

Published in final edited form as:

Addiction. 2009 October ; 104(10): 1658–1668. doi:10.1111/j.1360-0443.2009.02667.x.

“I HAVE NO INTEREST IN DRINKING”: A CROSS-NATIONAL COMPARISON OF REASONS WHY MEN AND WOMEN ABSTAIN FROM ALCOHOL USE

Sharon Bernards¹,

Centre for Addiction and Mental Health, London, Ontario, Canada

Kathryn Graham,

Centre for Addiction and Mental Health and University of Western Ontario, Canada

Hervé Kuendig,

Swiss Institute for the Prevention of Alcohol and Drug Problems, Lausanne, Switzerland

Siri Hettige, and

Social Policy Analysis and Research Centre, University of Colombo, Sri Lanka

Isidore Obot

Department of Psychology, University of Uyo, Uyo, Nigeria

Abstract

Aims—To examine country differences in reasons for abstaining including the association of reasons with country abstaining rate and drinking pattern.

Participants—Samples of men and women from eight countries participating in GENACIS (Gender Alcohol and Culture: an International Study).

Methods—Surveys were conducted with 3338 lifetime abstainers and 3105 former drinkers. Respondents selected all applicable reasons for not drinking from a provided list. Analyses included two-level HLM regression.

Findings—Reasons for abstaining differed significantly for lifetime abstainers compared to former drinkers, by gender and age, and by country-level abstaining rate and frequency of drinking. Lifetime abstainers were more likely than former drinkers to endorse *no interest*, *religion* and *upbringing* and more reasons overall. Gender differences, among former drinkers especially, suggested that norms restricting drinking may influence reasons that women abstain (*no interest*, *not liking taste*) while drinking experiences may be more important considerations for men (*afraid of alcohol problems*, *bad effect on activities*). Younger age was associated with normative reasons (*no interest*, *taste*, *waste of money*) and possibly bad experiences (*afraid of problems*). Reasons such as *religion*, *waste of money* and *afraid of alcohol problems* were associated with higher country-level rates of abstaining. Higher endorsement of drinking is *bad for health* and *taste* were associated with a country pattern of less frequent drinking while not liking *effects* was associated with higher drinking frequency.

¹Corresponding Author: Sharon Bernards, Centre for Addiction and Mental Health, Suite 200, 100 Collip Circle, London, ON, N6G 2X8, Canada. sbernar4@uwo.ca.

Conflict of interest: none

The following are collaborators who have reviewed the paper according to the GENACIS objectives and, where applicable, according to accuracy and representation of their contributed data: Karin Bergmark and Robin Room (Sweden), Akanidomo Ibanga (Nigeria), Raquel Magri (Uruguay), Myriam Munne (Argentina), Marina Piazza Ferrand (Peru), Nazarius Tsumesige (Uganda), Sharon Wilsnack (USA).

Conclusions—Reasons for abstaining depend on type of abstainer, gender, age and country drinking norms and patterns.

Keywords

alcohol; abstention; reasons; cross-cultural; gender

INTRODUCTION

Rates of abstention from alcohol differ across countries, with higher rates in some countries (e.g., Sri Lanka: 74% among men, 96% among women) and lower rates in others (e.g., Sweden: 7%, 12%)¹. Few studies, however, have examined variation among countries in the *reasons* why people abstain from alcohol. Nor have studies examined whether the rate of abstaining and the normative drinking pattern of a country are associated with the kinds of reasons that people report for abstaining. For example, although religion is known to be a major reason for abstaining in some countries^{2,3,4,5,6,7}, it plays a much lesser role in other countries. As another example, the expense or cost of alcohol is likely to be a more important reason for abstaining in countries where people are mostly poor or where alcohol is relatively expensive and a less important consideration in countries where people are generally affluent and alcohol is relatively cheap². Similarly, the extent that not liking the taste of alcohol is a reason for not drinking may vary according to the quality and selection of alcoholic drinks available.

Reasons for abstaining may also differ by whether drinking or abstaining is the norm within the country. For example in countries such as Sweden and Argentina where alcohol is consumed by the majority of the adult population, people who do not drink might feel the need to justify abstaining more than do people in countries such as Sri Lanka and Nigeria where abstaining is normative^{1,2}. On the other hand, Sulkunen (2000)⁸ has argued that abstinence movements often include pressure on individuals to abstain from alcohol thereby reinforcing individual-level as well as societal-level reasons for abstaining. Drinking norms may also affect the specific types of reasons that are endorsed. For example, fear of alcohol problems may be a more common reason for not drinking in countries where alcohol consumption and alcohol problems are prevalent than in countries where drinking is rare.

