

Who Suggests Drinking Less? Demographic and National Differences in Informal Social Controls on Drinking

PAUL DIETZE, PH.D.,^{a,b,*} JASON FERRIS, M.BIostat.,^{c,d} AND ROBIN ROOM, PH.D.,^{c,e,f}

^aMacFarlane Burnet Institute for Medical Research and Public Health, Melbourne, Victoria, Australia

^bSchool of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, Australia

^cCentre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Fitzroy, Victoria, Australia

^dInstitute for Social Science Research, University of Queensland, Queensland, St. Lucia, Australia

^eMelbourne School of Population Health, University of Melbourne, Parkville, Victoria, Australia

^fCentre for Social Research on Alcohol and Drugs, Stockholm University, Stockholm, Sweden

ABSTRACT. Objective: The purpose of this study was to examine variation in reports of pressuring others to drink less, as a form of informal social control of drinking, across countries and different types of relationship to the respondent. **Method:** A cross-sectional survey was administered to 19,945 respondents ages 18–69 years in 14 countries included in the data set of the Gender, Alcohol and Culture: An International Study (GENACIS). Outcome variables were respondents' reports of pressuring others to drink less (yes/no) across a variety of relationships (their partners, other family members, workmates, or friends). Multilevel, multivariable logistic regression analysis was carried out on each outcome variable. The fixed-effects components included the Level 1 (individual) covariates of respondent age, gender, drinking status, and education level as well as the Level 2 (country level) covariates of percentage female drinkers and purchasing power parity. The random-effects components included country and current drinking status. **Results:** Re-

spondents most frequently reported pressuring male friends to drink less (18%), followed by male family members (other than partners, 15%), partners (15%), work colleagues (12%), female friends (9%), female family members (other than partners, 6%), and children (5%). There was marked variation across countries, with pressuring frequently reported in Uganda, Costa Rica, and Nicaragua across most relationship types. Multivariable logistic regression revealed consistent effects of gender, with women more likely than men to report pressuring others to drink less across most relationship types. The patterns in relation to education status and age were less consistent and varied across relationship type. **Conclusions:** Informal social control of drinking varies dramatically according to whom is most likely to pressure whom to drink less as well as the country in which people live. (*J. Stud. Alcohol Drugs*, 74, 859–866, 2013)

THE SOCIAL MILIEU IN WHICH alcohol consumption takes place is a key driver of an individual's drinking patterns (Greenfield and Room, 1997). As a consequence, social pressures play a key role in shaping drinking behaviors. Formal social sanctions are widely used to control drinking behaviors—for example, in relation to drink-driving—with mixed effects (Caulkins and Dupont, 2010). However, informal social pressures on drinking behaviors

are increasingly recognized as important determinants of drinking behaviors (Willenbring, 2007), particularly as they relate to social norms (Greenfield and Room, 1997; Room et al., 1996). These social pressures can go both ways—to influence people to drink more or to drink less (Lemke et al., 2007, 2008; Orford, 1992)—and are dependent on social relationships and situations (Holmila et al., 2009; Room et al., 1996).

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*Correspondence may be sent to Paul Dietze at the MacFarlane Burnet Institute for Medical Research and Public Health, 85 Commercial Rd., Melbourne VIC 3004, Australia, or via email at: pauld@burnet.edu.au.

Most research on social pressures to drink less or more is focused on the experiences of the drinker (e.g., Holmila et al., 2009; Ólafsdóttir et al., 2009; Room, 1989; Room et al., 1991). This research has shown that reports of pressures from others to cut down on one's own drinking vary according to the social relationship of the drinker to the person doing the pressuring as well as to the drinker's country of residence (Ólafsdóttir et al., 2009). These variations are large, with pressurers most often identified as spouses and pressures most evident in developing countries (Ólafsdóttir et al., 2009).

However, some previous research in Western countries has examined this issue from the perspective of the person pressuring others to drink less (e.g., Hemström, 2002; Room et al., 1996). This work has found that the majority of the population in Ontario, Canada, and in the United States report having ever pressured a person in their immediate social circle to drink less, with half of the Ontario sample reporting having done so in the previous year. These figures are higher than those found for the European Comparative Alcohol Survey (ECAS), where around 32% of this Western and Northern European sample reported pressuring another to drink less in the previous year (Hemström, 2002).

