



The social location of harm from others' drinking in ten societies

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Abstract

Aims: Survey data from 10 diverse countries were used to analyse the social location of harms from others' drinking: which segments of the population are more likely to be adversely affected by such harm, and how does this differ between societies?

Methods: General-population surveys in Australia, Chile, India, Laos, New Zealand, Nigeria, Sri Lanka, Thailand, US, Vietnam (N=22,372), with a primary focus on the social location of the harmed person by gender, age groups, rural/urban residence, and drinking status. Harms from known drinkers were analysed separately from harms from strangers.

Results: In all sites, risky or moderate drinkers were more likely than abstainers to report harm from the drinking of known drinkers, with risky drinkers the most likely to report harm. This was also generally true for harm from strangers' drinking, though the patterns were more mixed in Vietnam and Thailand. Harm from strangers' drinking was more often reported by males, while gender disparity in harm from known drinkers varied between sites. Younger adults were more likely to experience harm both from known drinkers and from strangers in some but not all societies. Only a few sites showed significant urban/rural differences, with disparities varying in direction. In multivariate analyses, most relationships remained, though some were no longer significant.

Conclusion: The social location of harms from others' drinking, whether known or a stranger, varies considerably between societies. One near-commonality across the societies is that those who are themselves risky drinkers are more likely to suffer harm from others' drinking.

Introduction

Studies in the general population have often analysed demographic differentiations in rates of heavier drinking and of alcohol-related personal and social problems for the drinker, and the relation of drinking pattern to problems for the drinker. [e.g., 1, 2, 3]. Extensions of such analyses to comparative studies across two or more societies have become fairly common [e.g., 1, 4, 5]. But as the comparisons have extended to a much wider range of societies [e.g., 6, 7], some of what had seemed to be general rules about the demographic location of drinking and of problems for the drinker have not held.

Meanwhile, the scope of population studies of alcohol problems has been expanding to include harms to others from drinking. While this was not a totally new area [8], what was new was systematic coverage, mostly in the form of questions where respondents are asked about harms from others' drinking to themselves or to others around them. Initial surveys in Australia [9] and New Zealand [10] found that the harms to individual others from drinking were very substantial.

Building on this development, the World Health Organization took on "alcohol's harm to others" as a stream of work in its Global strategy to reduce harmful use of alcohol [11 p14–16]. In collaboration with the Thai Health Promotion Foundation, parallel national projects were undertaken in low- and middle-income countries (LMICs) which included a probability-sample adult population survey of all or part of the country, with comparable survey instruments. The survey covered the whole country, or selected areas that cover its full range, in Sri Lanka, Thailand, Vietnam and Lao People's Democratic Republic (referred to here as Laos). In India the sample was confined to the state of Karnataka in southern India, in Nigeria it included three states from the middle and southern areas, and in Chile it covered the majority of the population but not remote areas (for details, see 12).

The WHO-ThaiHealth studies, in combination with comparable studies in Australia, New Zealand and the USA [10, 13, 9], provide an opportunity to compare patterns of harm from others' drinking in countries with vastly different socio-demographic profiles, and in which alcohol's cultural position varies substantially [6, 7, 8]. This paper makes such comparisons in ten societies, in terms of the social location of the harm. We use this term to include not only demographic differentiations but also to take into account that harm from others' drinking inherently involves at least two persons in some kind of relationship with each other (including as strangers, as a category of relationship), and often occurs in situations of collective drinking. Along with gender, age group, and rural/urban demographic differences, the analyses thus also consider the relationship to the harming drinker, and the drinking status of the person harmed (in terms of being an abstainer, a moderate drinker, or a risky drinker).

The societies: some comparisons.

The countries vary greatly in size and in level of economic development, as can be seen in a supplementary document (Table S-1). Also shown there are alcohol consumption statistics from WHO's Global Information Service on Alcohol and Health [14]. The four higher-income societies -- Australia, the U.S., New Zealand and Chile -- have relatively high per-

capita consumption, but so does Nigeria. India and Sri Lanka have considerably lower levels than the other societies, partly reflecting the high rates of abstention there among those aged 15 and above. Drinking at all is more common among males than females everywhere, but particularly so in many LMICs: in the six LMICs in the study, less than 30% of females drink at all. On a base of consumption level per drinker, which may indicate better than consumption per capita the trouble the drinking is likely to cause, the four most affluent societies are in the lowest group, along with Vietnam and Laos.