There may also be gender and age differences in why people abstain from drinking both across and within countries. For example, because in all countries men tend to drink more and in higher quantities than women^{2,7,9,10} and alcohol dependence and other chronic problems from alcohol are more prevalent among men than among women,^{2,10} concerns about alcohol problems or becoming alcohol dependent may play a greater role in abstaining by men than by women. Women, on the other hand, may be more likely than men to abstain because of social taboos on women's drinking¹⁰, with the extent of this gender difference varying by country depending on gender norms within the country. In addition, in some settings such as Sri Lanka, where women are discouraged from public spaces where drinking typically occurs, women may lack the opportunity to drink as well as actively choosing to abstain. Rates of abstention tend to increase with age^{1,17,18} and *reasons* for abstaining have also been found to differ by age^{1,6,7,17,18}. Norms related to age and drinking habits might therefore also influence the types of reasons that people have for not drinking.

The present analyses examine country, gender and age differences in reasons for abstaining among male and female lifetime abstainers and former drinkers in eight countries from around the world. We also explore the extent that reasons for abstaining are explained by the rate of abstaining and general drinking pattern of the country.

METHODS

Survey Samples

National or regional general population surveys were conducted as part of the GENACIS project, a large international collaboration involving more than forty countries undertaken to improve knowledge regarding the influence of social and cultural variation on gender differences in alcohol consumption and problems. Survey administration in each country followed guidelines provided by GENACIS lead investigators for random selection of respondents, training of interviewers, and interview protocol (see <http://www.genacis.org/>). Further details regarding sampling methodology for individual country surveys are described in Obot and Room¹¹ and Graham et al¹².

The GENACIS questionnaire used a common core set of questions covering a number of areas related to alcohol consumption. It included an optional section on reasons for abstaining used by only some countries. The present analyses use data from all countries where comparable data on reasons for abstaining were included (year of survey shown in parentheses), specifically: Argentina (2002), Peru (2005) and Uruguay (2004) in South America; Nigeria (2003) and Uganda (2003) in Africa; Sri Lanka (2002) in Southeast Asia; Sweden (2002) in Europe; and Canada (2004–5) in North America. Surveys were conducted face-to-face in all countries except Canada where random digit dialing (RDD) and computer assisted telephone interviewing (CATI) were used. Table 1 shows the countries or regions listed in order of overall abstention rates from highest to lowest and describes the specific regions sampled where applicable. The most conservative measure of response rate (number of completed interviews divided by estimated total number of eligible respondents) for the Canada survey was 52.8%, and the completion rate (number of completed interviews out of total persons contacted) was 85.4%. The completion rate for Argentina was 73.7%, Sweden 67.8% and Uganda 83.6%. Information necessary to calculate response or completion rates was not collected or was incomplete for other countries. Information regarding sample sizes and other sample characteristics is provided in Table 1.

Measures

Gender was coded by the interviewer. Respondent's age at time of survey was calculated from respondent's year of birth. Lifetime abstaining was defined as never consumed alcohol other than just a sip or taste. Former drinkers included respondents who had consumed alcohol at some time in their lives but not during the past 12 months.

Reasons for abstaining—Lifetime abstainers and former drinkers were asked: *Which of the following would describe your reasons for not drinking? or For each of the following, please tell me if it is a reason why you never drank/did not drink in the last 12 months.* Respondents could select as many reasons from the list as they deemed applicable. Swedish respondents were asked: *How important is each of the following reasons when it concerns your refraining from drinking alcohol?* For the present analyses, *very important* and *quite important* were coded as positive endorsement, and *not that important* was coded as negative. The list of reasons was derived from previous research^{5,6,7,9,16,17,18} and modified to be generally applicable across different countries at GENACIS investigator meetings prior to the surveys. The present analyses included reasons that were common to most of the country surveys. Due to errors in the skip pattern of the questionnaires in Sri Lanka and Uganda, questions on reasons for abstaining were asked only of lifetime abstainers in Sri Lanka and former drinkers in Uganda.

The *proportion of items endorsed* was calculated by dividing the number of reasons endorsed by the respondent by the total number of reasons presented for the country.

Country-level measures: rate of abstaining and drinking pattern—Percent of male, female and overall current abstainers (lifetime abstainers and former drinkers) were calculated for each country from the GENACIS survey data. Country-level drinking pattern was measured as average frequency of drinking among current drinkers calculated from individual responses. Because countries included slightly different categorical response options, this variable was recoded into drinking days per year as follows: less than once per month = 6 days, 1 to 3 times per month = 24, 1 to 2 times per week = 78, 3 to 4 times per week = 182, 5 to 7 times per week = 312. It was not possible to use the country-level measure of quantity per occasion (estimated in grams of absolute alcohol per usual drinking occasion) in the analyses because of the high correlation (Pearson $r = .88$, $p = .004$) with rate of abstaining. Frequency of drinking was positively but not significantly related to rate of abstaining ($r = .406$, $p = .318$). For Canada, Sweden and Uganda weights to adjust for sampling design were applied prior to calculating the aggregate country-level measures.

Analyses

Chi-square tests were performed for each reason to determine significant pairwise differences in proportion of respondents endorsing the reason *between* countries. A p-value $\leq .002$ was considered significant based on a Bonferroni correction¹⁴. A minimum cell size of 20 was set for inclusion in the analyses so that there would be sufficient cases to avoid unreliable estimates for particular countries, while at the same time including as many countries as possible. Using this criterion, comparisons involving male lifetime abstainers excluded Argentina, Peru and Uruguay. Chi-square tests were used to assess significance of gender differences within each country, and logistic regression of each reason on age and gender was used to assess significant age relationships with each reason.