The analysis of ECAS data is important, as it showed large variations across the countries included as well as in various sociodemographic characteristics of respondents. For example, although the percentage of respondents from all included countries reporting pressuring their friends to drink less was higher than the percentage reporting pressuring their spouses to drink less, the difference was much greater for the Italian respondents (24% and 5% for friends and spouses, respectively) than for the Finnish respondents (12% and 11% for friends and spouses, respectively) (Hemström, 2002).

There are large variations in the reports of social pressure to and from the drinker according to gender and other sociodemographic characteristics (e.g., Hemström, 2002; Lemke et al., 2008; Ólafsdóttir et al., 2009). For example, in general, men report being pressured to drink less more often than women (Ólafsdóttir et al., 2009), and women report pressuring people to drink less more often than men (Hemström, 2002). Again, there are variations by respondents' country of residence, with no differences in the likelihood of reporting pressuring someone to drink less evident in the French and Italian ECAS samples. However, these previous analyses by country have been limited to industrialized countries and fail to take into account country-level variations in relevant variables such as national income (gross domestic product) that have been shown to influence drinking and drinking-related outcomes (e.g., Graham et al., 2011).

The GENACIS (Gender, Alcohol and Culture: An International Study) project is a large, international collabora-

tion through which a largely common survey instrument on alcohol consumption is administered according to country-specific conditions in more than 40 different countries. The database compiled from the GENACIS survey responses allows for cross-national comparisons across a range of variables (e.g., Wilsnack et al., 2009). Previous work using the GENACIS data set has explored various dimensions of pressures to drink less as reported by the drinker (Holmila et al., 2009; Ólafsdóttir et al., 2009). However, the GENACIS data set also includes responses to questions about pressuring others to drink less, according to the social relationship of the person to the respondent, that have not yet been analyzed across currently available countries.

In this article, we explore various aspects of pressuring others to drink less, as reported by GENACIS participants. First, we describe the percentages of survey respondents reporting pressuring others to drink less across different social relationships to the respondent. We then examine how these vary across key sociodemographic variables available for analysis: gender, age, respondent education, and drinking status as well as respondent's country of residence. We have included aggregate-level variables in assessing these effects to control for societal-level factors (Gmel et al., 2004). To this end we controlled for contextual variables selected to represent important proxies for the place of alcohol within a given culture at a country level (proportion female drinkers and drinker status) as well as purchasing power parity (PPP; in U.S. dollars) as a measure of comparative income. Based on previous research, we expected large effects of gender in particular, with more women expected to report pressuring others to drink less than men.

Method

Details of the methods used in GENACIS have been specified elsewhere (e.g., Wilsnack et al., 2009). In brief, the GENACIS methodology generally involves the administration of variations of a common core survey instrument, translated from English as required, to samples of, where possible, 1,000 or more participants within participant countries. There is some country-specific variation in the survey instrument used and in the way in which the survey is administered (e.g., face-to-face, computer-assisted telephone interviewing) to population samples (e.g., probability, quota, replacement), meaning that data from only 14 (base sample size = 19,496) countries were available for analyses. Further, some countries administered the questions of interest only to subsamples of respondents. The 14 countries that administered the relevant survey questions are shown in Table 1 along with the relevant characteristics of the administered surveys and the proportion of female drinkers. For the purposes of this study, analysis has been restricted to individuals 18–69 years of age.

TABLE 1. Characteristics of samples in the selected countries and percentage of female drinkers and purchasing power parity (PPP) at the country level

