Harm to Others from Drinking:

Patterns in Nine Societies

edited by

Anne-Marie Laslett, Robin Room,
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Foreword

Measuring and Reducing Harm to Others from Alcohol

In communities and societies across the world, the harmful use of alcohol causes an array of health and social problems not only to those that drink alcohol, but also to those around them – to intimate partners, other family members and friends, colleagues and members of the community. Harms from others' drinking include violence, injury, child abuse and neglect, financial problems and harms that affect relationships and the quality of people's lives. As underlined in the World Health Organization (WHO) Global strategy to reduce the harmful use of alcohol, special attention needs to be given to reducing harm to people other than the drinker.

Documenting and developing the approaches to reduce alcohol's harm to others is an important area highlighted in the WHO strategy. This joint program of research between WHO, the Thai Health Promotion Foundation (ThaiHealth) and collaborating investigators in nine high, middle- and low-income countries, sets out to study the magnitude and scope of alcohol's harm to others in general populations and how it is encountered and dealt with in response agencies like the police, hospitals, social welfare offices and women's shelters and support centers.

This book draws together the results of national surveys in Thailand, Chile, India, Lao People's Democratic Republic, Nigeria, Sri Lanka, Vietnam, Australia and New Zealand. It describes and compares harms from others' drinking cross-nationally and focuses on different aspects of alcohol's harm to others in each country, for instance, the effects of coworkers' drinking in Lao People's Democratic Republic and harms to children from adults' drinking in Vietnam.

While drinkers with alcohol use disorders also need services and support to reduce the social harms and health problems they experience, this book adds weight to the need for policies that protect those affected by others' drinking and services that assist them. It further strengthens WHO's arguments for policies that increase the price of alcohol and limit the availability and promotion of alcohol, such as in WHO's SAFER initiative - the newest WHO-led roadmap to support governments in taking practical steps to improve health and well-being through addressing the harmful use of alcohol. The magnitude and range of the effects underline the outcomes of inaction and indicate why substantial attention is needed to accelerate progress towards the WHO Sustainable Development Goals.

This book highlights the social burden and human costs of harmful use of alcohol to others than drinkers in nine societies. I recommend this book, not only to those responsible for health and social policies of the societies where the study was implemented, but to public health leaders and policy makers worldwide. It also deserves the attention of governmental agencies dealing with alcohol-related problems, the research community, non-governmental organizations, the media and the general public.

Dévora Kestel
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World Health Organization

Foreword

Alcohol is a major risk factor for health and a devastating obstacle to national development. Globally it ranks ninth among risk factors in the 2015 Global Burden of Disease analysis report. In Thailand alcohol consumption contributes around a quarter of the burden of diseases and exacts billions of Baht equivalent of economic loss each year. This, of course, is without taking into account a full measure of a myriad of other social problems stemming from drinking alcohol. Alcohol's harm has a vast social dimension in Thailand, not only affecting the users themselves but also adversely affecting their families and communities, in essence, damaging the social fabric of society. Data on and understanding of "alcohol's harms to other" is thus essential and we are fortunate to have this publication by a team of multinational researchers to address this gap.

ThaiHealth, as an autonomous government agency funded by taxes on alcohol and tobacco, set up to "inspire, motivate, coordinate, and empower" the health promotion movement in Thailand, is pleased to have formed an alliance with the World Health Organization (WHO) under a Memorandum of Understanding on Health Promotion (2015-2020), particularly to lend support to the Harm to Others from Drinking Project for low and middle income countries: Chile, India, Nigeria, Sri Lanka, Thailand and Viet Nam in Phase I and II. The project involved a general population survey in each country, with the addition of Lao People's Democratic Republic, and these surveys provide the basis for this book.

ThaiHealth sincerely appreciates the longstanding partnership with WHO on alcohol control as well as the hard working team of researchers who have shown great wisdom and exercised much effort in developing this key publication. We hope that this book can serve to help readers of all backgrounds to recognize the grave burden and harms of alcohol to our society and help revitalize the global and national momentum on implementing alcohol control.

Dr Supreda Adulyanon
Chief Executive Officer
Thai Health Promotion Foundation (ThaiHealth)

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The academic institutions of the principal investigators also generously supported this important work over a substantial period of time. The study leaders and research organizations are listed by country: Australia: Robin Room (the Centre for Alcohol Policy Research, La Trobe University); and Anne-Marie Laslett (National Drug Research Institute, Curtin University and the Centre for Alcohol Policy Research, La Trobe University); Chile: Ramon Florenzano (Universidad del Desarrollo, Santiago de Chile); India: Vivek Benegal (Centre for Addiction Medicine) and Girish Rao (Centre for Public Health, National Institute of Mental Health and Neurosciences, Bangalore); Lao People's Democratic Republic: Latsamy Siengsounthone (National Institute of Public Health); New Zealand: Sally Casswell and Taisia Huckle (Social and Health Outcomes Research and Evaluation [SHORE]and Whariki Research Centre, Massey University); Nigeria: Isidore Obot (University of Uyo) and Akanidomo Ibanga (Centre for

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The opinions expressed in this book are those of the authors and do not necessarily reflect those of the Thai Health Promotion Foundation, WHO, the Foundation for Alcohol Research and Education, the National Institute on Alcohol Abuse and Alcoholism, the National Institutes of Health or other sponsoring institutions.

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List of Abbreviations

BAC blood alcohol level

EUROQoL European version of the Health Related Quality of Life scale

GBD Global Burden of Disease

GENACIS Gender, alcohol and culture: an international study

GENAHTO Gender and alcohol's harms to others

Gini Index measures equality in the distribution of income in a society

GISAH WHO's Global Information System on Alcohol and Health: (http://www.who.int/gho/alcohol/en/)

GSRAH WHO global status report on alcohol

HRQoL Health Related Quality of Life scale

HTO [alcohol's] harm to others

IGSAHO International Group for the Study of Alcohol's Harm to Others

LMICs low and middle income countries

NDSHS National Drug Strategy Household Survey

OECD Organisation for Economic Cooperation and Development

PPP Purchasing Power Parity

PWI Personal Wellbeing Index

SoRAD Centre for Social Research on Alcohol and Drugs

ThaiHealth Thai Health Promotion Foundation

UNICEF United Nations International Children's Emergency Fund

WHO World Health Organization

Chapter 1

Chapter 1

Putting alcohol's harm to others on the map

Anne-Marie Laslett, Robin Room, Sarah Callinan, Orratai Waleewong and Dag Rekve

Alcohol's harm to others: a broad landscape, with many viewpoints

The perception and attribution of problems related to alcohol consumption are sensitive to cultural contexts and change over time. Sometimes drinking may be related to an event (for example, a cart overturning in a ditch) that is not even recognized as caused by alcohol consumption (Levine 1983). With the growth of temperance movements in many societies in the latter part of the nineteenth century, considerable and increased attention was given to the adverse effects of heavy drinking on family life, and particularly the impact of men's heavy drinking on women and children. With the twentieth-century reaction against such ideas in "temperance cultures" – societies with a strong temperance movement (Levine 1993) – the focus in thinking about alcohol-related problems narrowed to harms to the body, mind and life course of the drinker, with little attention paid to harms caused to others because of, or worsened by, drinking.