In order to confirm patterns across countries in the percent endorsing reasons for abstaining while taking into consideration country level rate of abstaining and drinking pattern, two-level HLM (Hierarchical Linear Modelling)¹⁵ was conducted. A Bernoulli model¹⁵ was used to regress each reason on abstainer type (lifetime abstainer=1, former drinker=0), gender (male =1, female=0) and age at the person level (Level 1), and percent of abstainers in the country and average number of drinking days per year aggregated to the country level (Level 2). A similar analysis using HLM for a normally distributed continuous variable was performed with *proportion of items endorsed by the respondent* as the outcome. HLM analyses were also conducted separately for female abstainers including rate of female abstainers and average number of drinking days for females at the country level (there were too few countries with sufficient numbers of male lifetime abstainers for similar analyses to be conducted for males), and for former drinkers only (there were too few countries with sufficient numbers of male lifetime abstainers to conduct separate analyses comparing gender effects for lifetime abstainers). All variables were grand mean centered. A random residual component was included for each person-level variable if the Chi-square p-value for the variance component of the variable was less than .05 when entered separately into the model. While the criterion for significance was $p < 0.05$, p values < 0.10 are also reported as evidence of a possible trend.

RESULTS

As shown in Table 1, rates of abstention and average number of drinking days in past 12 months varied considerably among countries. The composition of abstainers also differed across countries with a relatively greater proportion of lifetime abstainers than former drinkers in higher abstaining countries like Sri Lanka and the African countries, while former drinkers formed the greater proportion in other countries, especially some of the Latin American countries.

Country differences in reasons for abstaining

Lifetime abstainers—Figure 1 shows endorsement rates for each reason for abstaining by male and female lifetime abstainers in each country listed in order of overall endorsement rates averaged across countries (from highest to lowest). *I have no interest in drinking* was overall the most frequently endorsed reason for abstaining and was one of the top three reasons endorsed in every country. The importance of other reasons, however, varied among countries. Significant pairwise differences between countries for each reason are indicated by the letters under each bar, with differences that were significant only for females marked with an F superscript (M superscript for males).

General patterns evident in Figure 1 included the following. Male and female lifetime abstainers from the two highest abstaining countries, Sri Lanka and Nigeria, were more likely than those in other countries to endorse almost every reason. Abstainers from Canada were less likely than those from most other countries to endorse *drinking is too expensive*. There were few significant gender differences within countries. Patterns in gender differences will be discussed below in the context of the multivariate results.

Former drinkers—As shown in Figure 2, similar to lifetime abstainers, having *no interest in drinking* was one of the most frequently endorsed reasons for abstaining among former drinkers in most countries. Former drinkers from Nigeria and Uganda were generally more likely than respondents from other countries to endorse most of the reasons with the exceptions of *drinking is bad for your health* and *not liking the taste*. Former drinkers from Canada were less likely to endorse abstaining because drinking is *too expensive*.

Multivariate analysis

Lifetime abstainers versus former drinkers—In the HLM analysis including all abstainers, as shown in Table 2, lifetime abstainers were significantly more likely than former drinkers to endorse *no interest* and *upbringing*. Lifetime abstainers were also almost twice as likely as former drinkers to endorse religion, although this difference was significant only for female abstainers. Among female abstainers, lifetime abstainers were also significantly more likely than former drinkers to endorse *upbringing*, *afraid of becoming alcoholic* and *no interest*. Overall, the proportion of reasons endorsed was significantly higher for individuals who were lifetime abstainers compared to former drinkers (coefficient = 8.05, $p < .05$ all abstainers and 14.16, $p < .01$ for females) controlling for gender, age and country abstaining rate and frequency.

Gender and age differences—As shown by the HLM results for all abstainers (Table 2), the only significant gender difference across countries was for male respondents to be more likely than female respondents to report *fear of alcohol problems/becoming an alcoholic* as a reason for abstaining (a pattern that was evident for almost all countries as shown in Figure 1 and Figure 2, within country gender comparisons meeting the criterion for statistical significance for Canada among lifetime abstainers and Nigeria, Canada, Argentina and Sweden among former drinkers). There was also a trend that approached significance ($p < .10$) for female respondents to be more likely to endorse *not liking the taste* (significant within country differences for Sri Lanka among lifetime abstainers and Uruguay, Peru, Canada and Sweden for former drinkers, however significantly higher for male than for female lifetime abstainers in Nigeria). When analyses were limited to former drinkers, female respondents were significantly more likely than male respondents to endorse *no interest* (significant for Peru) and *taste* as a reason for abstaining and significantly less likely to endorse religion (significant for Canada, Sweden), *drinking has bad effects on activities* (significant for Sweden), and *afraid of alcohol problems/becoming alcoholic* (significant in four countries as mentioned above). Other within-country significant gender differences

were not reflected in significant cross-country effects. Also gender was not significantly related to proportion of items endorsed (coefficient = .634 for all abstainers and .157 for former drinkers) controlling for abstainer type, age, and country-level abstaining rate and drinking frequency.