Country sample	Sample specific		M_{age} (years)	Female %	Current drinkers %	Low educ. %	Female drinker %	PPP 2012 U.S. \$ equiv.	Region
	<i>n</i> 18–69	Drinkers 18–69							
Africa									
Nigeria	2,045	671	37.4	46.4	32.8	65.9	10.3	1,598	Regional ^a
Uganda	1,459	683	32.6	51.5	46.8	70.0	20.4	809	Regional ^b
South and Central America									
Argentina	999	809	39.9	59.8	80.9	30.9	44.1	8,804	Regional ^c
Brazil	482	185	37.7	63.5	38.4	68.3	14.9	7,560	Regional ^d
Costa Rica	1,193	629	37.1	67.1	52.7	57.4	28.8	7,813	National
Nicaragua	1,999	411	34.5	70.1	20.6	61.7	7.4	2,411	Regional ^e
Uruguay	1,000	681	40.6	62.4	68.1	43.7	37.6	8,762	National
Asia									
India	2,566	530	32.2	48.1	20.7	63.7	1.4	1,713	Regional ^f
Kazakhstan	1,093	774	41.5	53.2	70.8	50.1	34.2	6,245	Regional ^g
Sri Lanka	1,141	358	39.8	50.1	31.4	20.0	3.2	2,863	Regional ^h
Europe									
Finland	1,830	1,684	42.9	50.8	92.0	29.6	45.9	24,442	National
Isle of Man	855	779	46.2	54.0	91.1	48.1	47.1	25,737	National
United Kingdom	1,748	1,530	41.7	51.3	87.5	62.6	42.5	25,737	National
Australasia									
Australia	1,085	932	43.8	59.6	85.9	26.4	48.0	37,383	Regional ⁱ

Notes: Low educ. = preprimary, primary, and lower secondary education (adapted from OECD, 1999); equiv. = equivalents. ^aThree states in the north: Benue, Nasarawa, and Plateau; two states in the south: Akwa Ibom and Rivers; ^bKabale, Wakiso, Tororo, and Lira; ^cProvince and city of Buenos Aires; ^dGreater São Paulo (city of São Paulo plus 38 other municipalities); ^efive mid-sized cities: Bluefields, Estelí, Juigalpa, León, and Rivas; ^fKarnataka state (including Bangalore, urban and rural districts), Dakshina Kannada, Davanagere, and Bidar; ^geast Kazakhstan; ^h17 of 25 districts; ⁱVictoria state.

Outcome variables

The outcome variables were derived from the question, “During the last 12 months, have you attempted to influence the drinking of any of the following persons so that he or she would drink less or less often?” Seven person types defined by relationship to the respondent (spouse/partner, child or children, female family member, male family member, work colleagues [including students and those conscripted], female friend or acquaintance, and male friend or acquaintance) were then specified. In the core questionnaire, the response options are given as “no,” “yes, once or twice,” and “yes, three or more times,” but not all of the selected countries used these options, preferring instead to dichotomize into “yes” or “no.” Minor variations in question phrasing as a result of country-specific implementation or translation did not change the overall meaning of the question.

For the purposes of the current study, dichotomous yes/no responses for each of the relationships were examined as separate outcomes. This resulted in seven person-type outcomes for analysis.

Correlates

Individual-level variables. In addition to survey country, four key demographic variables were selected for analysis: age (18–34, 35–49, and 50–69 years), gender (male/female), drinking status, and education. Drinkers were classified as current drinkers if they responded that they had consumed

an alcoholic drink in the previous year. Respondents’ highest levels of education were categorized as low, medium, or high, according to an adaptation of the International Standard Classification of Education (ISCED-97; Organisation for Economic Co-operation and Development [OECD], 1999), as developed by the Swiss GENACIS team so that “low” includes preprimary, primary, and lower secondary; “middle” includes upper secondary and postsecondary; and “high” includes first- and second-stage tertiary.

Country-level variables. The percentage of drinkers among women was derived for each country from the survey data. World Bank data on PPP were obtained for each of the 14 countries in 2012 dollar equivalents. Current drinker status also was included as a random effect (see below).

Analysis strategy

The prevalence of each of the above outcomes was generated from unweighted data, and bivariate regression was undertaken to examine the relationship between age, gender, education, and drinker status and reporting any pressure on the other to drink less. A series of mixed-effect multilevel multiple logistic regressions was then undertaken for each outcome, adjusting for all of the individual-level variables, with and without the aggregate contextual variables (percentage of female drinkers and PPP). Each respondent’s drinking status was added to the models as both a fixed and random variable to account for any effect it may have across countries. In so doing, the final models have been adjusted by

country-level contextual effects (proportion of female drinkers, PPP, and current drinker status at a country level). Initial exploration of model fit comparing random coefficients with random intercept models was undertaken using the likelihood ratio test. In all comparisons, the random coefficients models were superior and are reported here (all p 's < .001 except for pressuring female family members to drink less, $p = .0055$, and pressuring female friends to drink less, $p = .0367$). To be conservative, an unstructured variance-covariance matrix was selected. All analyses were undertaken using Stata Version 11 (StataCorp LP, College Station, TX).