In recent years, attention to alcohol's harm to others has been rising. In the 1960s and 1970s the harms from drinking and driving not only to the drink-driver but also to others involved in traffic crashes came to the fore. In the 1980s and 1990s there was a new focus on the potential adverse effects on the

fetus of mother's drinking during pregnancy. But these issues tended to be dealt with in separate literatures and by remedial policies and programs.

The increased attention to harms from others' drinking has been manifested in statements and activities of the World Health Organization (WHO). "All people have the right to a family, community and working life protected from accidents, violence and other negative consequences of alcohol consumption" (World Health Organization 1996). This is the first ethical principle in the 1995 European Charter on Alcohol, arising from the WHO European Conference on Health, Society and Alcohol in Paris, France in that year. The European Charter signalled a shift towards a more comprehensive focus on harm to others and the obligation that governments have to protect their citizens in this regard. This perspective was further strengthened in the 2005 Framework for Alcohol Policy in the WHO European Region. Its guiding principles state that: ''Each Member State has not only the right but also the obligation to provide a high level of protection to its citizens from alcohol-related harm, particularly with regard to harm from others' drinking and harm to vulnerable groups such as children'' (World Health Organization 2006). This perspective was further strengthened in one of the guiding principles to the 2010 WHO Global Strategy to Reduce the Harmful Use of Alcohol (World Health Organization 2010), which states that protection of those exposed to the effects of harmful drinking by others should be an integral part of policies addressing the harmful use of alcohol.

What is new in the WHO programme, and in parallel developments in the last few years at national levels and in the international research literature, is thus the broader perspective involved in efforts to look across the whole spectrum of harms. The term "alcohol's harm to others", and cognate terms such as "negative externalities", "collateral damage", and the "second-hand effects" of drinking (Babor 2011; Giesbrecht et al. 2010) are signals of this broader perspective.

''Alcohol's harm to others'' thus has a broad scope. The harms may be to family members or to others with a regular relationship to the drinker – friends,

workmates, neighbours – or they may be to individuals unknown to the drinker, as in many drink-driving crashes. The harms may also be collective rather than to specific individuals or within particular networks. Australian city planners use the term "amenity" to refer to the features of the physical and social environment at a neighbourhood level that can make a locality attractive, or otherwise. Amenity includes such factors as noise levels, nuisance and litter, which are often related to concentrations of drinking places or street drinking (Weston & Milner 2015). Alternatively, a whole region or society may be adversely affected by alcohol. This is often easier to see in small societies; thus an Australian anthropologist could describe how the introduction in 1971 of "free and easy access to alcohol had, overall, rather devastating effects on Aboriginal socio-cultural systems" (Sackett 1977). But it can also become visible at the level of a large nation: at the high point in the 1950s of levels of alcohol consumption in France, the term "alcoholization" was used to describe the adverse effects of the high consumption level on the society as a whole (Babor et al. 1994; Ledermann 1956).

There are a variety of viewpoints from which harms to others can be documented and studied (Room et al. 2010; Klingemann & Gmel 2001). As just noted, the interests of the society as a whole is one perspective, mostly approached in economic terms, through such traditions as "cost of illness" studies (Single et al. 2003; Mohapatra et al. 2010). But, partly because of limits on the availability of data, this perspective has tended to focus on the costs to government of institutional responses to problematic drinking rather than on the cost effects for the family or others in direct contact with the drinker.

A second set of perspectives is in terms of the caseloads of the social response systems that deal with crises or ongoing problems in modern societies: these include social welfare, housing and family support agencies, police and judicial systems, and various health systems and agencies: ambulance and emergency services, hospitals, mental health and alcohol treatment services, and primary care professionals. In the course of doing its work, each service makes and keeps records on cases it attends to, and these records, compiled

into "registers", are a primary source of data on a society's health and social problems. But in terms of measuring harm to others from drinking, there are three big issues for using the information gained via this perspective. The first is that the agencies often deal mostly with quite serious cases, and often collect more complete information on more serious, rather than less serious, cases. This means that in order to develop the information needed to design, justify and evaluate policies and interventions to prevent problems occurring, or getting worse, agency register information needs to be complemented with other perspectives that give information on the much larger pool of less serious events and circumstances, only a fraction of which end up as cases in the registers. A second issue is the range of systems and types of institutions involved in the social response systems, which reach across the customary jurisdictions of government departments, and for that matter, international organizations too. At the international level, it is primarily the health sector – that is, the WHO – that has taken a serious and continuing interest in alcohol-related problems, though with limited resources. At national and subnational levels, although other sectors may also be involved, it is uncommon for there to be continuing high-level coordination across government departments on alcohol issues. The departmental structure of modern governments makes a concerted approach to harms from others' drinking a particularly difficult issue to tackle, since the harms take so many forms and may appear in so many response systems. A third issue is that many of these systems deal primarily with the individual case of the person who walks in the agency's door. The focus tends to be on remedying the harm, and that someone else's drinking was a factor may not be recorded. Since healthcare providers, in particular, are naturally focused on the patient presenting to them, health records are particularly unlikely to record anything about the involvement of someone else's drinking.

In the first phase of the project, which included collection of most of the data used in this book, the six countries of the WHO/ThaiHealth project also conducted scoping studies of whether and how the involvement of another's drinking is recognized in health and social agencies in their society. The findings of these scoping studies are summarized in a journal article (Laslett et al. 2016).

Exploring methods for improving the rather scanty attention to and recording of this dimension is a major focus of the forthcoming second stage of the WHO/ThaiHealth project.

A third perspective on alcohol's harm to others is the viewpoint of the drinker. Population surveys of drinking have long included questions on the problems a drinker may have experienced due to drinking. Many of these items – for instance, "has your drinking had a harmful effect on your friendships or social life?" or "have you gotten into a fight while drinking?" – are potential indications of harm to others from the respondent's drinking. The Gender and Alcohol's Harm to Others (GENAHTO) project, a new cross-national project for cross-national analyses of population surveys funded by the US National Institutes of Health, includes plans to analyse such questions from the archived surveys of the earlier Gender, Alcohol and Culture: An International Study (GENACIS) project (GENACIS 2001), along with data from surveys on harm from others' drinking, including the surveys analysed here, as indicators of harm to others from drinking. But while drinkers often acknowledge such harms to or problems for others from their drinking, drinkers are sometimes not even aware of how their intoxicated behaviour has resulted in harm to others.

The present book thus focuses on a fourth perspective on alcohol's harm to others: the perspective of the other – a person who, whether known to the drinker or not, is adversely affected by another's drinking.

