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Cross-sectional surveys of financial harm associated with others' drinking in 15 countries: unequal effects on women?

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Abstract

Introduction and aims: That physical, emotional and social problems occur not only to drinkers, but also to others they connect with, is increasingly acknowledged. Financial harms from others' drinking have been seldom studied at the population level, particularly in low-and middle-income countries. Whether financial harm and costs from others' drinking inequitably affect women is little known. The study's aim is to compare estimates and correlates of alcohol's financial harm to others than the drinker in 15 countries.

Methods and materials: Cross-sectional surveys of Alcohol's Harm To Others (AHTO) were conducted in Australia, Brazil, Chile, Denmark, India, Ireland, Lao PDR, New Zealand, Nigeria, Sri Lanka, Sweden, Switzerland, Thailand, the US and Vietnam. Participants: 17,670 men and 20,947 women. Measurement: The prevalence of financial harm in the last year was assessed as financial trouble and/or less money available for household expenses because of someone else's drinking. Analysis: Meta-analysis and country-level logistic regression of financial harm (vs. none), adjusted for gender, age, education, rurality and participant drinking.

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Contributors

AML wrote the first draft of the text; HJ conducted all analyses; SK, SW, OS & TKG and KG advised on analysis; ES, OW and KB conducted, analysed and contributed to the interpretation of country-level data. All authors made substantial contributions to numerous drafts and the final paper.

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Results: Under 3.2% of respondents in most high-income countries reported financial harm due to others' drinking, whereas 12-22% did in Thailand, Sri Lanka and India. Financial harm from others' drinking was significantly more common among women than men in nine countries. Among men and women, financial harm was significantly more prevalent in low-and middle- than in high-income countries.

Conclusions: Reports of financial harm from others' drinking are more common among women than among men, and in low- and middle-income than in high-income countries.

Keywords

financial harm; harm to others; alcohol; gender and socioeconomic inequities; cross-sectional surveys; international comparisons

1. Introduction

Women suffer more from a partner's drinking while men experience harm more commonly from strangers' drinking (Laslett et al., 2011). Consequently, women are likely to be more impacted by financial harm as this generally occurs in the family context. For women, problems associated with a partner's drinking have long been studied in the US, Australia and Europe (Laslett et al., 2015), and include economic abuse — a form of domestic violence that affects the financial wellbeing of victims and includes controlling behaviours (Kutin et al., 2017). Less information is available on the financial harm from others' drinking in low- and middle-income countries (LMIC). In Thailand (data also used in the present study), Waleewong (Waleewong, 2019) found that around one-fifth of the Thai population was affected financially by others' drinking for a variety of reasons, including because they have paid for the costs associated with traffic crashes, property damage and/or ruined clothes or belongings caused by others' drinking; household finances have been diverted; they need to pay for health care costs; or they had money stolen from them by a drinker. In a qualitative study in India, family members, mostly spouses, of 50 men with alcohol dependence were interviewed (Chand and Chaturvedi, 2010). Family members of these patients reported excessive spending and disturbances of the peace at home as stressful. More severe problems, including situations where the spouse was not working and earning money for the family because of their drinking, were considered very stressful. Studies among populations displaced by conflict, in Kenya, Liberia, Uganda and Thailand, identified widespread use of alcohol following this displacement (Ezard et al., 2011). For instance, in Uganda, “household financial problems, resulting from indebtedness and trading family rations and other goods for alcohol, left families short of food and children hungry” (p.6, Ezard et al., 2011). In Rwanda, among HIV-infected clinical populations, alcohol use was significantly associated with food insufficiency (Sirotin et al., 2012). In a 2010 study exploring the role of intimate partner violence in household food insecurity for women in Brazil, socioeconomic position, demographic characteristics, the degree of women's social support and partner alcohol misuse were identified as key factors (de Moraes et al., 2016).

In sum, there is evidence that individual drinking can cause and exacerbate financial harm not only for the drinker themselves but also for other family members. It is probable that people in LMIC may be more adversely affected as families in these countries often have

less disposable income, and few social services are available to supplement family incomes. Previous research has found that a range of alcohol-related harms to drinkers differ according to both individual- and country-level socioeconomic differences (Grinner et al., 2012). Whether harms (and especially financial harms) from other drinkers affect respondents with different income and education levels (and other measures of social advantage) differentially has been seldom studied in surveys, and where it has few differences have been identified (Laslett et al., 2017; Room et al., 2019).