As shown in Table 2, there was a significant negative relationship between age and endorsement of *no interest, not liking the taste, waste of money and afraid of alcohol problems/alcoholic* (former drinkers) as reasons for abstaining, and positive relationship with *my health is bad/because of medication* (significant within all countries as shown in the footnotes to Table 2). There was a trend for younger aged abstainers to endorse a larger proportion of items among all abstainers (coefficient = $-.107$, $p=.052$). Other significant within country relationships between age and endorsement of specific reasons were not reflected as significant cross-country trends.

The relationship of endorsement of reasons with percent of abstainers in a country and average frequency of drinking—As shown in Table 2, consistent with some of the differences between individual countries shown in Figure 1 and Figure 2, a higher rate of abstaining was positively associated with many reasons, although significant ($p < .05$) only for *religion*, drinking is a *waste of money*, and *afraid of alcohol problems/becoming alcoholic*; with a trend for *drinking is too expensive, no interest* (female abstainers), *upbringing* (female abstainers), and *health is bad/on medications* (former drinkers).

In terms of drinking pattern, countries with higher average frequency of drinking were significantly less likely to endorse *drinking is bad for your health* and *not liking the taste*, with a trend ($p < .10$) to be less likely to endorse abstaining because of *religion*. The HLM analyses including only former drinkers and only female abstainers showed essentially the same patterns of relationships with country-level measures as those including all abstainers. In addition, among former drinkers, higher average frequency of drinking was significantly related to abstaining because of not liking *the effects* with a trend for *afraid of alcohol problems/becoming alcoholic* and *no particular reason/no occasion*.

HLM regression of the proportion of items endorsed by the respondent in models including type of abstainer, gender, age, percent of abstainers and frequency of drinking indicated a positive but nonsignificant relationship between proportion of items endorsed and percent of abstainers in the country (coefficient = .089, .063 and .069 for all abstainers, former drinkers and female abstainers respectively). Endorsement rate was also not significantly related to average frequency of drinking at the country level (coefficient = -0.07 , .005, and $-.029$).

DISCUSSION

Consistent with findings from previous North American studies that reasons related to indifference toward drinking¹⁷ or having no interest¹⁸ were the most common reasons for abstaining, the present study also found that regardless of drinking pattern and abstainer rate of the country one of the most common reasons for abstaining (often the most popular reason) was *having no interest in drinking*. As with the previous studies, this was even more true for younger ages¹⁷ and lifetime abstainers than for former drinkers,^{17·18} although *having no interest* was also a popular reason among former drinkers, more popular than similar reasons such as *no particular reason or no occasion for drinking*. Higher endorsement of this reason by women and younger persons suggests that endorsing *no interest* may reflect lower exposure to drinking situations. Alternatively, it may reflect greater adherence to nondrinking norms – that is, self-identification as a person who has no

need to drink. Given its popularity as a reason for abstaining, further research is needed to clarify its meaning and significance.¹⁷

Also consistent with previous research,^{17,18} reasons such as *religion* and *upbringing* were more relevant for lifetime abstainers than for former drinkers, suggesting that these continue to be important strategies for preventing initiation of alcohol consumption.^{6,9} Interestingly, across countries fear of *alcohol problems/becoming alcoholic* was a more important reason for female lifetime abstainers than for female former drinkers, despite the lack of experience among lifetime abstainers to suggest that they might be likely to develop a problem. One explanation for greater fear of alcohol problems by lifetime abstainers is they may be generally more risk averse than former drinkers. Lifetime abstainers were also more likely to endorse a larger proportion of the items than were former drinkers, controlling for country abstaining rate, possibly because former drinkers are more likely to have had a specific reason(s) to stop drinking while lifetime abstainers might be more likely to abstain for theoretical or moralistic reasons.¹⁷

Many reasons were endorsed more often by respondents from countries with higher versus lower abstaining rates, although the proportion of items endorsed did not differ significantly by abstaining rate in the multivariate analysis suggesting that the relationship with abstaining rate may be related to specific reasons not just number of reasons. On the other hand, because higher abstaining countries tended to have a greater proportion of lifetime abstainers who endorsed more reasons than former drinkers, the relationship between abstaining rate and number of reasons endorsed was accounted for by the individual level variable, abstainer type, in the HLM model. Nevertheless, the results go counter to the expectation that abstainers from countries where abstaining is uncommon would feel more need to justify not drinking (i.e., endorse more reasons).