Background to this book

Alcohol is an important risk factor for health, globally ranking ninth among risk factors in the most recent Global Burden of Disease (GBD) analysis (2015 GBD Risk Factors Collaborators 2016). This, of course, does not take account of the social problems that fall outside the GBD's framework of death and disease.

Even in relation to health problems, the GBD analyses are primarily focused on the problems experienced by the drinker, largely excluding health problems resulting from others' drinking. A major reason for this exclusion is that the health statistics on which the GBD and other synthesizing analyses of

health and disease rely pay primary attention to the physical and mental characteristics of patients as they come to the attention of the health system. As mentioned above, the result is that contextual factors, such as an assailant's drunkenness, are not generally recorded.

Alcohol has effects beyond those on the individual drinker – its impacts are felt across society, as discussed above. Some of the ways in which alcohol burdens societies include decreased work productivity, absenteeism, increased morbidity and mortality, increased stress upon health systems, and damage to economies (Collins & Lapsley 2008; Pidd, Shtangey et al. 2008; Dale & Livingston 2010; GBD 2015 Mortality and Causes of Death Collaborators 2016). An in-depth example of alcohol's impacts upon the workforce and economy in a lower middle income country (Lao People's Democratic Republic) is provided in Chapter 5 of this book.

When attention is paid to the harms of drinking to others, the magnitude of the effects found is often large. In fact two studies, working from very different bases, have estimated that they are of the same order of magnitude as the adverse effects for the drinker. A study based on detailed expert estimates for the United Kingdom concluded that the extent of harms to others from alcohol exceeded harms to the drinker (Nutt, King et al. 2010), and an Australian study of costs from others' drinking found that they were of about the same magnitude as the costs of heavy drinking to the drinker and to the society (Laslett et al. 2010: 177).

Recognizing the gap in documenting and understanding an important element in problems related to drinking, a WHO meeting in 2009 in Stockholm, as part of initiating "an international collaborative research initiative on alcohol, health and development", designated "alcohol's harm to others" as a priority programme area. A second related priority area was child development and prenatal risk factors with a focus on fetal alcohol spectrum disorders. The priority on developing knowledge and effective countermeasures in these areas was confirmed in the 2010 Global Strategy to Reduce the Harmful Use of Alcohol, adopted by the World Health Assembly in 2010, which concluded that "special attention needs to be given to reducing harm to people other than the drinker" (World Health Organization 2010: 8).

In implementing the priority programme area on harm to others, WHO formed an alliance through a Memorandum of Understanding with the Thai Health Promotion Foundation (ThaiHealth), Thailand's autonomous state health promotion agency; through this, fieldwork on the Harm to Others from Drinking Project was funded in six low and middle income countries (LMICs): Chile, India, Nigeria, Sri Lanka, Thailand and Viet Nam. The project involved a general population survey in each country, and these surveys provide the basis for this book. Added to them here are a comparable survey commissioned by ThaiHealth in Lao People's Democratic Republic, and nationally funded surveys in Australia and New Zealand, which preceded and provided models for the WHO/ThaiHealth project.

Seven of the surveys were carried out between October 2012 and August 2014 (with the Australian and New Zealand surveys about four years earlier – see Table 2.1), so the data from international statistics cited in comparisons in this book are from the early 2010s. A more recent update of global alcohol statistics is now available (World Health Organization 2018).

The WHO/ThaiHealth study was divided into two phases; only the first has so far been carried out. This phase included a scoping and assessment study and a general population survey of at least 1500 completed interviews of adults in each of the six participating countries. As noted above, the scoping study has been reported on separately (Laslett et al. 2016). This book uses data only from the population survey. The population survey data of the first phase of the project are, by their nature, better suited to comparison between countries than data describing institutions' responses to community problems and clients. A master protocol was developed for the first phase of the project (Rekve et al. 2016), drawing on the approaches and experiences of the Australian and New Zealand studies. Each collaborating country that carried out the project agreed to follow one of two options in the master research protocol, with high comparability: one asked additional questions that would allow costing and other more detailed analysis of harms experienced; the other added questions about the respondent's own drinking and about problems related to their drinking. The second phase of the project will, where feasible, include

register-data analyses of harm to others from drinking and agency-caseload studies in three first-response agency systems such as police, child welfare agencies and emergency health services.

With funding from the National Health and Medical Research Council in Australia, the Centre for Alcohol Policy Research began work on building an archive of data from the nine survey datasets – from the six WHO/ThaiHealth project countries listed above and from Lao People's Democratic Republic, Australia and New Zealand. An overview of the nine-country archive of data from these surveys can be found on the web (Callinan et al. 2016). Data from other countries with similar survey methodologies will be added to the archive as they become available. The collection of data in different countries in largely comparable form offers the potential not only for national analyses that might guide local policy and action but also for cross-societal comparative analyses. Chapter 12 in this book offers a first descriptive analysis looking across the nine datasets.

The plan of the book

Our aim in this book is to give a picture of the wide scope of information that can be gained from asking a sample of members of the general population about their experiences with harms from others' drinking. Accordingly, each national team took on the task of analysing a particular aspect of their country's data, with each chapter topic chosen according to a particular national interest, although with the whole adding up to coverage of a broad range of issues concerning alcohol's harm to others.

After the methodologies of the surveys are described in Chapter 2, the book turns to the country-by-country results, with the results of the Australian survey focusing on the drinking pattern and characteristics of the known drinker whose drinking most harmed the respondent in the year prior to the study (Chapter 3). It compares this drinking profile with the reported alcohol consumption patterns of Australians, delineating the characteristics of those whose drinking is most identified as having caused harm to others. The following two chapters report general adverse effects of others' drinking

in particular social role relationships. Thus the focus in the Nigerian chapter (Chapter 4) is on harm from known heavy drinkers in various kinds of relationship – as family members or friends – to the person harmed, while for Lao People's Democratic Republic harm from co-workers' drinking is the focus (Chapter 5).

Vulnerable populations such as children are more likely to be affected by others' alcohol drinking. The Vietnamese study (Chapter 6) examines harms to children from adults' drinking. Turning to harm from alcohol at the community level, the Sri Lankan chapter (Chapter 7), on the other hand, focuses on harms to adults from strangers. In the Indian chapter the focus is on differences in the rates of harm according to where respondents live – whether in different types of urban environment or in a rural area (Chapter 8).

The final three country-specific chapters turn to the specific consequences that have occurred because of others' drinking according to a variety of dimensions. For Thailand (Chapter 9), the topic is the financial burden from others' drinking. The Chilean team took on the task of comparing the personal well-being and health status of those harmed by others' drinking with the rest of the Chilean population (Chapter 10). The New Zealand study looks at the use of community services – health agencies and police – by respondents in connection to harm experienced as a result of others' drinking (Chapter 11). The primary goal of each national study has been to establish baselines and knowledge concerning harms from others' drinking in that country, and each national research team has produced a report, and often other papers, on their national data apart from the chapter included here. Appendix A provides a list of all such reports, journal articles and other publications.