1.1 Aims and hypotheses

This study aims to assess the extent to which persons from 15 diverse high-income countries (HIC) and LMIC have experienced the financial impacts of others' drinking and compare the prevalence and correlates (gender, age, education, rurality and respondent drinking pattern) of financial harm arising from someone else's drinking. We hypothesise that women will be more affected than men, that participants with lower education will be more affected than those with higher education and participants from LMIC will be more affected than participants from HIC.

2. Materials and methods

2.1 Setting, participants and data

The Gender and Alcohol's Harm to Others (GENAHTO) project (Wilsnack et al., 2018) includes survey data from 16 countries of which 15 include items on financial harm (Switzerland, Denmark, Sweden, Australia, US, Ireland, New Zealand, Chile, Brazil, Thailand, Sri Lanka, Nigeria, Vietnam, Lao People's Democratic Republic (Lao PDR) and India). The participants were 17,670 men and 20,947 women aged 18-64 years. The samples and differences in survey methods are shown in Table 1, listed in order of decreasing gross national income. In brief, all studies were based on probability samples, with the majority being national, and the Indian and Brazilian data being from selected regions. Response rates varied from 35% in Australia to 99% in Vietnam and Lao PDR (Laslett et al., 2017). The cooperation rate for the US sample was 60% (Kaplan et al., 2017). A more detailed description of the methodology used in the GENAHTO project is provided elsewhere (Wilsnack et al., 2018).

2.2 Measurement

2.2.1 Dependent variables—Experiencing any financial harm from a drinker was defined as a positive response to at least one of the following two questions on financial harm occurring in the past 12 months: a) Have you experienced financial trouble or problems due to others' drinking? and b) Have you had less money for household expenses due to others' drinking? Question b) was asked only of people who indicated in response to a prior question that they had experienced harm from a “known person.” In Switzerland, Denmark and the US only question a was asked, while only question b was asked in Sweden, New Zealand and Australia. Thus, financial harm may be underestimated in different ways in these countries. To examine the impact of this measurement variation, descriptive statistics are shown separately for overall measures and for the measures a) and b) by country (see Table 2).

2.2.2 Independent variables

Gender: Participants were identified as men or women in face-to-face interviews and were asked their gender in web, postal and telephone surveys. Variable coding for this and other variables can be found in the result tables.

Age: Categorised into three age group: 18-29, 30-49 and 50-64 years.

Education: Less than complete secondary education; completed secondary education; and at least some college education or higher.

Rurality: Classified as living in a rural or non-rural location. Rural areas were classified as “open country but not a farm”, “on a farm” or “in a small city or town”. A small city or town had fewer than 60,000 people in Sweden, fewer than 20,000 people in the US and fewer than 50,000 people in the remaining countries.

Respondent drinking pattern: Classified as abstainers (no alcohol use in the last 12 months), moderate drinkers, or risky drinkers. Risky drinkers were those who said they consumed five or more drinks (about 60g of ethanol) on an occasion at least monthly in the last 12 months. Moderate drinkers were those who drank in the last year, but consumed five or more drinks on an occasion less than monthly, or always drank less than that. In Chile and Nigeria some of those known to drink were incorrectly skipped and not asked about their frequency of drinking 60g or more of pure alcohol on an occasion in any day. These participants were categorized as additional groups to prevent a large proportion of the Chilean (n=359, 23.9%) and Nigerian (n=91, 4.1%) samples being coded as missing for this variable.

HIC vs LMIC grouping variable: The income levels (HIC vs. LMIC) were determined by country-level indicators of 2015 gross national income (GNI) per capita and are all presented in terms of 2010 US\$. Countries were classified as high-income economies if the 2015 GNI per capita was USD 12,476 or higher. Countries below that threshold were classified as LMIC economies. (The World Bank, 2019a; World Bank, 2017).

2.3 Design and analytic approach

All country data were weighted to adjust for participant's probability of being selected (based on the household's number of adults except in Sweden where the sample base was of all individual adults). The weights in the Swedish study are based on gender and age groups. Thailand, Sri Lanka, Lao PDR, Vietnam, Chile and Nigeria were weighted by household selection probability and gender (to correspond to population proportions that were men and women in each country). In all other countries, country-specific data were weighted using complex survey-design weights (e.g., including gender, age and region) to improve the representativeness of the sample (Callinan et al., 2016; Kaplan et al., 2017). Weighted data were used to generate descriptive statistics and confidence intervals and country-level and multi-country prevalence estimates of financial harm from others' drinking.