Methods

Sample.

As described in more detail elsewhere [12], the Australian and New Zealand datasets were sampled and interviewed by computer-assisted telephone interviewing (CATI) in 2008/09. The U.S. dataset was collected in 2015 from a dual-frame mobile and landline CATI sample [13]. The surveys in the other countries were conducted in 2012–2014 by face-to-face interviewing of respondents sampled at their household. Where available, reported response rates were above 90% in the participating LMICs, but lower in Chile (72%), New Zealand (64%), Australia (42% cooperation rate) and the U.S. (60% cooperation rate). Response rates have fallen in recent decades in high-income countries; post-weighting and other precautions to improve and check the representativeness of samples were applied in these surveys [e.g., 15]. For the sake of comparability, this paper uses data from respondents aged 18 to 65 (64 for Laos).

Ethical approval was gained in each country, as well as for the WHO-ThaiHealth project as a whole, from the WHO Ethics Review Committee, and in Australia, where the crossnational dataset was collated and is housed.

Measures.

In measuring harm from drinking, there are a number of aspects on which there may be cultural differences, as well as individual differences, in responses [16, 17]. The present studies sought to minimise such variations by asking relatively concrete questions about actions, situations or events which had occurred within the last 12 months. The questions included a direct attribution to the other person's drinking -- a formulation such as "because of the drinking" of the person, or that someone "who had been drinking" had harmed the respondent.

The present analyses use two categories of person who may have harmed the respondent: known persons -- family members, friends, workmates, neighbours, etc. -- and "strangers or people you don't know very well". The items used in this analysis (Figure 1) were limited to what was asked in all ten countries, so results presented in national analyses using larger sets of items may vary.

Two dichotomous variables indicating harm from at least one item, versus no harm reported, were derived from the items. One indicated whether any of the 10 items concerning harm from known drinkers had been answered positively; the other whether any of the 4 items concerning strangers had been answered positively.

There were some variations in the framing and placement of the questions on harm from others' drinking which probably affected responses. In Australia, New Zealand and Laos, questions about harm from a known drinker referred only to the person whose drinking had most harmed the respondent in the last year. Almost certainly this reduced the proportions answering "yes". In the U.S., rates of positive response concerning harm from strangers were very likely affected by strangers being the last of nine categories about which respondents were asked. Again, this almost certainly reduced proportions answering "yes".

Given the likely cultural and linguistic variation in the interpretation of questions, and these variations in question framing and procedure, we have concentrated in this analysis on relationships within each national sample, comparing these between countries. Respondents from all demographic categories in the particular country were each asked the questions in a relatively constant frame, giving more confidence that differences between subgroups in rates and relationships have substantive meaning. For completeness, we report the rates of harms from the drinking of known drinkers and of strangers (Table 1), but with the caution that they should be interpreted keeping in mind the noted cultural and procedural differences.

Analyses.

Results from Australia, the U.S. and New Zealand are pre-weighted for likelihood of selection within the household (in the U.S. also for differential sampling) and post-weighted to match gender, age and geographical location population estimates. Results from the seven WHO/ThaiHealth countries are pre-weighted for likelihood of selection within the household and post-weighted to match gender population estimates. In the known drinker items in Figure 1, missing responses ranged from 0.1% to 9.2% (average = 2.8%). In the stranger harms less than 0.5% of responses were missing. Because the two main outcomes were endorsement of one or more relevant items, we treated missing data as a response of No, as the most appropriate course of action considering how the scores were tallied. The total weighted number of cases was set equal to the unweighted interviewed sample size. Weighted means and 95% confidence intervals, and bivariate and multivariate logistic regression models predicting harm, were generated on Stata Version 14 [19].