The national studies were also designed to make cross-cultural comparisons possible, and a programme of cross-national analysis and publication is under way. Chapter 12 in this book is a first look at the data cross-nationally, comparing rates and correlates of harms from others' drinking across the different sites. As a background to Chapter 12, and also to the other analyses in this book, the next section of this chapter presents and compares national data on the nine societies represented in this book: some demographic characteristics, and also WHO statistics on proportions of abstainers (as opposed

to current drinkers), and estimated total alcohol consumption per annum, as a per capita amount for the total drinking-age population.

Nine diverse societies: a comparative overview

The countries participating in this project vary substantially in size, demography and social structure, and have different drinking patterns. One caution is that the data presented and discussed here are about each nation as a whole, although several of the surveys did not sample the whole nation. In particular, the Nigerian sample is drawn from three states, two in the south and one in the middle of the country; and the Indian sample is from four areas within one state, Karnataka. The rates and other data presented for these samples are indicative of patterns in the nation, but the characteristics of these areas are somewhat different from what would be found for the nation as a whole.

Demographics

The nine countries vary greatly – about three hundred-fold – in population size (Table 1.1). They also vary greatly in their level of economic affluence: for example, Australia's gross national income per capita is 45-fold greater than Lao People's Democratic Republic. Such income differences are likely to affect rates of harm from others' drinking in various ways. For example, more resources can make for greater availability of alcohol for those who choose to drink, and those who drink heavily. But having more resources can also provide greater insulation from possible harms from drinking (Schmidt et al. 2010).

The presence of children may affect the likelihood of harmful drinking in a household. Children are a substantially larger proportion of the population in Nigeria and Lao People's Democratic Republic than elsewhere, with India having the next youngest population. There are considerable differences in the proportion of urban dwellers too, with the three richer societies having the highest proportions of urban dwelling; half or more of populations elsewhere in the study live outside cities, Sri Lanka having the smallest city-dwelling proportion. Living in a rural or urban environment may affect patterns of drinking and reactions to drinking, and also the relative likelihood of harm

resulting from the drinking of someone who is familiar or a stranger to the respondent. In relation to education, the two most affluent countries in this study score highest on the United Nations Human Development Reports Education Index, but Sri Lanka comes close to Chile's score, with Thailand also higher than the four remaining societies. Nigeria, although affluent, had a relatively low Education Index.

Table 1.1 Characteristics of the nine societies: demographics and drinking profiles

	Population in millions, 2012 [a]	GNI per capita US$ (2013) [b]	% 15 years and older[a]	% living in cities[a]	Education Index, 2013 (0-1)[c]	Alcohol consumption, 2010 (litres of pure alc./ aged 15+)[a]	% Abstainers among those aged 18-64 (2008-2012) [d]		
							Male	Female	Total
Australia	22	65,500	81	89	0.927	12.2	10.7	14.1	12.4
New Zealand	4	39,980	80	86	0.917	10.9	13.4	20.1	17.0
Nigeria	174	2,680	56	50	0.425	10.1	41.9	79.4	61.3
Chile	18	15,270	78	89	0.746	9.6	19.4	32.7	26.0
Lao People's Democratic Republic	7	1,490	63	33	0.436	7.3	12.6	36.3	24.4
Thailand	67	5,790	81	34	0.608	7.1	32.3	69.7	51.4
Viet Nam	91	1,740	77	30	0.513	6.6	12.0	71.0	43.7
India	1,252	1,520	70	30	0.473	4.3	54.6	89.3	71.7
Sri Lanka	21	3,490	75	14	0.738	3.7	32.4	96.6	65.8

[a] World Health Organization. Global Status Report on Alcohol and Health (GSRAH) (World Health Organization 2014). Alcohol consumption levels include estimated unrecorded as well as recorded consumption. 2012 estimates, or as specified in the GSRAH report.

[b] Gross National Income (GNI) per capita, 2013, Atlas method (converted to $US) (World Bank 2017).

[c] United Nations 2015 http://hdr.undp.org/en/content/education-index. The index, based on mean years and expected years of schooling, ranges 0–1, in real terms for 2013 (United Nations Development Program 2013).

[d] Past-year abstainer prevalence for each of the nine societies was identified using the WHO/ThaiHealth surveys (for the sample in each country or part of the country, years 2008–2013, as per Chapter 2).

Abstention, drinking and level of consumption

The per capita consumption figures in Table 1.1 (based on the population aged 15 and older) show that Australia has the highest per capita consumption, followed by New Zealand, Nigeria and Chile. Lao People's Democratic Republic, Thailand and Viet Nam follow, with India and Sri Lanka consuming significantly less again (World Health Organization 2014). One of the main reasons for this can be seen in the last three columns in Table 1.1: the proportion of abstainers among males, among females and among the total population aged 18–65, as measured in the country-level data presented in this book. Note that in all further international comparison tables in this book, country data are presented in order of decreasing per capita consumption, as specified in the WHO Global Status Report on Alcohol (GSRAH) (World Health Organization 2014).

Abstainers are generally least common in the most affluent countries, but they are also uncommon in Lao People's Democratic Republic. They were most common in India, Sri Lanka and Nigeria.[1] The population proportion of abstainers in Thailand and Viet Nam was intermediate, with around half of the adults reporting abstinence in the last 12 months. In all of the countries in the study, abstinence was more common among women than men; in line with this, under half of the male population abstains in all countries, except India. The vast majority of the female population abstains in all of the low and middle income countries aside from Lao People's Democratic Republic and Thailand, where around a third of women do so. The proportion of men and women who abstain in high-income countries is much more even, with around ten or less percentage points separating the prevalence of drinking among men and women in Australia, New Zealand and Chile. In Lao People's Democratic Republic three times more women abstain than men, and twice as many women as men abstain in Thailand.

[1] In this report we have used the population proportion of abstainers identified in the WHO/ThaiHealth Study and not the WHO Global Status Report on Alcohol and Health (GSRAH) indicators. The abstinence figures reported are for respondents aged 18–64, whereas the abstinence figures reported in the GSRAH are for persons aged 15+. Abstinence figures from the present study, as shown here, are at least ten percentage points lower than the GSRAH figures for men and women in Lao People's Democratic Republic and Thailand, and for men in Viet Nam, India and Sri Lanka. Particularly for Viet Nam, this may reflect differences in geographic coverage; otherwise, it may reflect differences in study date, and in fieldwork design and implementation, as well as random variation in the course of sampling.

These patterns suggest that alcohol is more ubiquitous in everyday life in the three higher income societies. In the lower income countries, there is a particularly stark gender imbalance in drinking patterns, arguably with the exception of Thailand and Lao People's Democratic Republic. Even so, alcoholic beverages are a commonplace reality in each of the nine countries in the present study. The countries vary substantially in their level of drinking, and these variations, along with considerable demographic, social and economic variation, are among the factors potentially affecting differences in the attribution, magnitude and distribution of alcohol's harm to others across the different societies.

