a}	1.1^{b}	1.4^{c}	0.8	1.3^{c}
Health Harms	0.7	1.4^{b}	--	1.2^{a}	1.3^{c}	1.3^{c}	--	1.2^{c}	--	1.3^{c}	0.7	1.2^{a}	1.0	1.3^{c}	1.0	1.3^{b}	1.9^{c}	1.1^{a}	1.3^{c}	1.5	1.2^{c}
Marriage/Rel Harms	0.7	1.1	1.4^{c}	1.3^{a}	1.4^{c}	1.3^{b}	--	1.2^{c}	1.6^{c}	1.3^{c}	1.1	1.3^{c}	1.1	1.2^{b}	1.5^{b}	1.2	1.1	1.2^{c}	1.2^{c}	1.8^{a}	1.3^{c}
Work Harms	0.8	1.2	1.4^{c}	1.3^{a}	1.4^{c}	1.5^{c}	--	1.3^{c}	1.4^{a}	1.3^{c}	1.4	1.5^{c}	1.1	1.1	1.1	1.1	~	1.2^{c}	1.2^{c}	~	1.4^{c}
Women																					
Fight	13.6^{b}	1.2	2.6^{b}	~	1.5^{c}	1.3	--	~	1.7	1.6^{c}	~	1.4^{b}	1.1	1.1	~	--	1.5	1.1	1.3^{a}	~	1.6^{b}
Injury	~	1.4^{b}	~	~	1.5^{c}	~	~	~	~	1.8^{c}	~	1.2	1.4	~	~	~	~	1.3^{b}	--	~	2.3^{b}
Financial Harms	~	1.1	3.6^{c}	~	1.6^{c}	1.7^{a}	--	~	1.3	1.4^{c}	2.4	1.7^{c}	1.2	1.1	1.3^{b}	~	1.8^{b}	1.1^{a}	1.8^{c}	~	1.6^{b}
Friendship Harms	~	1.2	2.3^{b}	~	1.3^{b}	1.4	--	~	~	1.6^{c}	12.3^{a}	1.7^{c}	1.1	1.0	~	~	0.9	1.1	1.4^{a}	~	1.7^{c}
Health Harms	1.8	1.0	--	0.4	1.3^{c}	1.3	--	~	--	1.6^{c}	3.2	1.6^{c}	1.2	1.2	1.2	~	1.7^{a}	1.0	1.4^{b}	4.6^{a}	1.6^{c}
Marriage/Rel Harms	~	1.1	3.0^{c}	~	1.3^{b}	1.1	--	~	1.2	1.4^{c}	7.1^{b}	1.6^{c}	1.0	1.2^{b}	~	~	0.9	1.2^{a}	1.3^{a}	~	1.9^{c}
Work Harms	~	0.9	1.3	~	1.5^{c}	2.7^{b}	--	~	1.9	1.3^{a}	~	1.4^{b}	1.1	1.3^{b}	~	~	3.4	1.2^{c}	1.4^{a}	~	1.5^{a}

* models control for age, marital status and other frequency of drinking

~ fewer than 5 respondents reported harm

-- harm not asked

^{a}p<.05

^{b}p<.01

^{c}p<.001

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Table 4

Genderedness of bar drinking, bar frequency, and alcohol-related harms: Multi-level models

	Fight		Injury		Financial harms		Friendship harms		Health harms		Marriage/relationship harms		Work harms	
	OR	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***
Intercept	0.03	<.001	0.01	<.001	0.09	<.001	0.03	<.001	0.10	<.001	0.04	<.001	0.03	<.001
Bar frequency	1.28	<.001	1.30	<.001	1.33	<.001	1.26	<.001	1.23	<.001	1.28	<.001	1.31	<.001
Other frequency	1.16	<.001	1.16	<.001	1.17	<.001	1.17	<.001	1.15	<.001	1.19	<.001	1.17	<.001
Sex	2.75	<.001	1.97	<.001	1.88	<.001	1.77	<.001	1.47	<.001	1.83	<.001	1.91	<.001
Age	0.94	<.001	0.94	<.001	0.97	.003	0.97	<.001	0.99	.021	0.98	<.001	0.97	<.001
Marital status	0.57	<.001	0.51	<.001	0.54	<.001	0.50	<.001	0.67	<.001	0.99	.954	0.60	<.001
Model 1:														
Intercept: Genderedness	1.18	.193	1.05	.659	1.55	.027	1.10	.399	1.18	.119	1.00	.946	1.44	.009
Model 2:														
Intercept: Genderedness	1.01	.916	.91	.475	1.32	.035	1.03	.798	1.08	.472	0.93	.633	1.26	.218
DDP	1.64	.003	1.66	.027	1.81	.005	1.32	.224	1.66	.044	1.56	.026	1.74	.185
Model 3:														
Intercept: Genderedness	0.95	.670	0.92	.518	1.46	.003	1.10	.492	1.17	.260	1.07	.700	1.34	.110
DDP	1.64	.003	1.67	.027	1.82	.004	1.33	.249	1.66	.042	1.54	.030	1.73	.197
Bar freq: Genderedness	0.98	.020	1.00	.842	0.97	.193	0.98	.066	0.97	.097	0.98	.014	0.97	.005
N	27,279		28,672		27,795		27, 799		25,786		27,415		27,701	
# of countries	20		20		20		20		18		20		20	