Results

Table 1 presents the overall rates of reporting harm from known drinkers' and from strangers' drinking in each country, with countries ordered by decreasing level of Gross National Income (GNI; see Table S-1). Despite high abstainer rates in India and Thailand, the proportion of respondents who reported any harm from a known drinker was particularly high there. Conversely, despite their lower abstainer rate, Australia, the U.S. and New Zealand reported lower levels of any harm from a known drinker, though for Australia and New Zealand this in part reflects that the question was asked only concerning the "most harmful" known drinker. Nigeria also reported a low rate of any harm from a known drinker. In terms of consumption per drinker, India and Thailand have rates substantially higher than in the other LMICs (see Table S-1) – but on the other hand, for that measure Nigeria is not far behind them.

In contrast to the results for harm from known drinkers, the proportion of respondents reporting harm from strangers was relatively high in Australia and New Zealand, along with Chile. On the contrary, harm from strangers' drinking was reported by only small proportions of the respondents in the U.S. and Nigeria. As noted, a procedural variation probably held down the U.S. rate; the Nigerian finding may reflect a cultural tendency to attribute harms to other factors than alcohol.

In a majority of sites, particularly those without procedural quirks, the proportions reporting harm from known drinkers was considerably higher than the proportion reporting harm from strangers (over four times as high in India, Thailand, Vietnam and Nigeria).

Turning to the analysis of the social location of harms from others' drinking in the ten societies, logistic regressions predicting experience of harm from a known drinker are shown in Table 2. (Supplementary Table S-2 gives confidence intervals for the odds ratios in this table). The top half of the table shows the bivariate odds ratios for each of four predictors.

Concerning gender, women were significantly more likely than men to report harm from known drinkers in Australia and New Zealand, while the reverse was true in Sri Lanka, India, Laos and Thailand. There was no significant difference by gender for the U.S., Vietnam and Nigeria.

Concerning harm from known drinkers, those aged 18–29 reported the highest rates of harm in a majority of the sites; this was significantly true in comparisons to the two other age-groups in the U.S., Australia, New Zealand, Chile, Thailand, Laos and India. But in Nigeria and Vietnam, there were no significant differences between the three age-groups, and in Sri Lanka, only with those aged 50 and above.

In a majority of the sites, there was no significant difference in reported rates of harm from known drinkers by rurality. In Laos, reported rates of harm were significantly higher in non-rural areas, while in Vietnam and India the rates were significantly higher in rural areas.

Respondents who were themselves risky drinkers (drinking 5 drinks on an occasion at least monthly) were significantly more likely than abstainers to report harm from others' drinking in all 10 sites. This was true also for moderate drinkers, in comparison to abstainers, in all sites except New Zealand, where the difference was in that direction but not significant.

The bottom half of Table 2 shows the multivariate logistic regression results for the four variables predicting any harm from the drinking of a family member, friend or other known drinker. With the other predictors controlled, women remained significantly more likely than men to report harm from a known drinker in Australia and New Zealand, and significantly less likely to do so in India. As in the bivariate analysis, there was no significant gender difference in Nigeria, Chile and the USA. But, controlling for other predictors, there was now no significant gender difference in Laos, Thailand and Sri Lanka, while in Vietnam women were now significantly more likely to report harm from known drinkers.

The multivariate findings by age mostly resembled the bivariate results. But in two comparisons the age-group differences were no longer significant: between 18–29 and 30–49 in New Zealand, and between 18–29 and 50+ in Chile.

Multivariate analysis did not change the general findings concerning rural vs. non-rural residence: only in Laos was the rate significantly higher for non-rural residents, and only in Vietnam and India was it significantly lower. The general direction of findings was also maintained for comparisons on the respondent's drinking status. But the difference was no longer significant for the comparison between moderate drinkers and abstainers in Australia and Sri Lanka.

For harm from strangers' drinking in the bivariate regressions (top half of Table 3; see Table S-3 for confidence intervals), higher rates of harm were reported by men than by women in all ten sites. The difference was significant in all sites except Nigeria.

In all sites except India and Nigeria, 18–29-year-olds were more likely than either of the older age-groups to report harm from strangers' drinking; these odds ratios were significant in Australia, the US, New Zealand, Chile and Sri Lanka. In India, both older age-groups were significantly more likely than 18–29-year olds to report harms from strangers' drinking.

Rural respondents were less likely than non-rural to report harm from strangers' drinking in all sites except India and Vietnam, though this result was only significant in Sri Lanka, Laos, Chile and Thailand. In India, rural respondents were significantly more likely to report harm from strangers' drinking.