Pooled estimates of financial harm from others' drinking for all adults, men and women (across 15 countries), were generated. Because the surveys varied regarding cultural background, sampling, methodology and sample compositions, random effects meta-analyses were undertaken (Borenstein et al., 2007; Huedo-Medina et al., 2006). The pooled estimates resulting from these analyses are interpreted as the mean estimates of the true varying estimates across all studies. Country-level proportions accompanied by 95% confidence intervals are presented as forest plots, with real country differences defined as non-overlapping confidence intervals (du Prel et al., 2009; Gardner and Altman, 1986). The I^2 statistic indicates the total variability in effect sizes due to heterogeneity across the studies. I^2 values of 25%, 50%, and 75% indicate low, medium, and high heterogeneity. The DerSimonian-Laird method of two-stage inverse-variance random-effects meta-analysis (via the *ipdmetan* command) using Stata 14.0 (Fisher, 2015) was used to estimate the pooled proportion of participants who reported financial harm from others' drinking in the last 12 months, separately for men and women. Similarly, the proportion reporting financial harm is presented for HIC and LMIC.

In 13 of the 15 countries (where enough case numbers of financial harm were identified), variables associated with experiencing financial harm (gender, age, rurality and drinking status of respondent) were identified in each country using logistic regression in a multivariable model. Due to differences in the measurement of the main outcome variable, a sensitivity analysis was undertaken to verify whether similar logistic regression results were found regardless of the financial harm variable used as the dependent variable, i.e., experienced financial trouble, had less money for household expenses or either of these variables. Correlates of financial harm to women were also analysed using logistic regression.

All data analyses and construction of forest plots were completed using Stata version 14.0 (Stata Corp., 2015). The percentage of missing values for each variable was < 5% of responses; respondents with missing values were excluded listwise, unless otherwise noted (e.g., the respondent drinking variable in Chile and Nigeria).

2.4 Ethics

All participants were informed that participation was voluntary and gave informed consent. Ethical approvals were obtained for the study protocol from the World Health Organization, in each country and from La Trobe University (HEC15-108) for this cross-national project.

3. Results

Sample sizes reported in Table 1 are unweighted but percentages are drawn from weighted samples. All surveys under-represented men except for the Nigerian and Vietnamese surveys. Across the different countries the weighted percentages were largely similar in terms of age distribution, apart from the Brazilian sample, which had a higher proportion of participants aged 18 to 29 years, contrary to Thailand and Vietnam which both had a lower proportion of this age group. Differences in education were more pronounced. A much higher proportion of participants from LMIC reported their highest level of education as primary or partial secondary education, whereas a high percentage of participants from HIC

reported tertiary education. In general, abstinence rates were higher in LMIC, with Lao PDR being the exception. The highest percentages of moderate drinkers were generally identified in HIC as well as Lao PDR. The US sample also had a smaller percentage of risky drinkers (12.5%) and a greater percentage of abstainers (31.4%) compared to other HIC. Among LMIC, India and Brazil had the highest percentage of risky drinkers (both had 22.4%).

Table 2 presents participants' experiences of financial harm from others' drinking using two individual (financial trouble and the household) items and the combined measure (financial harm). Using non-overlapping confidence intervals as conservative estimates of difference, lower percentages of participants from HIC than from LMIC reported that they had experienced financial trouble from anyone and within their households. Chile and Ireland were exceptions, with higher levels of household harm reported relative to other HIC. In Sri Lanka, India and Thailand higher percentages of participants than in other LMIC reported financial harm from others' drinking. Brazil reported the smallest percentage of participants with financial harm from others' drinking among LMIC, with Nigeria and Vietnam also having relatively lower levels of financial harm due to others' drinking

Figures 1 and 2 present the unadjusted forest plots for the proportion of participants in each country financially affected by others' drinking, separately for men and women, for LMIC and HIC. Across all 15 countries, 6% of men and 7% of women reported financial harm from others' drinking (notably without adjustment for respondent drinking). While there is no overall difference in the pooled estimates between men and women reporting financial harm from others' drinking, there are significant differences for both genders between LMIC and HIC, with the proportions of both men and women financially affected significantly lower in HIC than in LMIC. The I^2 values in Figures 1 and 2 are high (98.6% and 98.5%). Comparing the results in Figures 1 and 2, women in HIC (3%, CI: 2-4%) experience a higher prevalence of financial harm from others' drinking than men in HIC (2%, CI: 1-2%). Switzerland and Denmark had relatively low rates of financial harm (and a smaller sample size than Sweden), meaning that subsequent logistic regression analyses could not be conducted in these countries.