Results

Pressures on others to drink less

Reports of pressuring male friends to drink less in the 12 months before being surveyed were generally most frequent across all of the relationship types (Table 2), with country-specific figures ranging from 4% in the Isle of Man to 47% in Sri Lanka. In general, the percentage who had pressured a female friend to drink less was half or less of the percentage pressuring a male friend, but the percentages pressuring were more equal in Australia, the Isle of Man, the United Kingdom, Nigeria, and Uganda and at around a 2:1 ratio in Nicaragua, Brazil, Costa Rica, and Finland. In India, respondents' partners were most frequently pressured to drink less. The percentage who reported pressuring their partner was also high in Nicaragua and Uganda, and in four other countries (Kazakhstan, Brazil, Costa Rica, and Australia), it was more

than 15%. Pressure on a child to drink less was relatively high in Australia and Costa Rica—in Australia, almost as high as for partners. Although the percentage reporting pressuring a child in the Isle of Man and the United Kingdom did not stand out in international comparisons, "child" was the most frequently cited relationship in the Isle of Man, and this was also relatively high in the United Kingdom. People were especially likely to report pressuring their workmates to drink less in Uganda, and this was also among the most frequently pressed relationships in Nigeria, although the percentage reporting pressuring workmates was higher in Nicaragua, Costa Rica, and Sri Lanka. Comparing across societies, the percentage of the Ugandan sample reporting pressuring others to drink less was consistently highest or next highest for all relationship categories except child.

Correlates of pressures on others to drink less

The effects of age, gender, education, drinker status, and country were simultaneously examined in multivariable logistic regression models undertaken for each outcome, adjusting for all of these variables. Table 3 shows the results of these analyses for the seven outcome variables detailed above.

Gender. Women were more likely than men to report pressure on others to drink less, and this effect was most pronounced for the reported pressures on their partners to drink less. The only exceptions to the pattern of gender effects were in relation to pressures on workmates and male friends, where men were 1.5 and 2.4 times more likely than

TABLE 2. Population percentages reporting pressuring others to drink less according to relationship to respondent (unweighted data)

Variable	Partner ^a <i>n</i>	Child <i>n</i>	Work ^b <i>n</i>	Family (female) <i>n</i>	Family (male) <i>n</i>	Friend (female) <i>n</i>	Friend (male) <i>n</i>
Observations	13,390	15,090	12,202	19,495	19,495	19,495	19,495
Country	%	%	%	%	%	%	%
Nigeria	9.7	N.A.	12.1	7.8	10.4	10.5	12.7
Uganda	23.4	6.7	39.2	26.8	34.5	35.0	42.6
Argentina	7.5	2.8	2.4	2.2	6.6	3.5	10.2
Brazil	18.6	4.9	8.8	5.4	17.6	6.8	13.7
Costa Rica	16.0	10.5	14.6	7.3	23.2	12.7	22.5
Nicaragua	23.2	9.0	17.9	7.4	26.0	14.0	27.0
Uruguay	3.5	2.2	4.7	1.4	7.8	3.5	10.9
India	20.1	2.8	6.9	3.4	15.3	1.1	15.2
Kazakhstan	18.2	5.9	10.0	4.0	13.5	5.8	15.1
Sri Lanka	19.6	6.7	14.1	1.9	31.6	3.1	47.4
Finland	9.6	N.A.	4.1	2.0	4.5	3.5	7.2
Isle of Man	7.3	8.9	4.4	2.3	4.6	3.6	4.3
United Kingdom	10.7	8.7	8.8	4.4	6.2	6.6	10.7
Australia	18.8	18.1	8.1	7.6	11.5	11.7	12.0
Total	15.3	5.3	11.5	6.2	15.4	8.8	18.2

Notes: N.A. = not applicable: Respondents from Finland and Nigeria were not asked the base question, "Have you ever had any children, including adopted or stepchildren?" ^aAmong those who indicated that they had a partner; ^brestricted to only those who indicated they were employed (excluding students).