Respondents who were themselves risky drinkers were significantly more likely than abstainers to report harm from strangers' drinking in all except two sites: Thailand and Vietnam. There was less of a distinction in rates of such harm between moderate drinkers and abstainers; the rates for respondents who were moderate drinkers were generally higher, but this was only significant in India, the US, Sri Lanka and Nigeria.

In the multiple logistic regression models (bottom half of Table 3), it remained true that there were stronger odds of men than of women reporting any harms from strangers' drinking; but this result remained significant in only 5 sites: the U.S., Chile, Vietnam, Laos and India. For age groups, the results remained largely the same as in the bivariate analysis: the Indian counter-instance, where older ages showed higher rates, was no longer significant, while Laotians aged 50+ were now significantly less likely than 18–29-year olds to report harm from strangers' drinking. The pattern of results and of significance by rural vs. non-rural residence remained the same in the multivariate analysis as in the bivariate; and the only changes in significance of results for the respondent's drinking status was that risky drinkers in Laos and moderate drinkers in Nigeria no longer had significantly higher rates than abstainers of harm from strangers' drinking.

Discussion

The social location of harms from others' drinking in ten diverse populations varies considerably from one society to another. Harm from the drinking of family members, friends and others known to the respondent occurs significantly more often to women than to men in two richer countries, and to men in four LMICs, while there is no significant difference in the remaining four. This pattern differs considerably from the gender patterning of risky and problematic drinking: almost universally, men drink more and more problematically than women. In terms of odds ratios, this gender distribution of the burden of harm from the drinking of family members and friends is generally tilted a little towards more harms to women when other factors, including the respondent's own drinking status, are taken into account in the multivariate results.

For those harmed by strangers' drinking, the patterning by gender appears more universal. Although the differences are not always significant, in all ten societies such harms were more often reported by men than by women. It may partly reflect widely-followed conventions about the gendering of drinking-related sociability with previously unknown persons, for instance in taverns [20, 21]; but the results are not very different when the respondent's own drinking, presumably related to such conventions, is taken into account. Further studies could examine the contribution of exposure to high-risk venues to harms from strangers, as prior work in some countries suggests that frequent drinking in bars or at parties increases risk of violent interactions with other drinkers [e.g. 22].

In seven of the societies included, rates of harm from known drinkers were significantly higher for respondents aged 18–29 than for the two older age-groups included in the studies. But the odds ratios for Sri Lanka, Vietnam and Nigeria did not follow this pattern, and this result did not change much when the respondent's own drinking status and other characteristics were taken into account. Concerning harm from strangers' drinking, the same patterning of the highest rate in the youngest age-group was found for the four richest societies, but elsewhere was clearly significant only in Sri Lanka. The patterning was reversed in India -- though this result was no longer significant in the multivariate analysis. The study's results clearly suggest that findings in several high-income countries that harms from others' drinking are concentrated among younger adults should not be assumed to be universally true. Additional work is needed to disentangle associations between age and social behaviours that may increase or decrease the risk of alcohol-related harm.

Significant differences between rural and urban residents in rates of harm from the drinking of family members, friends and other known drinkers were found in only three of ten sites: Laos, where the rate was higher for urban respondents, and Vietnam and India, where the rates were higher for rural respondents. For harm from the drinking of strangers, the same patterns appeared for Laos and India, but there was no significant difference in Vietnam. However, harm from strangers' drinking was also significantly more common for urban than for rural residents in Sri Lanka, Thailand and Chile. Rural and urban contexts vary significantly across lower- and higher-income countries, and future research could examine the influence of specific risk and protective factors which vary between rural and urban locations.

While there was some variation between countries in whether abstainers or moderate drinkers were more likely to experience harm from strangers, in most sites moderate drinkers were more likely to experience harm from known drinkers. For respondents who themselves are risky drinkers, the odds of experiencing harm from strangers' drinking was at most sites significantly higher than for abstainers, and in all sites significantly and substantially higher for harm from known drinkers. Risky drinkers are often enmeshed in "wet" environments and circles of friendship and relationship, and research and trials on problems prevention in subcultures and other social worlds of heavy drinking [23] is a promising avenue to reduce harm from drinking to others as well as to the drinker.

Limitations.