Table 3 shows that in nine of the 13 countries (Sweden, Australia, US, New Zealand, Brazil, Thailand, Sri Lanka, Vietnam, and India), women were significantly more likely to report financial harm from others' drinking than were men (controlling for other variables). In five countries (Sweden, Australia, Ireland, New Zealand and Lao PDR) younger participants were significantly more likely than older participants to report financial harm. More education did not consistently predict lower odds of financial harm; however, college or higher education was significantly related to less harm in New Zealand, Chile, Brazil, Sri Lanka and India. In Nigeria, Sri Lanka and India completing secondary education was also protective. Only in Nigeria was college or higher education associated with more financial harm from others' drinking. Urban participants from Vietnam and India were less likely to report financial harm from others' drinking than participants from rural areas, although the opposite was true in Lao PDR. Participant abstention was associated with less financial harm from others' drinking in five of the seven LMIC and the US but not associated with lower rates of financial harm in most HICs or Vietnam or Lao PDR.

In the sensitivity analysis, using Ireland, Chile, Brazil, Thailand, Sri Lanka, Nigeria, Vietnam, Lao PDR and India data, the additional alternative logistic regression results (using each type of financial harm as the outcome variable) were similar to the original results, regardless of which variable was used, i.e., the same or similar significant socio-demographic odds ratios were identified (results available upon request).

Table 4 presents information on which groups of women were more likely to experience financial harm. In general, younger women compared to older women in HIC countries (Sweden, Australia, Ireland and New Zealand) were more likely to report financial harm from others' drinking. In LMIC, women with less education (Thailand, Sri Lanka, Nigeria, Vietnam and India), women from rural areas (Sri Lanka, Lao PDR and India) and women who were moderate and risky drinkers (Brazil, Vietnam and India) were more likely to report financial harm.

4. Discussion

4.1 Gendered findings on financial harm

Both men and women in LMIC were more likely to experience financial harms from others' drinking than were men and women in HIC (as shown in meta-analysis — 12% vs. 2% for men and 11% vs. 3% for women). This finding is consistent with research showing that trouble per litre experienced by drinkers is greater in poorer than in richer countries (Room et al., 2011). Moreover, while living in HIC is protective of financial harm, women in HIC, who on average earn lower incomes than men (The World Bank, 2019b), experience increased odds of financial harm from others' drinking than do men in HIC. These findings show that even in more advantaged, HIC, financial harm is not equitably distributed between men and women.

In multivariate models, being female was significantly related to experiencing financial harm in nine of the 13 countries included in the regression analyses and similar tendencies were also found for Ireland and Nigeria. These gender differences tended to be stronger in HIC than in LMIC, with the US reporting the highest odds (3.99) for women (compared to men). Younger age tended to be associated with greater likelihood of financial harm (significant in five countries) but this was not consistent across all countries.

4.2 The impact of education on financial harms from others' drinking

Education showed a mixed relationship with experiencing financial harm, although less education was associated with greater likelihood of financial harm in six countries (significant in two HIC and four LMIC). While arguably the income level of participants may be a better or an additional variable to include than education, missing data on income in the majority of countries precluded analysis of it at the individual level. Consequently we used education as a proxy variable for socioeconomic status. These analyses provide some evidence that the individual's educational status is related to the magnitude of the financial harm they have experienced. Given that education has long been associated with income (Welch, 1974), it is likely that this finding is consistent with situations where diversion of some household income to purchase alcohol instead of other living expenses might be

perceived as harmful by individuals with less education (and on lower incomes), but not by those with higher levels of education. Additionally, we have used HIC and LMIC groupings as a proxy for income level. Together these variables provide some evidence that financial harm is significantly more prevalent in respondents with less education from countries with lower incomes.