Models 1, 2, and 3 all control for bar frequency, other frequency, sex, age, and marital status. The AORs for each of these variables change only minimally from model to model and thus are not reported separately. Models 1-3 include both random intercept and random Bar frequency slope coefficients. Models 1 and 2 include country-level predictors of only the random intercept. Model 3 includes country-level predictors of both the random intercept and the Bar frequency slope.

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Table 5

Genderedness of bar drinking, bar frequency, and alcohol-related harms: Multi-level models by sex

	Fight		Injury		Financial harms		Friendship harms		Health harms		Marriage/relationship harms		Work harms	
Model 4: Men														
	OR	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***
Intercept	0.06	<.001	0.02	<.001	0.14	<.001	0.05	<.001	0.13	<.001	0.07	<.001	0.04	<.001
Individual level														
Bar frequency	1.25	<.001	1.28	<.001	1.31	<.001	1.24	<.001	1.21	<.001	1.27	<.001	1.30	<.001
Other frequency	1.14	<.001	1.16	<.001	1.17	<.001	1.17	<.001	1.14	<.001	1.17	<.001	1.16	<.001
Age	0.95	<.001	0.94	<.001	0.98	.004	0.97	<.001	0.99	.057	0.98	.001	0.98	.001
Marital status	0.57	<.001	0.49	<.001	0.58	<.001	0.55	<.001	0.71	<.001	1.12	.382	0.62	<.001
Country-level														
Intercept: Genderedness	0.96	.769	0.88	.290	1.47	.001	1.09	.562	1.18	.247	1.11	.602	1.43	.065
DDP	1.60	.001	1.70	.008	1.92	.003	1.38	.129	1.66	.041	1.59	.014	1.75	.166
Bar freq: Genderedness	0.97	.056	1.01	.593	0.97	.224	0.99	.545	0.97	.152	0.97	.032	0.96	.002
N	14,316		15,036		14,680		14,683		13,420		14,481		14,655	
# of countries	20		20		20		20		18		20		20	

Model 5: Women														
	OR	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***
Intercept	0.01	<.001	0.00	<.001	0.04	<.001	0.02	<.001	0.06	<.001	0.02	<.001	0.01	<.001
Individual level														
Bar frequency	1.37	<.001	1.43	<.001	1.53	<.001	1.35	<.001	1.31	<.001	1.43	<.001	1.44	<.001
Other frequency	1.24	<.001	1.28	<.001	1.16	<.001	1.17	<.001	1.15	<.001	1.24	<.001	1.18	<.001
Age	0.93	<.001	0.94	<.001	0.97	.006	0.97	<.001	0.98	.015	0.96	<.001	0.95	<.001
Marital status	0.58	<.001	0.56	.027	0.44	<.001	0.38	<.001	0.63	<.001	0.76	.074	0.51	.007
Country level														
Intercept: Genderedness	0.78	.348	1.01	.974	1.25	.330	1.20	.263	1.04	.801	0.96	.818	0.83	.572
DDP	1.41	.226	1.38	.405	1.57	.013	1.17	.570	1.78	.025	1.58	.097	1.68	.268
Bar freq: Genderedness	0.96	.389	0.96	.304	0.94	.380	0.97	.663	0.93	.323	1.05	.585	1.01	.782
N	12,963		13,636		13,115		13,116		12,366		12,934		13,046	

Model 5: Women													
	OR	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***	***OR***	***p***
# of countries	19		20		20		20		18		20		20	

Models 4 and 5 control for bar frequency, other frequency, sex, age, and marital status. The AORs for each of these variables change only minimally from model to model and thus are not reported separately. Models 4 and 5 include country-level predictors of both the random intercept and the Bar frequency slope.