Procedural and cultural differences which limit the comparability of rates of harms across national studies have been noted. The Australian, New Zealand and U.S. surveys were collected by telephone (CATI) modality, while other samples were interviewed in person. The lower response rates in the higher-income countries are in part inherent in the CATI modality. Weighting and other compensatory measures [e.g., 15] are used in these circumstances to improve the representativeness. It seems unlikely the interview modality greatly affected the results: studies in high-income countries of the difference CATI vs. in-person interviewing makes in reporting one's own drinking patterns and problems have found differences in both directions, usually relatively small [24, 25, 26]. That the Australian and New Zealand surveys were collected several years before the other surveys is unlikely to make much difference: New Zealand per-adult consumption fell by about 4% and Australian by about 5% between 2008 and 2014, though at least in Australia not among the heaviest drinkers [27].

Given the procedural and cultural differences, the emphasis here has been on analysing and comparing differences within societies. Harm from others' drinking can also be measured in other ways than questions to the "other", and there is substantial work to be done collecting and comparing data from different perspectives in the same frame – besides the "other", from the drinker, from bystanders, and from the records of response agencies. Besides their substantive interest, such studies would contribute to validating the measures used here.

Conclusion

A common finding in studies of harms from others' drinking within particular countries has been that the harms are more widely spread in the population and across demographic categories than they are for harms to drinkers themselves [e.g., 9]. The patterns found in this analysis suggest that this is widely true. But across the ten societies studied there is a notable lack of uniformity in the patterning of the social location of harms from others' drinking. There is at least one site which is an exception to any generalisation about significant differences by gender, by age group, or by rural/urban residence in the occurrence of harm either from known drinkers or from strangers. Respondents who are themselves risky drinkers are usually exposed to more risk than abstainers of harm from others' drinking, but even this finding is not significant everywhere. In nearly all sites, moderate drinkers were also more likely than abstainers to report harm from others' drinking, but this difference was

not universally significant for harm from known drinkers, and was significant for only a minority of the sites for harm from strangers' drinking.

To plan and implement programs and policies to reduce harms from others' drinking in a particular society, detailed studies are needed of the contours of the social locations of the harms in that society: to whom and in what relationships are such harms most likely to occur? Such a mapping will suggest not only where preventive and interventive efforts should be focused, but also serves as a scoping study pointing to where more detailed studies should focus. The findings of the present study suggest that one should not assume that findings on the social location of harms from others' drinking in a particular society will necessarily apply everywhere else.

Further cross-national studies are also needed of the patterning and determinants of harms from others' drinking, and of means of preventing such harms. Alcohol is causally involved in a broad range of social and health harms, which often would not occur without the drinking. But more often than not, alcohol is not a single cause, but one of several interacting or cumulating factors. Cross-cultural comparative studies of factors in the occurrence of harms from drinking to others, as well as to drinkers, can provide insights into paths for policymaking and programs to prevent or reduce the harms.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