4.3 Respondent drinking pattern and financial harms from others' drinking

The participant's own risky drinking was significantly associated with experiencing financial harm in five of the seven LMIC (Brazil, Thailand, Sri Lanka, Nigeria and India); and being a moderate drinker in Brazil and India was also significantly and positively associated with increased likelihood of financial harm. This may be partly explained in terms of respondents in LMIC, where there is a high level of abstinence, and accordingly harm is presumably less frequent, being likely to be highly sensitive to experiences of financial harm from others' drinking. In contrast, those in HIC where drinking prevalence is much higher and harm is more frequent are likely to be somewhat de-sensitised to financial harm from others' drinking, and on average also better resourced to absorb the financial harms. This may moderate their perception of whether they have been harmed or not and will be reflected in their responses to the survey questions.

4.4 Impact of financial harm in HIC and LMIC

The results concerning HIC and LMIC are consistent with the findings of Grittner et al. (2012) regarding self-reported negative consequences reported by drinkers, confirming that harms from drinking (experienced both by the drinker and by others from the drinker) are more likely to be experienced by persons who are from economically disadvantaged countries. Similarly, the relationship between lower education and greater likelihood of financial harm found for some countries in the present study is consistent with findings by Grittner et al. (2012) of an association of harms reported by drinkers and lower education. These results about financial harm add to a body of literature that shows that both men and women who drink riskily are at greater risk than abstainers for a range of harms associated with their own drinking (Wilsnack and Wilsnack, 2013). Our finding that in many countries women were at greater risk than men of experiencing financial harm after adjusting for their own drinking is consistent with findings on the effects of men's and women's drinking and their differing experience of intimate partner violence (Graham et al., 2011).

We also found that some groups of women in some countries were at greater risk of financial harm from others' drinking than other women, suggesting that younger women in HIC, and women with less education, from rural areas and who themselves drink at moderate or risky levels, may benefit from initiatives that raise awareness that the experience of financial harm from others' drinking is a common concern that they should not have to bear

4.5 Limitations

Only two variables, and sometimes only a single variable, were used to assess financial harm. The comprehensive survey could not cover all aspects of AHTO in detail as the breadth of the AHTO questionnaires necessitated brevity. Future studies are needed which look more in depth at the financial effects of others' drinking. Objective financial measures

might also be sought from financial counselling or assistance organisations if it were possible to access and analyse such additional data, thereby supplementing self-report measures.

Cross-national comparison of findings is difficult given differences in language, culture and context and it is further complicated by some differences in survey methods. However, the GENAHTO suite of studies (Wilsnack et al., 2018) provides the first and best available estimate of financial harm from others' drinking and associated factors.

A methodological limitation was that all LMIC but only two HIC used both questions on financial harm (and these two countries — Ireland and Chile — had the highest rates of financial harm among the HIC). Thus, some differences between HIC and LMIC may relate to this methodological variation. However, the results shown in Table 2 indicated that differences between HIC and LMIC remain regardless of the financial harm question used. Furthermore, the sensitivity analysis, undertaken to assess whether similar logistic regression results were found regardless of whether the outcome variable was experience of financial trouble, having less money for household expenses or reporting experience of either of these variables, did indicate that results were similar regardless of the outcome variable used. If Chile were to be reclassified as a LMIC, as it is the lowest income country among the HIC, it would add support for this pattern where lower income countries are more likely to experience financial harm. Nevertheless, measurement tools for assessing harm to others need to be made more consistent to ensure questions are more comparable (Waleewong et al., 2018).

The response rates in LMIC were far higher than those of the HIC in the study. This may reflect the more limited use of face-to-face surveys, and less wariness of and disenchantment with surveys, in LMIC. National principal investigators also reported that endorsement of participation by or liaison with trusted village health workers or heads of villages and adoption of a minimum of three call-back visits may have contributed to higher response rates in LMIC.

The I^2 values of the meta-analyses indicate high heterogeneity, and mean estimates should be treated with caution and presented as summaries across multiple countries rather than global estimates. The wide range of countries, the already explained differences in the measurement of financial harm and methodological issues (like response rates) may have contributed to the high heterogeneity. However, we provide the best available estimate, noting it is limited to the countries included and that it cannot easily be transferred to other cultures. Cross-sectional data are used appropriately here to present prevalence estimates and descriptions of affected groups across and within different countries, but these results most likely underrepresent the problem (especially in those countries using only a single measure).