Consistent with previous findings^{2,3,4} *religion* was frequently endorsed as a reason for abstaining in countries with a large Muslim (i.e., Nigeria, Uganda) or Buddhist population (i.e., Sri Lanka). *Upbringing* was also a frequent reason for abstaining in these countries. Fear of *drinking problems or becoming an alcoholic* was endorsed more often in countries with higher rates of abstaining, perhaps reflecting a problematic drinking style in the country generally, consistent with previous research^{1,2,3,4} indicating a high rate of heavy drinking and alcohol-related problems among drinkers in countries where most people do not drink. Economic reasons for abstaining also differed by country, with abstainers from Canada, a more affluent country relative to most other countries in the analyses, and Argentina, a wine-producing country, less likely to abstain because *alcohol is too expensive*, while endorsement of *alcohol is a waste of money* was greater in countries with a higher rate of abstaining.

Higher endorsement of *don't like the taste* and lower endorsement of *don't like the effects* (among former drinkers) in countries where those who drank did so less frequently compared with drinkers in other countries, suggests that some reasons for abstaining might be associated with the extent of integration of alcohol into day-to-day life. For example, in countries where drinking is less frequent, people may not develop a taste for alcohol to the same extent that people in more frequent drinking cultures do. On the other hand the *effects* of alcohol might be more relevant in countries where drinking is more frequent, because people are more likely to have been exposed to the effects of alcohol either directly or by seeing others drinking.

Although the concern that alcohol is *bad for your health* was a common reason for abstaining in all countries among lifetime abstainers and former drinkers, results from HLM analyses indicated that regardless of abstaining rate this reason was more common in

countries with a lower frequency of drinking. This might reflect a greater potential risk of problems from infrequent heavy drinking being more relevant in some countries where this is the predominant pattern of drinking.²

With regard to gender differences, differences in reasons for abstaining appeared to be related to different drinking norms and patterns for men and women. As noted above, the higher endorsement of *having no interest* by female than by male abstainers may be the result of women not being exposed to public drinking activities to the same extent that men are or because there are stronger nondrinking norms for women than for men. The higher endorsement rate of not liking *the taste*, particularly among former drinkers, suggests that fewer women developed a taste for alcohol, possibly because they were more likely than men to be infrequent drinkers before they stopped drinking altogether.¹⁶

Across countries, men were significantly more likely than women to abstain because they were *afraid of alcohol problems/becoming an alcoholic* and among former drinkers because drinking has a *bad effect on activities*, both of which might reflect that men drink more often and in higher quantities than women, and thus are more likely to experience these negative effects or to perceive them as being potential problems. *Religion* also tended to be a more important reason for abstaining for male than for female former drinkers, perhaps because heavier drinking by men invokes greater pressure to abstain from religious leaders in some countries.

Among former drinkers in HLM analysis younger age was associated with higher endorsement of *afraid of alcohol problems/becoming alcoholic* possibly reflecting that drinking, especially heavy episodic drinking, tends to decline with age.^{17,18} At the same time, younger age of abstainer was also associated with having *no interest* in drinking, not liking *the taste* and *drinking is a waste of money* possibly reflecting more pressures to abstain and stronger compliance with non-drinking norms and less frequent exposure to alcohol generally.

Limitations

Regional samples used in some countries may not necessarily be representative of the country population overall; however, these samples provide data from a diverse set of cultures suitable for the present comparative analyses. Because the analyses included data from only eight countries, the findings, especially country-level findings, may not be generalizable to all countries. While a strength of the GENACIS data is the use of the same core set of questions (with back translation used to confirm adequacy of translation), as is the case with all cross-cultural comparisons, it is still possible that differences occurred in interpretability and meanings of questions across countries. In addition, the present list of items is not necessarily exhaustive, and the analyses are limited to individual reasons for abstaining and do not include predictors of groupings among these reasons. Also as with most general population surveys,¹³ young men are likely to have been underrepresented in these samples. Finally, the number of countries was too small to enable analyses controlling for other potentially relevant country-level factors such as religion and economic indicators.

Summary

Endorsement rates of different reasons for abstaining vary across countries, with higher rates of endorsement in countries that have a greater proportion of lifetime abstainers, especially endorsement of *religious* reasons, drinking is a *waste of money* or *too expensive*, fear of *alcohol problems* and *having no interest*. A corresponding pattern was observed at the individual level with lifetime abstainers tending to endorse most reasons more often than did former drinkers. Although religion and upbringing clearly influence the choice not to drink

in countries with high rates of abstaining, the type of drinking that is commonly seen to occur (e.g., consuming large amounts per occasion) may also play an important role in promoting abstinence.

In terms of gender differences, *having no interest* and *not liking taste* appeared to play a key role in abstaining by women, while *fear of alcohol problems*, *negative effects of alcohol on activities* and *religion* were more important considerations for men, suggesting that female abstainers tend to be motivated by normative expectations while males are more likely to be motivated by experience with alcohol. The findings related to age also suggest that societal level drinking norms and experiences among drinkers are relevant in the choice not to drink. The consistency of these findings over such a diverse set of countries suggests that the findings highlight important factors influencing decisions to abstain from alcohol and increase our understanding of drinking/abstaining practices generally.