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Chapter 2

Chapter 2

Methods for the nine population surveys

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The WHO/ThaiHealth project research team (including the Australian investigators) was tasked with designing a survey that could be used internationally to measure alcohol's harm to others. In the end, two versions were developed, and they are outlined in detail below. They were based on the Australian and New Zealand instruments, with some modifications to make them better suited to a multinational study, and in light of experience gained in the first two studies. This chapter describes the WHO/ThaiHealth versions of the questionnaire, with some reference to the earlier Australia/New Zealand instruments. The full questionnaire can be found in the Protocol for the WHO/ThaiHealth study, available online (Rekve et al. 2016). A fuller discussion of the methods of the nine surveys can be found in Callinan et al. (2016).

Fieldwork methods

As noted in the previous chapter, the nine-nation dataset includes six surveys conducted in the WHO/ThaiHealth study – in Chile, India, Nigeria, Sri Lanka, Thailand and Vietnam – and an additional survey conducted with Thai

assistance contemporaneously in Lao People's Democratic Republic. The fieldwork for these surveys was carried out in the period between October 2012 and August 2014 (see Table 2.1). Households were randomly selected within geographic areas to represent the country or region in question. Interviews were conducted face to face, with one person per household being interviewed, chosen at random (in principle, but not always in practice, everywhere). Interviewers in Chile, Nigeria and Sri Lanka used iPads to administer the surveys and collect the data, while in India, Thailand and Vietnam pen and paper were used to write down answers. At each site interviewers completed rigorous training to maximize the uniformity and ethical appropriateness of the fieldwork. All studies included adults aged 18 and over, except for New Zealand, which included respondents aged 12 and over, and surveys in Lao People's Democratic Republic, Nigeria, Sri Lanka and Thailand, which introduced an upper age limit of 65 years and over. To ensure comparability between surveys, only adults aged 18–64 were included in the cross-national comparisons in Chapter 12.

Table 2.1 Sampling and data collection in each of the nine countries

Country	Data collection	Sample number		RR	Sampling scope
		Planned	Actual	Rate	
Australia	Oct – Dec 2008	2500	2649	35%	national (7 states, 2 territories)
NZ	Sep 2008 – Mar 2009	3000	3068	64%	national
Nigeria	Oct 2012 – Dec 2013	2000	2270	*	3 states (1 in north, 2 in south)
Chile	Oct 2012 – Sep 2013	1500	1500	72%	7 cities & surrounding areas
Lao People's Democratic Republic	Oct – Nov 2013	1260	1257	99%	national (3 regions, 3 provinces, 6 districts)
Thailand	Sep 2012 – Mar 2013	1800	1695	94%	national (5 provinces, 15 districts)
Viet Nam	Dec 2012 – May 2013	1512	1501	99%	national (6 regions, 1 province per region)
India	Dec 2013 – Aug 2014	2800	1403	97%	4 regions in Karnataka State
Sri Lanka	Sep 2013 – Feb 2014	1650	2475	93%	national (9 provinces, 21 districts)
Thailand	Sep 2012 – Mar 2013	1800	1695	94%	national (5 provinces, 15 districts)

RR: response rate.

** The reported response rate. was 99%, but random selection was not followed within the household.*

The Australian and New Zealand surveys were conducted between September 2008 and March 2009, by telephone, using computer-assisted telephone interviewing (CATI) methods, including random number-calling. Only landlines were called. Response rates for these surveys were lower than those in the other countries in this study – as was expected (O'Toole, Sinclair & Leder 2008) – in part because potential respondents are regularly pestered by sales calls masquerading as opinion surveys. The New Zealand response rate, attained by a dedicated staff employed by the research group, is unusually high given these circumstances.

The samples have been weighted to improve representativeness. In this book, weighted data are used for the percentages, correlations and other data reporting, but the Ns shown are for the unweighted sample. In the Australian and New Zealand samples, the data is weighted for the number of persons who would be eligible respondents with access to the dialled land-line. Further "post-weighting" conformed the sample to census distributions for gender, age and region. The weights used with the other samples included one component to compensate for the number of eligible respondents in the household and another so that the weighted sample corresponded to the gender distribution in the country (from the gender distribution in a couple of the samples as interviewed, it was clear that random selection among eligible respondents had not always been made). As response rates were high in these countries, the need for further post-weighting was reduced. Weighted sample sizes were set so as to total the same number of cases as the unweighted sample size.

The conceptual approach in the questionnaire

The conceptual basis of the surveys is described in Room et al. (2010). It draws on understandings of alcohol's potential impacts upon major social roles, including those of family or household members (including parents or carers for children), relatives, friends and co-workers, and in interactions with others not known to the respondent (in this book termed 'strangers').

Traditionally, alcohol surveys have primarily asked drinkers themselves about problems with their own drinking (Room 2000). They have included questions that imply harm to others, but the responses have usually been analysed from the perspective of the problems experienced by the drinker. When, for instance, drinking results in the drinker losing a job or being divorced, this has conventionally been analysed without consideration of the other parties harmed. While some such items in existing surveys can be re-analysed from the perspective of harm to others, those items are often non-specific and the topic coverage is limited. Also, people may particularly under report harms their drinking may have inflicted on others (Callinan & Room 2014). Such under reporting may reflect embarrassment, but it may also reflect how some harms others experience (for instance, fear, litter or noise) may not be recognized as harms by the person responsible.

Harms from others' drinking were split in the questionnaires into four broad groups based on the relationship between the harmed party and the drinker: harms from known drinkers (family, friends and acquaintances); harms in the workplace; harms from strangers; and harms to the respondent's children.

Harms from known drinkers

Harms from drinkers known to the respondent tend to be categorized by the relationship of the drinker to the respondent: partners, family members in the household, family members outside of the household, friends, acquaintances and neighbours. In particular, the difference between harms caused by a drinker who lives with the respondent as compared to someone who does not live with the respondent is an important distinction in the study.

Workplace harms from others' drinking

Harms from others' drinking in the workplace may include direct harms from drunken behaviour, but also such matters as a co-worker needing to fill in or cover for a colleague who has been drinking. Individual respondents were

able to tell us about their person-to-person experiences of such harms and the costs for them in terms of time spent remedying or covering up for the drinking. However, it should be kept in mind that this does not necessarily equate to the full loss of productivity in the workplace attributable to drinking.

Harms from strangers

Respondents were also asked about a range of specific and subjective experiences of harm resulting from strangers or people not well known to them. These included what are termed in Australia "amenity harms", that is, harms where the drinker did not specifically interact with the harmed party. These include, for example, leaving empty bottles and litter, making noise late at night, and also less tangible harms, for example, inducing fear where someone feels they need to avoid an area because of the presence of drinkers (Callinan & Room 2014). Although such avoidance is intangible, it can have tangible societal effects, for instance, where participation in collective activities drops off. More tangible harms such as damage to property, physical assault and confrontations that create fear in the respondent are also assessed.