4.6 Policy implications

The findings underline gender differences in financial harm due to others' drinking in both LMIC and HIC: women are inequitably affected by the financial effects of others' drinking. This is likely primarily because women are more financially disadvantaged than men in most

countries (e.g., receiving lower incomes, often for the same work). Higher education, after adjusting for other factors, was protective of financial harm in some countries. If causal analyses support structural changes that improve access to higher education, such changes are likely to be associated with improved financial situations of respondents, making them less vulnerable to financial harm from others' drinking. Given that abstinence was also protective of financial harm from others' drinking, especially in LMIC, policies that support abstinence as a choice in the household (particularly by men) are likely to be associated with less financial harm to the household. This effect may be more apparent for women, who in the present study were more likely to experience financial harm from others' drinking and more likely to abstain. These findings are relevant to the World Health Organization (WHO) Sustainable Development Goals (SDGs). SDGs #5 and #10, respectively, are to achieve gender equality and ensure social inequalities are reduced (World Health Organization, 2015). Given our findings show that alcohol-related financial harm is inequitably distributed, with women and more disadvantaged groups disproportionately affected, reducing drinking associated with financial harm may partially mitigate harm. Reductions in drinking should be encouraged to meet these SDGs and improve conditions for women.

5. Conclusions

This study is the first of its kind to produce cross-national comparable estimates of financial harm from others' drinking. In 13 countries financial harm from others' drinking was common. Financial harm inequitably affected women and was more prevalent in LMIC than in HIC. In LMIC women and participants who themselves drank more, were more likely to report financial harms in the household from drinking and financial trouble, whereas in HIC only gender and age were associated with greater financial harm. Our results show that financial harm from others' drinking is a problem that can be found globally, the scale of the problem is greater in LMIC than in HIC and women seem to suffer more.

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Highlights

Two percent of respondents in high-income countries reported financial harm due to others' drinking, whereas 14% did in low- and middle-income countries.

Financial harm from others' drinking was notably high in Thailand, Sri Lanka and India.

Financial harm from others' drinking was significantly more common among women than men in nine countries.

Among men and women, financial harm was significantly more prevalent in low- and middle- than in high-income countries.

Figure 1.

Proportion of men in high-income countries and low- and middle- income countries who experienced any financial harm from others' drinking in the last 12 months

Figure 2.
Proportion of women in high-income countries and low- and middle- income countries who experienced any financial harm from others' drinking in the last 12 months

Table 1

A description of each country's sample

		High-income countries										Low- and middle-income countries										All countries	
		Switzerland	Australia	Denmark	Sweden	US	Ireland	New Zealand	Chile	Brazil	Thailand	Sri Lanka	Nigeria	Vietnam	Lao PDR	India							
Income per capita (USD, 2015)		85,800	60,560	60,510	57,750	56,700	50,390	40,600	14,340	\$10,160	5,710	3,760	2,880	1,970	1,970	1,600	-						
Survey year		2012/16	2008	2011	2013	2015	2015	2008-09	2012-13	2014-15	2012-13	2013-14	2012-13	2012-13	2013	2013-14	2008-16						
Survey Mode		CATI	CATI	CATI	Postal/ Web	CATI	CATI	CATI	FTF	FTF	FTF	FTF	FTF	FTF	FTF	FTF							
Response rate (%)		51.4/45.0	35.2	64.1	59.3	60.0 ^a	Quota	64.0	71.8		94.2	93.0	99.0 ^b	99.2	99.0	97.0							
Sample size		3,267	2,186	1,985	11,011	1,824	1,608	2,407	1,394	1,083	1,571	2,263	2,175	1,428	1,207	3,208	38,617						
Sample size (men)		1,455	887	919	4,964	800	782	950	653	474	643	1,091	1,326	716	501	1,509	17,670						
Gender (% men)		50.2	48.7	49.2	50.8	49.0	48.2	46.8	49.9	48.6	48.8	47.9	50.0	49.4	50.2	50.8	49.7						
Age (%)																							
18-29 rs		23.8	23.9	23.0	26.3	25.1	26.0	23.4	23.4	33.2	17.0	26.4	24.6	16.7	25.0	29.2	25.8						
30-49 rs		45.9	43.4	44.2	43.6	41.5	47.6	47.5	47.5	49.0	45.9	54.3	45.1	54.3	45.7	51.5	45.9						
50-64 rs		30.3	32.8	32.7	30.1	33.4	26.4	26.4	26.4	17.8	37.1	19.3	30.2	29.0	29.3	19.3	28.3						
Education (%)																							
Some high or primary or less		0.6	19.6	13.2	24.9	12.5	13.1	27.1	13.5	75.1	60.5	71.8	58.1	64.2	64.5	64.5	33.6						
Completed high school		11.3	23.3	10.7	30.2	24.3	25.4	17.5	43.6	11.5	11.3	23.2	30.4	19.9	22.3	11.3	22.6						
College or higher		88.1	57.2	76.1	44.9	63.3	61.6	55.5	43.0	13.3	28.2	5.0	11.5	15.0	13.5	24.3	43.8						
Rural (%)		n/a	13.9	3.8	34.0	4.7	46.7	24.6	13.5	n/a	37.9	70.8	66.8	67.7	43.1	27.0	34.9						
Participant's own drinking (%)																							
Abstainer		11.7	12.5	8.2	9.8	31.4	14.9	17.0	26.0	51.3	51.4	65.8	59.1	43.5	24.4	71.8	27.3						
Moderate		64.9	56.3	59.8	53.2	56.1	48.1	55.4	10.2	26.3	33.6	19.6	24.6	40.7	58.6	5.8	44.5						
Risky		23.4	31.3	321	37.0	12.5	37.0	27.6	38.7 (25.1 ^c)	22.4	15.0	14.6	12.0 (0.4 ^c)	15.8	17.0	22.4	27.0 (1.1 ^c)						