Acknowledgments

This paper was prepared as part of the project, Gender, Alcohol and Culture: An International Study (GENACIS) led by Sharon Wilsnack and funded by the U.S. National Institute on Alcohol Abuse and Alcoholism/National Institutes of Health (No.: R01AA015775). Support for preparation of this paper was provided through an operating grant to Kathryn Graham (PI) and Andrée Demers (Co-PI) by the Canadian Institutes of Health Research (CIHR) (No. 108626). GENACIS is a collaborative international project affiliated with the Kettil Bruun Society for Social and Epidemiological Research on Alcohol and coordinated by GENACIS partners from the University of North Dakota, the University of Southern Denmark, the Free University of Berlin, the World Health Organization, and the Swiss Institute for the Prevention of Alcohol and Drug Problems. Support for other aspects of the project were provided by the World Health Organization, the Quality of Life and Management of Living Resources Programme of the European Commission (Concerted Action QLG4-CT-2001-0196, Kim Bloomfield (Coordinator)), Canadian Institutes of Health Research (CIHR) (No. 108626), the German Federal Ministry of Health, the Pan American Health Organization, Swiss national funds, and the U.S. National Institute on Alcohol Abuse and Alcoholism/National Institutes of Health (No. R01AA015775 and R21AA12941, Sharon Wilsnack (P.I.)). Data coordinator for the GENACIS project is Gerhard Gmel, Swiss Institute for the Prevention of Alcohol and Drug Problems, Lausanne, Switzerland. Thanks to Sandra Kuntsche for her help with the data analysis. Data from some countries were collected as part of the PAHO Multicentric Study led by Maristela Monteiro (PI), Jürgen Rehm (Co-PI) and Ben Taylor (Project Coordinator). We are grateful to the staff at the Institute for Social Research at York University, especially David Northrup and Renée Elspett-Koeppen, and to Jolicoeur for their assistance in implementing the GENACIS Canada survey. Thank you also to Robin Room for his helpful editorial suggestions. The study leaders and funding sources for data sets used in this paper are:

Argentina: Myriam Munné, World Health Organization

Canada: Kathryn Graham, Ph.D. (PI) and Andree Demers, Ph.D. (Co-PI), Canadian Institutes of Health Research (CIHR Application Number 108626)

Nigeria: Akanidomo Ibanga, World Health Organization

Peru: Marina Piazza, MPH, Sc.D., Pan-American Health Organization, completed as part of the PAHO Multicentric Study affiliated with GENACIS

Sri Lanka: Siri Hettige, Ph.D., World Health Organization

Sweden: Karin Helmersson Bergmark, Ph.D., Department of Sociology, Stockholm University, Sweden and Robin Room, Ph.D., Ministry for Social Affairs and Health, Sweden

Uganda: M. Nazarius Tumwesigye, Ph.D., World Health Organization

Uruguay: Raquel Magri, M.D., World Health Organization

REFERENCES

1. Rehm, J.; Room, R.; Monteiro, M.; Gmel, G.; Graham, K.; Rehn, N.; Sempos, C.; Frick, U.; Jernigan, D. Ezzati, M.; Lopez, A.; Rodgers, A.; Murray, C., editors. Comparative Quantification of Health Risks. Geneva: World Health Organization (WHO); 2004. Alcohol use.
2. World Health Organization. Global status report on alcohol. 2004 [Accessed December 8, 2008]. http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf

3. Ibanga, A.; Adetula, A.; Dagona, Z.; Karick, H.; Ojiji, O. The contexts of alcohol consumption in Nigeria. In: Obot, I.; Room, R., editors. Alcohol, gender and drinking problems. Geneva: World Health Organization; 2005.
4. Hettige, S.; Paranagama, D. Obot, I.; Room, R., editors. Alcohol, gender and drinking problems. Geneva: World Health Organization; 2005. Gender and alcohol in Sri Lanka.
5. Krause N. Race, religion and abstinence from alcohol in late life. *Journal of Aging and Health*. 2003; 15(3):508–533. [PubMed: 12914018]
6. Marsiglia F, Kulis S, Nieri T, Parsai M. God forbid! Substance use among religious and non-religious youth. *American Journal of Orthopsychiatry*. 2005; 75(4):585–598. [PubMed: 16262516]
7. Hilton M. Abstention in the general population of the U.S.A. *British Journal of Addiction*. 1986; 81:95–112. [PubMed: 3485988]
8. Sulkunen P, Warpenius K. Reforming the self and the other: the temperance movement and the duality of modern subjectivity. *Critical Public Health*. 2000; 10(4):423–438.
9. White, H.; Huselid, R. Gender differences in alcohol use during adolescence. In: Wilsnack, R.; Wilsnack, S., editors. Gender and alcohol: Individual and social perspectives. New Jersey: Rutgers Centre of Alcohol Studies; 1997.
10. Wilsnack R, Vogeltanz N, Wilsnack S, Harris T. Gender differences in alcohol consumption and adverse drinking consequences: cross-cultural patterns. *Addiction*. 2000; 95(2):251–265. [PubMed: 10723854]
11. Obot, I.; Room, R., editors. Alcohol, gender and drinking problems. Geneva: World Health Organization; 2005.
12. Graham, K.; Bernards, S.; Munné, M.; Wilsnack, S., editors. Unhappy hours: Alcohol and physical partner aggression in the Americas. Washington, DC: Pan American Health Organization; 2009.
13. McAuliffe WE, Geller S, LaBrie R, Paletz S, Fournier E. Are telephone surveys suitable for studying substance abuse? Cost, administration, coverage and response rate issues. *J. Drug Issues*. 1998; 28(2):455–481.
14. Gardner, R. Psychological statistics using SPSS® for Windows. Eaglewood Cliffs, New Jersey: Prentice Hall; 2001. p. 144-162.
15. Raudenbush, S.; Bryk, A.; Cheong, Y.; Congdon, R.; du Toit, M. HLM 6: Hierarchical linear and nonlinear modeling. Lincolnwood, Illinois: Scientific Software International; 2002.
16. Goldman E, Najman J. Lifetime abstainers, current abstainers and imbibers: A methodological note. *British Journal of Addiction*. 1984; 79:309–314. [PubMed: 6595025]
17. Knupfer G, Room R. Abstainers in a metropolitan community. *Quarterly Journal of Studies on Alcohol*. 1970; 31(1):108–131. [PubMed: 5417804]
18. Graham K. Alcohol abstention among older adults: Reasons for abstaining and characteristics of abstainers. *Addiction Research*. 1998; 6(6):473–487.