TABLE 3. Multivariate logistic regression adjusting for sociodemographics (gender, education, and current drinker status) and controlling for country

Variable	Partner		Child		Work		Family (f)		Family (m)		Friend (f)		Friend (m)	
	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]	OR	[95%CI]
Female	6.10	[5.32, 6.99]	1.86	[1.57, 2.22]	0.66	[0.58, 0.75]	1.56	[1.37, 1.78]	1.36	[1.25, 1.49]	1.44	[1.29, 1.61]	0.42	[0.39, 0.46]
Age														
18–34 (ref.)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
35–49	1.03	[0.92, 1.15]	13.51	[8.95, 20.39]	1.01	[0.88, 1.15]	0.96	[0.83, 1.10]	0.97	[0.88, 1.06]	0.81	[0.72, 0.91]	0.95	[0.87, 1.04]
50–69	0.78	[0.67, 0.91]	26.91	[17.76, 40.78]	0.76	[0.63, 0.93]	0.99	[0.83, 1.19]	0.83	[0.74, 0.94]	0.70	[0.60, 0.82]	0.82	[0.73, 0.92]
Education ^a														
Low (ref.)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Middle	1.00	[0.88, 1.12]	0.78	[0.64, 0.96]	1.35	[1.18, 1.55]	1.11	[0.96, 1.28]	1.08	[0.99, 1.19]	1.33	[1.18, 1.50]	1.20	[1.10, 1.31]
High	0.84	[0.70, 1.00]	0.82	[0.65, 1.04]	1.51	[1.26, 1.81]	1.01	[0.82, 1.25]	0.92	[0.79, 1.06]	1.14	[0.96, 1.36]	1.03	[0.90, 1.18]
Current drinker	1.35	[1.18, 1.54]	1.07	[0.88, 1.30]	0.99	[0.86, 1.13]	1.16	[1.00, 1.33]	0.90	[0.81, 0.99]	1.08	[0.96, 1.23]	1.01	[0.92, 1.11]

Notes: F = female; m = male; OR = odds ratio; CI = confidence interval; ref. = reference. ^aLow = preprimary, primary, and lower secondary education; middle = upper secondary and postsecondary education; high = first- and second-stage tertiary education (adapted from OECD, 1999).

women to report pressuring their workmates or male friends to drink less, respectively.

Age. The oldest group of respondents was less likely to report pressuring others to drink less across all relationship types other than female family members and children. Indeed, respondents in both of the older age groups were more likely to report pressuring children, consistent with an increased likelihood of having older children. Otherwise, there were few differences between the two youngest age groups, but the 35- to 49-year-olds were about 1.25 times less likely to report pressuring female friends to drink less.

Education status. The patterns of effects of education status on pressuring others to drink less were complex and varied across outcomes. Compared to people with low educational attainment, people with high education levels were less likely to report pressuring their partners, but this did not differ if they reported middle education levels. By contrast, people were less likely to report pressuring their children if they reported either of the two higher education levels, significantly so only for the middle education level. For the other forms of relationship types, a middle-level education was typically significantly associated with an increased pressure on others to drink less. This was also the case for higher education levels, but the association was only significant for the work-colleague outcome. There was no association between education status and pressuring other family members (male or female) to drink less.

Drinker status. Current drinkers were more likely to report pressuring partners or female family members to drink less but were less likely to pressure male family members to drink less. Associations between drinking status and pressuring workmates and male or female friends failed to reach statistical significance.

Country. After adjusting for the demographics of the respondent, the country-specific patterns were similar to those detailed above in relation to Table 2. Figure 1 depicts the odds ratios (and 95% confidence intervals) for each of the different relationship types by country. Participants from two South American countries, Argentina and Uruguay, were less likely

to report pressuring others in most relationship categories than the respondents from the United Kingdom (the reference category). Participants from most of the remaining countries had higher percentages than those from the United Kingdom for reporting pressuring others to drink less, and this was consistent across all outcomes except for male family members and friends. Compared with those from the United Kingdom, respondents from most countries were much more likely to report pressures on a male family member (other than a partner or child), the only exceptions being Argentina, the Isle of Man, and Finland. Reports of pressuring others were highest in Sri Lanka and Uganda across almost all outcomes. However, reports of pressuring others in Sri Lanka varied according to gender, with the large effects reported for male friends and family members not mirrored in reports of pressure toward female friends or family members (reflecting the low rate of drinking at all among women in Sri Lanka—with a similar pattern evident in India). Participants from the two Central American countries included, Nicaragua and Costa Rica, were consistently more likely to report pressuring others to drink less than most of the remaining countries across most of the outcome measures.