Harm to children

Due to ethical considerations most countries did not interview people below the age of 18, and none under the age of 12. Therefore, harms attributable to adults' drinking experienced by children were assessed by asking the respondent about children (aged 17 or below) in the care of the respondent. Respondents in the WHO/ThaiHealth studies were asked about harm to children from their own as well as others' drinking; in Australia and New Zealand, the questions covered only others' drinking.

Approaches in the framing of the questions asked

The surveys set out to ask ordinary people in general population samples whether and how they had been affected by the drinking of family members, friends, co-workers and strangers, and whether they had required help or

services for these problems. Additionally, the surveys elicited information about whether and how children for whom the respondent was responsible were affected by others' drinking.

The questions focused on the effects respondents had experienced in the previous 12 months. This approach drew on respondents' more reliable memories of recent time, and also means that the survey data is a potential base of future surveys, allowing the tracking of changes in harms from others' drinking over time. But the timeframe of the survey questions means that information on really serious harms is limited to small numbers; the surveys instead offer a perspective on the range of harms experienced and their wide reach in the population.

The survey approached the issue of measuring harms concretely, that is, in terms of asking about specific acts or events, for example: whether someone had "harassed or bothered you at a party or some other private setting?"; "did a family member or friend take money that was yours?"; "did one or more of these children witness serious violence in the home?" Questions were pitched in this concrete form to reduce, as far as possible, the great diversity of circumstances and cultural understandings among respondents.

Respondents were also asked more general questions about the degree of harm experienced where they had indicated harm in a particular area. Thus, for instance, they were asked: "On a scale of 1 to 10, where 1 is a little and 10 is a lot, how much has the drinking of adults negatively affected (this child/ these children) in the last 12 months?" While the Australian survey did not ask about the overall impact on a scale of one to ten, it did ask if respondents were impacted a little or a lot, which can be roughly converted into a one to ten score (Callinan 2014). The New Zealand survey does not contain this measure of degree of harm.

Respondents were asked in relation to a variety of family and other relationships whether there was a person in that relationship whom they considered to be a "fairly heavy drinker, or someone who drinks a lot sometimes",

and, if so, whether "their drinking negatively affected you in some way in the last 12 months?" In these and questions concerning other relationships, attribution of any harm to another's drinking was thus made by the respondent. The questions were generally worded in such terms as "because of their drinking" or whether the "drinking negatively affected" the respondent or an occasion.

Sections of the questionnaire, and variations within them between sites

As part of the WHO/ThaiHealth project, two versions – Version 1 and Version 2 – of the survey template were developed. These are broadly comparable; however, they also meet two different aims. Version 1 enabled more detailed prevalence and economic estimates of harm to others. For example, Version 1 includes, besides questions on whether harms occurred, indications of how frequently they occurred and, if material damage was incurred, how much the item was worth. Version 2 has more detailed items on the respondent's own drinking practices, on problems arising from them, and on drinking networks (to put the harm in context) and enables comparisons with survey data from the GENACIS cross-national project (Wilsnack et al. 2009). Sri Lanka and Nigeria used Version 2; the other five WHO/ThaiHealth sites used Version 1. The Australian and New Zealand surveys preceded the WHO/ThaiHealth project and were closer to Version 2, but differed in some respects from the later surveys, which were able to draw on the experience of the earlier studies. For more information on the two versions, please refer to Callinan et al. (2016). Moreover, as we were comparing across all countries, only questions that were included in both versions of the survey questionnaire were available for analysis. The information below highlights the key sections of the questionnaire used in this book. Please note that as each chapter provides information about the variables used in the chapter, the information in the present chapter provides an overview only, and focuses on the variables that are common to multiple chapters.

Demographics

The surveys in each country asked for demographic and household information. With different countries undertaking these surveys, there are obvious questions that require country-specific responses. Ethnicity, ancestry, region of residence, household income, educational level, occupation and religious preference will yield different responses depending on the country surveyed. Such variables not only allow description and comparison of the social location of patterns and problems in national populations, but can also be used in multivariate analyses to account for country-level differences in harms and variations between countries in the demography of harms from others' drinking.

Drinking variables

Questions about the respondent's own drinking consumption and associated impacts included quantity/frequency questions. There were also items on heavy episodic drinking, and whether the respondent's drinking had negatively affected anyone else, with the extent of effect measured on a scale of one to ten. The Australian survey contained comparable questions, except that the effect of the respondent's drinking on others was asked in summary terms. The New Zealand questions on consumption were qualitatively different from those in the other surveys. However, estimates of frequency of risky consumption, the only own-drinking measure included in this book, can be generated for all countries.

Personal health and well-being

Questions about respondents' health and use of services due to others' drinking were included. Respondents' satisfaction with their life as a whole on a scale of one to ten was assessed. The Chilean chapter focuses in particular on the Personal Wellbeing Index (International Wellbeing Group 2013) and the European version of Health Related Quality of Life (HRQoL) scale, the EUROQoL-5D (The EuroQol Group 2009).

Brief assessment of harms

Most of the questions in this section ask about specific experiences of harm from strangers or known drinkers (this differentiation is made). This section was developed to bridge the gap between the more detailed surveys in this study and pre-existing short-list survey questions in Europe (Huhtanen & Tigerstedt 2012) and North America (Greenfield et al. 2009; Eliany et al. 1992).

Harms from known heavy drinkers

A defining component of both versions of the WHO/ThaiHealth surveys is the section asking about people in the respondent's life whom the respondent would consider to be a fairly heavy drinker, or someone who drinks a lot sometimes. Respondents were asked what the relationship of these people to the respondent was, whether they lived in the respondent's household, and if their drinking had negatively affected the respondent in the last 12 months. Respondents who reported being harmed by the drinking of one or more such persons were then asked ten items on specific harms that may have occurred in the last 12 months as a result of such people's drinking. These can be analysed with the 11 items on harms from family members or friends in the brief assessment section (see above).

Caring for drinkers

A series of questions in both WHO/ThaiHealth surveys asks respondents about caring they may have done for the heavy drinkers in their lives, or filling in for them. This section of the questionnaire is not the focus of any of the chapters in this book.

Work harms

Those respondents who were in the labour force were asked about work-related problems due to colleagues' drinking. Both WHO/ThaiHealth versions ask the same questions and include a subjective measure of the negative impact caused.

Harms from "strangers" in the community

The impacts and potential harms caused by strangers' drinking – ranging from public nuisance to physical abuse – were also ascertained in several questions in the WHO/ThaiHealth surveys. These items can be analysed along with seven items in the brief assessment section (see above). Besides the questions on specific events, the respondent was asked about the extent of the overall negative impact on them from the drinking of people they did not know.