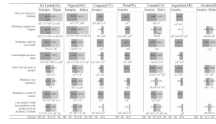
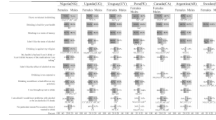


Figure 1.

Percent of lifetime abstainers who endorsed each item by country and by gender (country codes under bars indicate countries with proportions that are significantly different)

Note: Countries with significant (chi-square p -value $< .002$) pairwise differences in endorsement rates are indicated by two letter country codes under the bar for each item; no superscript indicates a significant difference for both male and female respondents, ^F only female and ^M only male.

*** $p < .001$, ** $p < .01$, and * $p < .05$ indicate that the endorsement rate is significantly higher (Chi-square test) for that gender of respondent compared to the endorsement rate for opposite gender respondents within the same country.

**Figure 2.**

Percent of former drinkers who endorsed each item by country and by gender (country codes under bars indicate countries with proportions that are significantly different)

^aReasons asked separately for most but not all countries; therefore, combined in the present analyses for comparison purposes.

Note: Countries with significant (chi-square p-value <.002) pairwise differences in endorsement rates are indicated by two letter country codes under the bar for each item; no superscript indicates a significant difference for both male and female respondents, ^F only female and ^M only male.

*** p<.001, ** p<.01, and * p<.05 indicate that the endorsement rate is significantly higher (Chi-square test) for that gender of respondent compared to the endorsement rate for opposite gender respondents within the same country.

Table 1
Sample characteristics of GENACIS surveys for each country including rate of abstaining and frequency of consumption among drinkers, overall and by gender

Country (Region sampled if not nationally representative)	Total sample size ^a		Age range of sample		Abstention rate		Lifetime abstainers (percent of total sample)		Former drinkers (percent of total sample)		Average number of drinking days in past year among drinkers			
	Males	Females	Overall	Males	Females	Males	Females	Males	Females	Males	Females	Overall	Males	Females
<i>Sri Lanka</i> (17 districts in south and west)	603	590	69.7%	46.4%	93.6%	19.4%	86.6%	not surveyed	not surveyed	60.9	11.2	55.7	60.9	11.2
<i>Nigeria</i> (Federal Capital Territory and states Benue, Nasarawa, Plateau in north, states Akwa Ibom, Rivers in south)	1109	955	67.1%	57.9%	77.7%	41.8%	55.9%	16.1%	21.8%	161.1	130.4	151.5	161.1	130.4
<i>Uganda</i> (regions Kabale (west), Tororo (east), Lira (north), Wakiso (central))	720	758	54.7%	48.8%	60.5%	not surveyed	not surveyed	16.8%	23.9%	169.0	80.7	130.2	169.0	80.7
<i>Uruguay</i> (cities >10,000 primarily Montevideo and Canelones)	376	624	31.9%	18.9%	39.7%	4.8% ^c	17.3%	14.1%	22.4%	86.1	51.1	66.8	86.1	51.1
<i>Peru</i> (cities Ayacucho, Lima)	516	1014	31.7%	17.6%	38.9%	3.5% ^c	8.9%	14.1%	30.0%	20.2	10.7	14.6	20.2	10.7
<i>Canada</i> ^b	2991 ^b	4028 ^b	22.4% ^b	18.3% ^b	25.4%	5.2% ^b	10.0% ^b	13.2%	15.3%	103.5	67.0	83.4	103.5	67.0
<i>Argentina</i> (city and province of Buenos Aires)	402	598	19.1%	8.5%	26.3%	2.5% ^c	6.4%	6.0%	19.9%	120.7	61.8	88.6	120.7	61.8
<i>Sweden</i>	2656	2816	16.3%	11.6%	20.9%	4.9%	9.7%	6.5%	11.2%	80.7	56.9	69.4	80.7	56.9

^aExcludes "don't know" or refused responses on drinking status

^bThe reasons for abstaining items were implemented with a random subsample of 50% of abstainers in the Canada survey.