Country-level variables

Table 4 presents the findings, accounting for the fixed “contextual” effects of country-level variables—(survey-derived) proportion of female drinkers and PPP—as well as the random effects of current drinker status across countries. Respondent drinking status was also added to the model as both a fixed and random variable to account for any effect it may have had across countries while adjusting for any differences within a country. Overall, including the country-level variables (proportion of female drinkers and PPP) and drinker status as a random effect had no impact on the relationships evident in Table 3. Further, PPP had no impact on reports of pressuring others to drink less.

All country-drinker covariance estimates were negative. This suggests that people in countries where more pressure

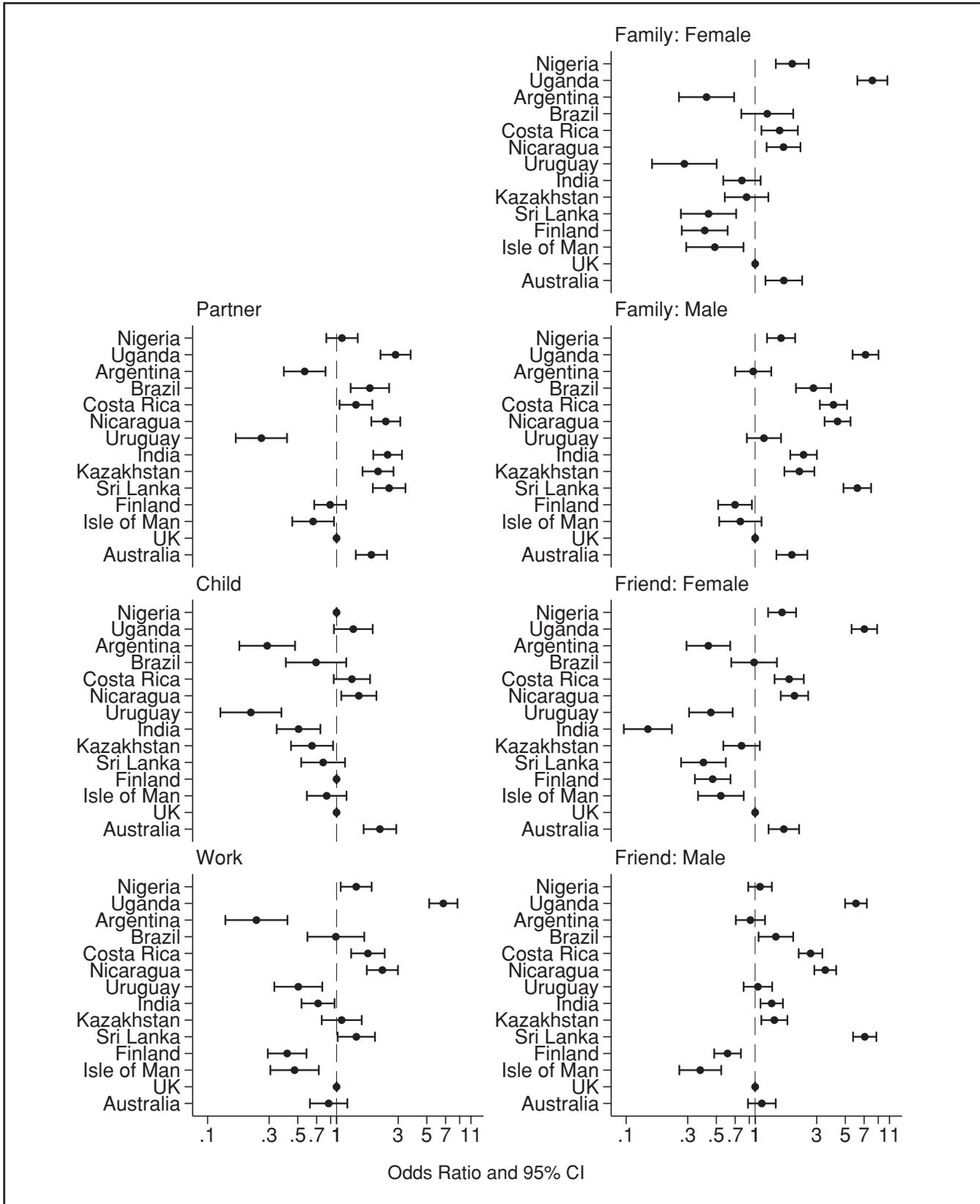


FIGURE 1. Odds ratios (and 95% confidence intervals [CI]) of reporting pressuring others to drink less for the countries included across all seven relationship types

TABLE 4. Mixed-effects models: Fixed effects are gender, age, education, drinking status, proportion of the country-specific sample who are female current drinkers, and purchasing power parity; random effects include country and drinking status

Variable	Partner (<i>n</i> = 13,077) OR [95% CI]	Child (<i>n</i> = 14,639) OR [95% CI]	Work (<i>n</i> = 12,112) OR [95% CI]	Family: Female (<i>n</i> = 18,996) OR [95% CI]	Family: Male (<i>n</i> = 18,996) OR [95% CI]	Friend: Female (<i>n</i> = 18,996) OR [95% CI]	Friend: Male (<i>n</i> = 18,996) OR [95% CI]
Fixed effects							