1. Bruun K, Hauge R. Drinking Habits among Northern Youth. Finnish Foundation for Alcohol Studies Helsinki; 1963.
2. Cahalan D, Cisin IH. Drinking behavior and drinking problems in the United States. In: Kissin B & Begleiter D, eds., The Biology of Alcoholism. Vol. 4: Social Aspects of Alcoholism 1976 (pp. 77–115). Springer US.
3. Matthews S, Dietze P, Room R, Chikritzhs T, Jolley D. The social location of heavy episodic alcohol consumption in the Victorian population. *Drug and Alcohol Review*. 2013;32(2):157–161. [PubMed: 22994590]
4. Hupkens CL, Knibbe RA, Drop MJ. Alcohol consumption in the European Community: uniformity and diversity in drinking patterns. *Addiction*. 1993;88(10):1391–1404. [PubMed: 8251877]
5. Room R. Cross-cultural research in alcohol: research traditions and analytical issues. In: Harford T, Towle L, editors. *Cultural Influences and Drinking Patterns: A Focus on Hispanic and Japanese Populations* NIAAA Research Monograph 19. 1988, pp 9–40. <http://www.robinroom.net/crossalc.pdf>
6. Graham K, Bernards S, Knibbe K, Kairouz S, Kuntsche S, Wilsnack SC, Greenfield TK, Dietze P, Obot I & Gmel G. Alcohol related negative consequences among drinkers around the world. *Addiction*. 2011;106(8):1391–1405. [PubMed: 21395893]
7. Wilsnack RW, Wilsnack SC, Kristjanson AF, Vogeltanz Holm ND, Gmel G. Gender and alcohol consumption: patterns from the multinational GENACIS project. *Addiction*. 2009;104(9):1487–1500. [PubMed: 19686518]
8. Room R, Ferris J, Laslett A-M, Livingston M, Mugavin J, Wilkinson C. The drinker's effect on the social environment: A conceptual framework for studying alcohol's harm to others. *International Journal of Environmental Research and Public Health*. 2010;7(4):1855–1871. <http://www.mdpi.com/1660-4601/7/4/1855/> [PubMed: 20617064]
9. Laslett A-M, Catalano P, Chikritzhs TN, Dale C, Doran C, Ferris J, . . . Wilkinson C. The Range and Magnitude of Alcohol's Harm to Others. Fitzroy, Victoria: AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Eastern Health; 2010. <http://www.fare.org.au/wp-content/uploads/2011/10/The-Range-and-Magnitude-of-Alcohols-Harm-to-Others.pdf>
10. Casswell S, Harding JF, You RQ, Huckle T. Alcohol's harm to others: self-reports from a representative sample of New Zealanders. *The New Zealand Medical Journal*. 2011;124(1336):75–84.
11. World Health Organisation. Global Status Report on Alcohol 2014. 2014. Geneva: World Health Organization. http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf?ua=1.
12. Callinan S, Laslett A-M, Rekve D, Room R, Waleewong O, Benegal V, Casswell S, Florenzano R, Hanh TMH, Hanh VTM, Hettige S, Huckle T, Ibanga A, Obot I, Rao G, Siengsounthone L, Rankin G, Thamarangsi T. Alcohol's harm to others: An international collaborative project. *International Journal of Alcohol and Drug Research*. 2016; 5(2):25–32. <http://www.ijadr.org/index.php/ijadr/article/view/218>
13. Kaplan LM, Nayak MB, Greenfield TK, Karriker-Jaffe KJ. Alcohol's harm to children: findings from the 2015 United States National Alcohol's Harm to Others Survey. *Journal of Pediatrics*. 2017;184:186–192. [PubMed: 28215936]
14. World Health Organization. Global Information System on Alcohol and Health (GISAH): Country profiles. 2015 [cited 2015 July 14]. Geneva: World Health Organisation. Available from http://www.who.int/substance_abuse/publications/global_alcohol_report/profiles/en/
15. Wilkinson C, Laslett A-M, Ferris J, Livingston M, Mugavin J, Room R The Range and Magnitude of Alcohol's Harm to Others: Study design, data collection procedures and measurement. Fitzroy, Vic.: AER Centre for Alcohol Policy Research, Turning Point Alcohol & Drug Centre, 2009.