Harms to children

As described above, harms to children from others' drinking were also assessed. Those respondents who identified as having responsibility for children aged under 18 were asked a series of questions about events the child or children may have experienced that were attributable to another's alcohol use. There were some differences between countries in the framing of questions about respondents' responsibility for a child, in part reflecting cultural differences in family structures.

Service use

In the WHO/ThaiHealth surveys, respondents were also asked about the services they may have sought for help or used because of harms experienced as a result of someone else's drinking. The services asked about were the police, hospitals, other medical services and counselling.

Ethics approvals

The WHO/ThaiHealth project's Master Protocol (Rekve et al. 2016), including the two survey-instrument versions, was approved by the WHO Ethics Review Committee, and ethics approval was also sought and received from the appropriate Human Research Ethics Board in each participating country. This clearance was not only for the data collection and dissemination, but also for the data to be stored at the Centre for Alcohol Policy Research in Australia. Ethical clearance to hold the data was also gained from the Human Research Ethics Committee with jurisdiction over the Centre for Alcohol Policy Research.

Limitations

As noted, in some countries it was decided on pragmatic grounds to sample within a state or region of the country rather than across the country; this needs to be taken into account when interpreting results and will be noted in all published work. Caution is required in interpreting the response rates for face-to-face interviews reported by fieldwork directors, since the fieldworkers may not always have consistently applied rules on randomization in the household.

There are cultural differences that cannot be entirely controlled for, such as in nuances of language and in varying thresholds for noting behaviour, as well as in ascribing behaviours to drinking. The questionnaire used in the seven WHO/ThaiHealth countries sought to reduce these between-country nuances of meaning as much as possible; for instance, by focusing on concrete events. Translation and back-translation, as well as pilot testing, were employed in each country to ensure that responses had face validity and were meaningful to respondents in each country. However, any differences in survey procedure that came to light in the course of data reduction and archiving are documented in the archive codebooks.

There will of course be subtle variations in measurement between the surveys, if only because translations are necessarily approximate, with words carrying slightly different meanings and connotations in different languages. Factors like cultural variation in the threshold of whether a particular behaviour or event qualifies to be a harm, and in the likelihood of attributing its occurrence to someone's drinking, will also have made some contribution to variation in the results in comparisons between countries. We expect to explore these issues further in analyses comparing results and correlates between related items in the surveys.

Despite these limitations, this suite of surveys provides an opportunity to make meaningful comparisons across countries with regard to diverse aspects of harm from others' drinking, including: harms from the drinking of family members, friends, co-workers and strangers; harms to children from others'

drinking; broader questions about the relation between the occurrence of alcohol-related harm and the drinking patterns of the drinker and of the harmed respondent; the different ways in which harm from others' drinking affects men and women; the service use and caring patterns of those affected; the effects of harm from others' drinking on quality of life and well-being; and the cost of harms to others from drinking.

Note

This chapter draws on material published in the *International Journal of Alcohol and Drug Research* (Callinan et al. 2016).

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Chapter 3

Chapter 3

Australian drinkers who harm others: a snapshot

Sarah Callinan and Michael Livingston

Introduction

Australia is a highly urbanized country with a population of approximately 24 million people (Statistics 2016). It is a stable democracy, recently rated twelfth in the world democracy ratings based on democracy, press freedom and corruption (World Audit 2016), and a wealthy country, with the seventh highest per capita GDP in the world (International Monetary Fund 2015). Australia is a constitutional monarchy with a federal parliamentary system of government. There are six states with state-level governments and two major mainland territories, which are similar to states in some respects while differing in others; for instance, they can have their legislation overridden at a federal level. Many alcohol policies in Australia are enacted at a state level, with some exceptions, notably those surrounding taxation (Manton et al. 2014).

Total alcohol consumption in Australia is slightly above average among high-income countries – approximately 10 L of ethanol per adult per year (World Health Organization 2014), a figure that has been slightly decreasing over the past decade, primarily due to a decrease in consumption among young people (Livingston 2014). Abstention rates are low – approximately 20% in 2010 – while over 40% of people drink to long-term risk (more than 20 gram (g) ethanol per day on average) or short-term risk (more than 40 gram (g) of ethanol on an occasion)

(Australian Institute of Health and Welfare 2011). While consumption is declining, harms from consumption appear to be increasing (Livingston et al. 2010); a conservative figure excluding harm to others found that alcohol costs Australian society over AU$14 billion annually (Manning, Smith & Mazerolle 2013).

A growing body of research has been published in recent years examining the harms experienced by people related to someone else's drinking in Australia (Laslett et al. 2010; Room et al. 2010; Callinan 2014; Ferris et al. 2011; Laslett et al. 2013). This includes an array of negative experiences, including generalized issues such as fear and disruption due to strangers' drinking, and more specific, concrete harms such as violence, neglect or damage to property (Laslett et al. 2010). The cost of harms experienced by someone other than the drinker has been estimated at over AU$6 billion per year (Laslett et al. 2010).

Research in this tradition generally focuses on the characteristics of those who have been harmed. Laslett et al. (2010) found that younger adults were more likely to be harmed, and that women were more likely to be negatively affected by household members and relatives, but that men were slightly more likely to be negatively affected by friends, co-workers and strangers. Internationally, some studies have also explored the demographics of those who are responsible for the harm. This is in some ways similar to a long-standing approach in which survey research has been used to examine self-reported drinking problems, although these often combine problems experienced by the drinker along with those they impose on others (Wilsnack et al. 2000). In these studies there is generally consistent evidence that younger people, men and heavier drinkers are more likely to contribute to alcohol-related problems (Australian Institute of Health and Welfare 2014). Of particular interest in relation to the link between alcohol consumption and harms is that drinking pattern, rather than drinking volume, is a key predictor of many harms from alcohol (Greenfield et al. 2014), including social harms (Rehm & Gmel 1999).

In studies more directly focused on alcohol's harm to others, researchers are generally reliant on reports from victims to develop a profile of those whose

drinking harms others. Inherently, these analyses tend to be limited to harms experienced by respondents via the drinking of someone known to them. There have been few detailed analyses undertaken examining the characteristics of the harmful drinker. For example, in the major Australian report on the topic (Laslett et al. 2010), the relationship between the harmer and the harmed was explored (for example, for young men who had experienced harm friends were the most common source, while for older women, family and household members were more likely to cause harm). However, no further examination of the harmful drinker was undertaken.

In this study, we use data from the Australian Harm to Others Study to examine people whose drinking is identified as responsible for harm, and analyse their characteristics and drinking behaviour using data on individuals identified by respondents as the most problematic drinker in their lives (n=778). We assess the gender of the harmful drinker and their relationship to the person harmed, and we provide the first detailed analysis of the drinking patterns of drinkers identified as causing harm to others. In particular, we compare the drinking patterns of harmful drinkers with drinking in the general population to examine whether or not alcohol's harm to others stems from a particularly heavy drinking subgroup of the Australian population.