Female	6.42 [5.57, 7.41]	1.93 [1.61, 2.30]	0.67 [0.59, 0.76]	1.60 [1.40, 1.83]	1.35 [1.23, 1.47]	1.46 [1.30, 1.63]	0.42 [0.39, 0.46]
Age (ref.: 18–34)							
35–49	1.01 [0.90, 1.14]	13.28 [8.79, 20.05]	1.00 [0.88, 1.15]	0.95 [0.83, 1.10]	0.96 [0.88, 1.06]	0.81 [0.72, 0.92]	0.94 [0.86, 1.03]
50–69	0.77 [0.66, 0.89]	26.71 [17.62, 40.50]	0.76 [0.63, 0.92]	0.99 [0.83, 1.19]	0.82 [0.73, 0.93]	0.70 [0.60, 0.83]	0.82 [0.73, 0.92]
Education ^a (ref.: low)							
Middle	0.99 [0.88, 1.12]	0.78 [0.64, 0.96]	1.34 [1.17, 1.54]	1.10 [0.96, 1.27]	1.08 [0.98, 1.19]	1.32 [1.17, 1.49]	1.20 [1.10, 1.32]
High	0.84 [0.70, 1.00]	0.83 [0.66, 1.05]	1.51 [1.26, 1.81]	1.01 [0.82, 1.25]	0.92 [0.79, 1.06]	1.13 [0.95, 1.36]	1.04 [0.91, 1.19]
Current drinker	1.34 [1.00, 1.79]	1.05 [0.49, 2.25]	1.01 [0.80, 1.27]	1.32 [1.02, 1.70]	0.92 [0.76, 1.12]	1.13 [0.91, 1.41]	1.04 [0.89, 1.22]
Proportion of female drinkers (in 10% increments)	0.70 [0.52, 0.95]	0.82 [0.19, 3.54]	0.72 [0.51, 1.01]	0.72 [0.48, 1.08]	0.77 [0.60, 0.99]	1.00 [0.59, 1.69]	0.74 [0.61, 0.89]
Purchasing power parity (per 1,000)	1.02 [0.97, 1.07]	1.03 [0.89, 1.20]	1.00 [0.96, 1.05]	1.01 [0.96, 1.07]	0.99 [0.96, 1.03]	0.99 [0.92, 1.07]	0.98 [0.96, 1.01]
Random effects							
Current drinker (variance)	0.210	0.357	0.056	0.086	0.083	0.040	0.053
Country (variance)	0.301	3.158	0.575	0.835	0.322	0.868	0.513
Country-drinker (covariance)	-0.109	-0.110	-0.125	-0.196	-0.090	-0.049	-0.165
Likelihood ratio test $\chi^2_{(2)}$ ^b	227.9, <i>p</i> < .001	491.7, <i>p</i> < .001	589.9, <i>p</i> < .001	735.3, <i>p</i> < .001	666.9, <i>p</i> < .001	1,180.3, <i>p</i> < .001	1,058.7, <i>p</i> < .001