Note: All sample ns are unweighted and percentages weighted. n/a means not applicable or no equivalent item in the country's survey. CATI Computer assisted telephone interview. FTF Face to face interview.

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^a Co-operation rate was published in the US.

^q In Nigeria a response rate of 99% was reported among households where someone was home, but random selection was not followed within the household.

^c In Chile and Nigeria, respectively, 359 and 91 participants were identified as drinkers, but their risky or moderate drinking behaviour was unspecified. Percentages of drinkers with these unspecified drinking behaviours are in parentheses.

Country-specific prevalence of adult experience of financial harm, financial trouble and less money for household expenses due to others' drinking

Table 2

	Total sample (18-64 years)	Experienced financial harm (financial trouble or less money for household) due to others' drinking, % (CI) (n= 38617) ^a	Had experienced financial trouble due to others' drinking, % (CI) (n= 23013)	Less money available for household expenses due to others' drinking, % (CI) (n= 31541)
HIC				
Switzerland	3267	0.1 (0.05, 0.3)	0.1 (0.05, 0.3)	n/a
Australia *	2186	3.1 (2.4, 4.0)	n/a	3.1 (2.4, 4.0)
Denmark	1985	0.9 (0.6, 1.5)	0.9 (0.6, 1.5)	n/a
Sweden	11011	0.9 (0.7, 1.0)	n/a	0.9 (0.7, 1.0)
US	1824	1.5 (1.0, 2.4)	1.5 (1.0, 2.4)	n/a
Ireland	1608	6.6 (5.5, 8.1)	2.6 (1.9, 3.6)	5.4 (4.3, 6.7)
New Zealand *	2407	2.5 (1.9, 3.3)	n/a	2.5 (1.9, 3.3)
Chile	1394	7.3 (5.8, 9.0)	5.5 (4.3, 7.1)	3.9 (2.9, 5.3)
Total	25682	1.8 (1.6, 2.0)	1.6 (1.4, 1.9)	1.9 (1.7, 2.1)
LMIC				
Brazil	1083	4.7 (3.5, 6.3)	3.0 (2.0, 4.4)	2.6 (1.8, 3.9)
Thailand	1571	12.9 (11.1, 14.9)	11.9 (10.2, 13.9)	3.8 (2.8, 5.1)
Sri Lanka	2263	22.4 (20.5, 24.4)	15.1 (13.5, 16.9)	16.0 (14.4, 17.8)
Nigeria	2175	6.0 (5.0, 7.3)	2.5 (1.8, 3.4)	4.9 (3.9, 6.0)
Vietnam	1428	7.3 (5.3, 8.6)	5.5 (4.4, 7.0)	5.2 (4.0, 6.7)
Lao PDR	1207	6.8 (5.3, 8.6)	5.8 (4.4, 7.5)	2.1 (1.3, 3.2)
India	3208	20.8 (19.3, 22.3)	15.4 (14.1, 16.8)	13.1 (12.0, 14.4)
Total	12935	13.5 (12.9, 14.2)	9.8 (9.2, 10.3)	8.4 (7.8, 8.9)
All countries	38617	5.6 (5.3, 5.8)	5.6 (5.3, 5.9)	4.5 (4.2, 4.7)

^aAbout 5% of data were missing across the whole sample and were excluded in the financial harm analysis. CI: confidence intervals in parentheses.