16. Karriker-Jaffe K, Room R, Giesbrecht N, Greenfield TK. Alcohol's harm to others: Opportunities and challenges in a public health framework. *Journal of Studies on Alcohol and Drugs*. In press.
17. Room R, Laslett A-M, Jiang H. Conceptual and Methodological Issues in Studying Alcohol's Harm to Others. *Nordic Studies on Alcohol and Drugs*, 2016;33(5–6):455–478.
18. Levine HG. The “good creature of God” and demon rum: Colonial American and 19th century ideas about alcohol, crime and accidents. In: Room R, Collins G, editors. *Alcohol and Disinhibition: Nature and Meaning of the Link*, NIAAA Research Monograph. 1983, pp. 111–61.
19. StataCorp. *Stata/MP 14.0 for Windows*. College Station TX 77845: StataCorp LP. 2015.
20. Roberts SCM, Bond J, Korcha R, Greenfield TK. Genderedness of bar drinking culture and alcohol-related harms: a multi-country study. *Int J Ment Health Addict*, 2013;11:50–63. [PubMed: 23710158]
21. Bond JC, Roberts SCM, Greenfield TK, Korcha R, Ye Y, Nayak MB. Gender differences in public and private drinking contexts: a multi-level GENACIS analysis. *Int J Environ Res Public Health*, 2010;7:2136–2160. [PubMed: 20623016]
22. Kaplan LM, Karriker-Jaffe KJ, Greenfield T Drinking context and alcohol's harm from others among men and women in the 2010 US National Alcohol Survey. *Journal of Substance Use*, 2017;22:412–418. [PubMed: 28757805]
23. Savic M, Room R, Mugavin J, Pennay A, Livingston M Defining “drinking culture”: A critical review of its meaning and connotation in social research on alcohol problems. *Drugs: Education, Prevention and Policy*, 2016;23(4):270–282.
24. Midanik LT, Greenfield TK. Telephone vs. in-person interviews for alcohol use: results of the 2000 National Survey. *Drug and Alcohol Dependence*, 2003;72:209–224. [PubMed: 14643937]
25. Szolnoki G, Hoffman D Online, face-to-face and telephone surveys – comparing different methods in wine research. *Wine Economics and Policy*, 2013;2(2)-57–66.
26. Greenfield TK, Nayak MB, Bond J, Ye Y, Midanik LT. Maximum quantity consumed and alcohol-related problems: assessing the most alcohol drunk with two measures. *Alcoholism: Clinical and Experimental Research*, 2006;30:1576–1582.
27. Livingston M *Understanding Recent Trends in Australian Alcohol Consumption*. Canberra: Foundation for Alcohol Research and Education; 2015.

"Now let me ask you about various **problems that can occur** because of someone else's drinking. In the last 12 months ..."

Questions asked concerning both known drinkers and strangers

- Has someone who had been drinking harmed you physically
- Was your house, car or property damaged because of someone's drinking

Questions asked concerning known drinkers

- Did you feel threatened or afraid because of someone's drinking at home or in some other private setting
- Were you forced or pressured into sex or something sexual because of [their] drinking
- Did you have to leave home to stay somewhere else because of someone in the household's drinking
- Been a passenger with a driver who had had too much to drink
- Were you emotionally hurt or neglected because of [their] drinking
- Did you stop seeing [them] because of their drinking
- Did [a drinker] fail to do something they were being counted on to do because of their drinking
- Was there less money for household expenses because of someone in the household's drinking

Questions asked concerning strangers

- Has someone who had been drinking been responsible for a traffic accident you were involved in
- Has someone who had been drinking called you names or otherwise insulted you

Figure 1.
Questions on harms because of others' drinking or where the other had been drinking.

Table 1:

Harm to adults from others' drinking in ten societies: percent reporting harm from known drinkers and from strangers.

		Number of survey respondents	Harm from drinking of known drinker (relative, friend,...) Percentage 95% confidence interval		Harm from drinking of stranger (not known to respondent) Percentage 95% confidence interval	
Australia	2008	2649	24.1	(22.3, 25.9)	24.3	(22.5, 26.3)
USA	2015	2830	17.1	(15.8, 18.5)	4.8	(4.1, 5.7)
New Zealand	2008/09	2878	16.6	(15.1, 18.2)	24.3	(22.5, 26.1)
Chile	2012/13	1500	36.0	(33.4, 38.8)	20.2	(18.0, 22.5)
Thailand	2012/13	1695	60.3	(57.6, 63.0)	13.4	(11.5, 15.4)
Sri Lanka	2013/14	2475	44.3	(42.2, 46.5)	12.8	(11.3, 14.5)
Nigeria	2012/14	2269	22.3	(20.4, 24.4)	5.4	(4.4, 6.5)
Vietnam	2012/13	1501	46.4	(43.7, 49.2)	10.8	(9.1, 12.7)
Laos	2013	1212	31.3	(28.4, 34.4)	11.8	(9.8, 14.1)
India	2012/14	3403	58.2	(56.4, 60.0)	14.7	(13.5, 16.1)

N=22,412

Social location of respondents harmed by known drinkers (family, friends,...): odds ratios by gender, age group, residence (rural/non-rural), respondent's (R's) drinking status

Table 2:

		Australia	USA	New Zealand	Chile	Thailand	Sri Lanka	Nigeria	Vietnam	Laos	India
Bivariate	Gender (vs. Male)	1.35**	1.00	1.42**	0.81	0.77*	0.60***	0.90	1.10	0.72*	0.67***
	Age (vs. 18–29)	0.71*	0.56***	0.64**	0.63***	0.55***	1.13	1.31	0.93	0.63**	0.68***
	50–65	0.38***	0.40***	0.33***	0.50***	0.35***	0.75*	1.30	0.72	0.42***	0.49***
	Residence (vs. Rural)	0.90	0.94	1.15	1.44	0.85	0.85	1.17	0.55***	1.99***	0.63***
Multivariate	R's drinking status (vs. Abstainer)										
	Gender (vs. Male)	1.42*	1.45**	1.16	1.81***	1.80***	1.32*	2.16***	1.35*	1.94***	2.62***
	Age (vs. 18–29)	0.73*	0.60**	0.77	0.68**	0.56**	1.06	1.12	0.93	0.64**	0.61***
	Residence (vs. Rural)	0.41***	0.50***	0.43***	0.69	0.40***	0.65*	1.17	0.77	0.43***	0.41***
Multivariate	R's drinking status (vs. Abstainer)										
	Gender (vs. Male)	1.53***	1.32*	1.66***	1.01	1.06	0.87	1.33*	1.83***	0.79	0.85*
	Age (vs. 18–29)	0.73*	0.60**	0.77	0.68**	0.56**	1.06	1.12	0.93	0.64**	0.61***
	Residence (vs. Rural)	0.41***	0.50***	0.43***	0.69	0.40***	0.65*	1.17	0.77	0.43***	0.41***
Multivariate	R's drinking status (vs. Abstainer)										
	Gender (vs. Male)	1.36	1.48**	1.25	1.74**	1.70***	1.20	2.33***	1.82***	1.74**	2.77***
	Age (vs. 18–29)	0.73*	0.60**	0.77	0.68**	0.56**	1.06	1.12	0.93	0.64**	0.61***
	Residence (vs. Rural)	0.41***	0.50***	0.43***	0.69	0.40***	0.65*	1.17	0.77	0.43***	0.41***

* $p < .05$
** $p < .01$
*** $p < .001$

Social location of respondents harmed by the drinking of strangers: odds ratios by gender, age group, residence (rural/non-rural), respondent's (R's) drinking status

Table 3:

		Australia	USA	New Zealand	Chile	Thailand	Sri Lanka	Nigeria	Vietnam	Laos	India	
Bivariate	Gender (vs. Male)	Female	0.73**	0.45***	0.81*	0.50***	0.71*	0.53***	0.65	0.64*	0.56**	0.34***
	Age (vs. 18–29)	30–49	0.41***	0.39***	0.48***	0.53***	0.98	0.61**	1.44	0.85	0.73	1.55***
		50–65	0.21***	0.17***	0.24***	0.33***	0.68	0.60*	1.08	0.75	0.57	1.47*
	Residence (vs. Rural)	Not rural	1.27	1.20	1.37	1.74*	1.52*	2.53***	1.22	0.98	1.96**	0.52***
	R's drinking status (vs. Abstainer)	Moderate	1.26	2.56***	0.88	1.34	1.06	1.67**	1.82*	1.37	1.28	3.68***
		Risky	2.59***	7.17***	2.32***	2.56***	1.12	3.90***	2.25**	0.91	2.27*	5.07***
Multivariate	Gender (vs. Male)	Female	0.85	0.56**	0.91	0.55***	0.69	0.97	0.81	0.57*	0.58*	0.62***
	Age (vs. 18–29)	30–49	0.45***	0.51**	0.58***	0.56***	1.01	0.60**	1.30	0.88	0.74	1.23
		50–65	0.23***	0.22***	0.32***	0.45***	0.76	0.52**	0.98	0.75	0.54*	1.09
	Residence (vs. Rural)	Not rural	1.15	0.92	1.25	1.84*	1.49*	2.45***	1.27	1.00	1.92**	0.58***
	R's drinking status (vs. Abstainer)	Moderate	1.23	2.250**	0.94	1.25	0.95	1.86**	1.64	1.03	1.06	3.12***
		Risky	1.98**	3.38**	1.78***	1.85**	0.86	4.54***	1.98*	0.58	1.51	4.07***

* $p < .05$
** $p < .01$
*** $p < .001$