^cExcluded from further analyses of male lifetime abstainers

Table 2

Odds ratios resulting from two-level HLM^a analyses in which each reason for abstaining was regressed on type of abstainer, gender and age (Level 1 variables) and percent abstainers and average frequency of drinking in past year (Level 2 variables) conducted separately for all abstainers, former drinkers only and females only

Reason for abstaining - Endorsed (1), Not endorsed (0)	Person-level (Level 1) variables			Country-level (Level 2) variables ^b		
	Group of respondents included in analysis	Type of abstainer - Lifetime (1) vs former drinker (0)	Male (1) vs female (0)	Age	Percent abstainers	Average frequency (number of days past year)
I have no interest in drinking ^d	All abstainers	1.311**	0.761	0.991***	1.004	1.007
	Former drinkers		0.798*	0.991**	1.010	0.999
	Female abstainers	1.221*		0.989**	1.040\$	0.986
Drinking is against my religion ^e	All abstainers	1.690	1.100	0.999	1.085***	0.991\$
	Former drinkers		1.490***	0.995	1.060**	0.995
	Female abstainers	1.931*		1.001	1.055***	0.996
Drinking is bad for your health ^f	All abstainers	1.112	1.021	1.000	1.003	0.994*
	Former drinkers		0.989	1.003	0.999	0.996\$
	Female abstainers	1.121		1.000	1.000	0.993**
I was brought up not to drink ^g	All abstainers	3.531*	0.938	0.998	1.010	1.004
	Former drinkers		0.910	1.003	1.004	1.006
	Female abstainers	2.904*		1.003	1.017\$	1.000
I don't like the taste of alcohol ^h	All abstainers	0.966	0.715\$	0.992***	1.001	0.995*
	Former drinkers		0.587*	0.987***	1.000	0.995\$
	Female abstainers	0.866		0.994**	.996	0.998
Drinking is too expensive	All abstainers	0.926	1.063	1.000	1.017\$	0.999
	Former drinkers		1.098	1.000	1.024	0.993
	Female abstainers	0.848		1.002	1.014\$	1.001
Drinking is a waste of money ⁱ	All abstainers	0.966	1.076	0.996*	1.012*	0.997

Reason for abstaining - Endorsed (1), Not endorsed (0)	Group of respondents included in analysis	Person-level (Level 1) variables		Country-level (Level 2) variables ^b		
		Type of abstainer - Lifetime (1) vs former drinker (0)	Male (1) vs female (0)	Age	Percent abstainers	Average frequency (number of days past year)
	Former drinkers		1.025	0.997	1.005	0.997
	Female abstainers	0.905		0.998	1.009§	0.996
I am afraid I would have problems with alcohol or be an alcoholic if I drank ^j	All abstainers	1.111	1.574**	0.992	1.035*	1.006
	Former drinkers		1.956***	0.991**	0.998	1.014§
	Female abstainers	1.300*		0.992	1.027*	1.007
I don't like the effect of alcohol on me ^k	Former drinkers		0.896	0.992	0.999	1.009*
Drinking would have a bad effect on my activities	Former drinkers		1.491**	0.991	0.998	1.001
My health is bad and I can't drink or I can't drink because of the medications I am taking ^{c,l}	Former drinkers		0.911	1.033***	1.024§	0.998
No particular reason/no occasion where I wanted to drink	Former drinkers		1.042	1.009	.979	1.017§

*** p-value<0.001,

** p-value<0.01,

* p-value<0.05,

§ p-value<0.10

^aHierarchical Linear Modelling V.6, Bernoulli model for dichotomous outcome variable¹⁵.

^bCountry-level intercept included in all models but results not shown.

^cReasons asked separately for most but not all countries; therefore, combined in the present analyses for comparison purposes.

^dNegative relationship with age for lifetime abstainers in NG (p < .05); for former drinkers in UY (p < .01), CA (p < .001).

^eNegative relationship with age for lifetime abstainers in CA (p < .001), SE (p < .01); for former drinkers in SE (p < .05).

^fNegative relationship with age for lifetime abstainers and former drinkers in CA (p < .05), SE (p < .001).

^gNegative relationship with age for lifetime abstainers in PE (p < .05).

^hNegative relationship with age for lifetime abstainers SE (p < .05); for former drinkers in UG (p < .05), PE (p < .05), CA (p < .05).

ⁱ Negative relationship with age for former drinkers in UG ($p < .05$).

^j Negative relationship with age for lifetime abstainers in CA ($p < .01$), SE ($p < .05$); for former drinkers in SE ($p < .01$).

^k Negative relationship with age for former drinkers in SE ($p < .001$).

^l Positive relationship with age for former drinkers in NG ($p < .05$), UG ($p < .05$), UY ($p < .001$), PE ($p < .001$), CA ($p < .001$), AR ($p < .01$).