Logistic regression analysis on the prevalence of financial harm by gender, age, education, rurality and participant's drinking status[#]

Table 3

	High-income countries						Low- and middle- income countries						
	Sweden	Australia	US	Ireland	New Zealand	Chile	Brazil	Thailand	Sri Lanka	Nigeria	Vietnam	Lao PDR	India
Gender													
Men	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Women	2.31 **	2.29 *	3.99 *	1.51	2.92 **	0.87	2.86 **	1.48 *	1.50 **	1.27	2.91 **	0.93	1.56 ***
Age													
18-29 yrs	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
30-49 yrs	0.39 **	0.33 **	0.26	0.72	0.68	0.85	0.76	0.80	0.95	0.85	0.85	0.45 **	0.92
50-64 yrs	0.35 ***	0.32 **	1.03	0.45 *	0.42 *	1.02	0.56	0.68	0.84	1.23	0.69	0.25 **	0.96
Education													
Some high school or primary school or less	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Completed high school	1.16	1.17	0.28	0.62	0.63	0.59	0.39	0.91	0.57 **	0.69 *	0.86	0.86	0.43 ***
College or higher	0.84	1.39	0.47	0.63	0.47 *	0.28 ***	0.32 *	0.91	0.35 **	2.29 *	0.52	0.93	0.28 ***
Rurality													
Rural	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Urban/non-rural	0.85	1.45	n/a	1.32	1.09	0.93	1.00	0.62	1.00	0.60	0.44 **	2.64 **	0.70 **
Participant's own drinking													
Abstainer	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Moderate	1.11	1.16	0.50	1.33	1.01	0.88	2.88 **	1.50	1.22	1.62	0.92	1.23	4.12 ***
Risky	1.47	1.60	4.27 *	1.26	1.33	1.65	3.10 **	3.99 ***	4.80 ***	2.92 ***	1.59	1.14	3.67 ***

Note: Total sample size N = 34,110

* p<.05

** p<.01

*** p<.001; n/a: no equivalent item in country-level survey.

In two countries (Switzerland and Denmark) less than 30 participants reported financial problems due to others' drinking and were thus excluded from detailed analysis.

Less than 5% of US respondents were categorised as rural residents and this variable was excluded due to empty cells.

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Logistic regression analysis on the prevalence of financial harm among women by age, education, rurality and participant's drinking status[#]

Table 4

	High-income countries						Low- and middle- income countries						
	Sweden	Australia	US	Ireland	New Zealand	Chile	Brazil	Thailand	Sri Lanka	Nigeria	Vietnam	Lao PDR	India
Age													
218-29 yrs	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
30-49 yrs	0.39**	0.29**	0.19	0.53	0.54	0.92	0.90	0.72	1.03	1.04	0.91	0.83	1.00
50-64 yrs	0.29**	0.32**	0.67	0.25**	0.36*	0.65	0.77	0.47	0.92	1.35	0.79	0.39	1.31
Education													
Some high school or primary school or less	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Completed high school	0.87	1.14	0.59	0.39	0.40	0.48	0.20	0.90	0.37***	0.23*	0.90	0.69	0.43
College or higher	0.77	1.13	0.99	0.43*	0.49*	0.32*	0.42	0.53*	0.39*	2.71	0.27*	0.60	0.20
Rurality													
Rural	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Urban/non-rural	0.57*	1.11	n/a##	1.06	0.98	1.02	-	0.69	1.72**	0.99	0.52	2.52*	0.62
Participant's own drinking													
Abstainer	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref	1 Ref
Moderate	1.82	1.09	0.38	1.35	0.86	0.61	2.65*	1.58	0.03**	0.83	0.71	1.63	5.42***
Risky	2.38	1.94	2.10	0.92	1.81	1.16	345***	2.44	2.99	0.60	5.78**	0.92	2.37***

Note: Total sample size N = 18,486

* p<0.05

** p<0.01

*** p<0.001; n/a: no equivalent item in country-level survey.

[#] In two countries (Switzerland and Denmark) less than 30 participants reported financial problems due to others' drinking and were thus excluded from detailed analysis.

^{##} Less than 5% of US respondents were categorised as rural residents and this variable was excluded due to empty cells.