Notes: OR = odds ratio; CI = confidence interval; ref. = reference. ^aLow = preprimary, primary, and lower secondary education; middle = upper secondary and postsecondary education; high = first- and second-stage tertiary education (adapted from OECD, 1999); ^blikelihood ratio test comparing the log-likelihood of the nested model against a simply (logistic regression) model.

on others to drink less is asserted tend to report not being current drinkers. Stated another way, people from countries with a greater proportion of current drinkers are less likely to report pressure on others to drink less (after adjusting for all other covariates). The inclusion of drinker status, as both a fixed effect and a random effect, had no discernible effect on the relationships, as evident in the minimal differences in the odds ratios between Table 3 and Table 4.

For six of the seven relationship types, the country-level contextual effect of proportion of female drinkers was negatively associated with pressuring others to drink less, significantly so for partners, male family members, and male friends. That is, as the proportion of female drinkers within countries increased, there was a decrease in the reported pressure on others to drink less after controlling for other covariates. By example, when indicating pressuring a partner to drink less, with every 10% increase in a country's proportion of female drinkers, there was a decrease in the odds ratio of the reporting of pressuring partners to drink less by approximately 30%.

Discussion

Substantial percentages (between 6% and 18%, depending on relationship type) of the entire sample available for analysis reported pressuring others in their social circle to drink less in the year before being surveyed. These figures are similar to those reported in previous North American work (Room et al., 1996) but mask large differences between the countries included in the analyses across the different social

relationship types examined. These differences remained largely unchanged even after we included country-level variations in the proportion of female drinkers, PPP, and current drinker status in the models. In general, respondents from the African and Central American countries were more likely to report pressuring others to drink less across all relationship types. A similar pattern was evident for Australian respondents, except for pressuring workmates or male friends. Respondents from Argentina were less likely to report pressuring others to drink less across most relationship types.

Women were more likely than men to report pressuring others in their immediate family to drink less. This effect was consistent across family relationships but strongest for pressuring partners.

Although this pattern was similar to that reported by Room et al. (1996), the men in the Ontario sample of Room et al. were as likely as the women to report pressuring male family members to drink less. Further, although our results showed similar gender patterns for pressures on male and female friends as Room et al., our findings show that pressures on workmates are similar to those on male friends, with more men than women reporting pressuring their workmates. These findings are consistent with reported higher exposure of men to the drinking of their peers and workmates than women (Lemke et al., 2008), with such higher exposure possibly leading to increased pressures to drink less being directed to their peers and workmates.

It is important to note that in countries with low levels of female drinking, specifically in South Asia, reports of pres-

uring female family members (Sri Lanka) or friends (India and Sri Lanka) were comparatively infrequent. However, the variation here is not simply attributable to the differences in the percentage of female drinkers in these countries, with Argentina, Uruguay, and Finland all showing a similar comparative pattern despite much higher percentages of female drinkers. Nevertheless, overall we found that, at a country level, an increase in the percentage of female current drinkers as well as drinkers more broadly reduced pressuring rates.

The effects of educational status were generally small but nonetheless interesting. After controlling for the effects of country of residence, the general pattern was that people with higher education levels reported pressuring others outside of their immediate family to drink less. Within immediate families (partners or children), the pattern was reversed.

Our study is a preliminary attempt to explore differences in informal pressures to drink less across different countries. We were only able to take into account rudimentary variations in country conditions in the analyses reported, but these had almost no impact on the main results reported. Further, as weights were available for only 4 of 14 countries, we were unable to weight survey responses, meaning that the findings should be generalized with caution. Last, the variation in sample size means that some countries contributed more to the overall effects than others, but Table 1 shows that there were no clear biases in the distribution of sample characteristics according to sample size or sampling method.

Additional work examining the impact of country-level variables such as poverty and gender conditions beyond female drinker status is needed to determine whether some of the variation by country of respondents can be accounted for by these variables, and this needs to include an enhanced understanding of the common drinking patterns within each country. In a similar vein, more work is needed in relation to the drinking status of the person reported as being pressured, preferably in the context of linked responses within households.

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