Methods

Two sources of data are used in this study: the Australian Harm to Others Survey and the National Drug and Alcohol Strategy Household Survey.

The Harm to Others Survey

The Australian Harm to Others (HTO) Survey was a national telephone survey conducted in November and December 2008 focusing on respondents' experiences of harm from other people's drinking. The survey used random-digit dialling to sample households across Australia, with random household members (aged 18 or over) selected to participate in interviews. The final sample included 2649 completed interviews, with a cooperation rate

of 49.7% and a response rate, based on the standards proposed by the American Association of Public Opinion Research (AAPOR 2008), of 35%. Data were weighted to account for a respondent's probability of selection within each household and were post-weighted to population benchmarks based on age group, sex and region. Full details of the survey methodology are available in Wilkinson et al. (2009).

Respondents were asked to identify people who were "heavy drinkers or who drank a lot sometimes" across a range of relationships (within their household, family, workplace etc.) and whether they had been harmed by them. Once a subset of harmful drinkers was identified, respondents selected the person whose drinking had harmed them the most in the previous year. For the purposes of the current analyses, we are focusing on respondents who identified a most harmful drinker (n=763).

Respondents were asked a series of questions about their most harmful drinker, including details of the specific harms experienced and how much they were affected by them, and a short series of questions covering the most harmful drinker's sex, age and drinking behaviour. There were three questions on drinking behaviour: firstly, how much the harmful drinker drank when they "drank heavily"; secondly, how often they drank heavily; and, finally, how often the harmful drinker drank five or more standard drinks (in Australia a standard drink is equivalent to 10 g pure alcohol in a session). The full questions and response categories are detailed in the study technical report (Wilkinson et al. 2009). All analyses were conducted using weighted data.

The National Drug Strategy Household Survey

Consumption patterns in the general Australian population were estimated using data from the 2010 wave of the National Drug Strategy Household Survey (NDSHS) (Australian Institute of Health and Welfare 2011). These surveys are the standard alcohol and drug monitoring instrument used by the Australian Institute of Health and Welfare to provide regular estimates of consumption, attitudes and harms. The 2010 wave was collected using a

combination of Drop and Collect and Computer-Assisted Telephone Interviewing (CATI) and had a final sample of 26 648, from a cooperation rate of 50.6%. Full details are available in the survey report (Australian Institute of Health and Welfare 2011). Survey weights were used to accommodate differences from census statistics in age, sex, geographic location, and the likelihood of being asked to participate in the survey based on the number of household members.

Data on alcohol consumption were collected using the standard graduated-frequency questions – a series of items asking how often respondents consume various amounts of alcohol – which provide a reliable means of assessing drinking volume and pattern (Greenfield 2000).

Analyses

We have taken a descriptive approach here, given the challenges of combining the two survey data sources and conducting statistical testing. Data are presented with 95% confidence intervals, calculated taking into account the complex survey sampling in both studies.

Initially, we present descriptive data from the Australian HTO survey on the relationship between the respondent and the harmful drinker and on the type of drinking that harmful drinkers engage in when drinking heavily. Subsequent analyses compare the demographic distribution (by age and sex) of harmful drinkers in the HTO survey with all drinkers in the NDSHS. Finally, we compare the frequency of risky drinking (defined as 50 g or more of ethanol in an occasion) by age and sex of the harmful drinkers in the HTO survey with the drinkers in the NDSHS.

Results

The data in Table 3.1 provide the distribution of all the identified harmful drinkers in the HTO survey by gender and relationship to the respondent. Men were more likely to be identified as the most harmful drinkers, with women making up just 30% of the most harmful drinkers. For both men

and women, friends were most commonly identified as the most harmful drinker, followed by immediate family members. Counting household members and intimate relationship with relatives (first five categories of Table 3.1), the most harmful drinker was more likely to be a relative or intimate than a friend or co-worker.

Table 3.1 Gender and relationship of the most harmful drinker to the respondent, Australian Harm to Others Survey

	Male (71%)		Female (29%)	
	%	(95% CI)	%	(95% CI)
Spouse	5.5	(4.0-7.4)	2.6	(1.4-4.5)
Other household members	8.2	(6.1-10.8)	3.1	(1.6-6.0)
Immediate family member	12.8	(10.5-15.4)	5.7	(4.3-7.6)
Extended family member	8.6	(6.7-11.0)	3.5	(2.4-5.1)
Boyfriend/girlfriend/ex-partner	5.1	(3.6-7.2)	2.3	(1.4-3.8)
Co-worker	7.6	(5.7-10.1)	2.1	(1.3-3.3)
Friend	18.2	(15.3-21.6)	8.3	(6.4-10.7)
Other	5.2	(3.7-7.1)	1.3	(0.7-2.4)

N=778.

The distribution of most harmful drinkers by age group and sex is compared with the distribution of all drinkers from the NDSHS in Table 3.2.

Table 3.2 Age and sex profile of harmful drinkers compared with all drinkers, National Drug Strategy Household Survey

Sex	Age (years)	HT0 % (CI)	NDSHS % (CI)
Male	14-19	5.1 (3.5, 7.3)	4.1 (3.7, 4.5)
	20-29	18.9 (15.8, 22.5)	9.7 (9.1, 10.3)
	30-39	14.1 (11.6, 16.9)	9.3 (8.8, 9.7)
	40-49	14.1 (11.8, 16.9)	9.3 (8.8, 9.8)
	50-59	12.1 (9.7, 15)	8.2 (7.8, 8.6)
	60-69	5.0 (3.6, 6.8)	6.0 (5.7, 6.4)
	70+	2.4 (1.5, 3.8)	4.8 (4.5, 5.1)
Female	14-19	3.6 (2.3, 5.7)	3.9 (3.6, 4.3)
	20-29	4.9 (3.3, 7.1)	9.1 (8.7, 9.6)
	30-39	6.3 (4.7, 8.4)	8.8 (8.5, 9.3)
	40-49	6.4 (4.7, 8.5)	9.0 (8.6, 9.5)
	50-59	4.7 (3.4, 6.5)	7.6 (7.3, 8.0)
	60-69	1.8 (1.1, 3.0)	5.2 (5.0, 5.5)
	70+	0.8 (0.4, 1.6)	5.0 (4.7, 5.3)
N		778	21,474

Men aged between 20 and 59 were heavily overrepresented among those identified as respondents' most harmful drinkers. For example, 19% of the most harmful drinkers were men aged 20–29, compared with just 10% of all drinkers. The age patterns for harmful drinkers varied for men and women, with a peak among young adults for men, compared with a later peak for women. In general, people aged over 60 were disproportionately less likely to be harmful drinkers. For example, around 2% of harmful drinkers were men aged 70 or over, compared with 5% of all drinkers.

Table 3.3 presents the quantity and frequency of drinking of the most harmful drinkers when they are drinking heavily (as reported by the harmed respondent). It is worth noting that only a third of these drinkers drank five or more times a week and nearly 18% drank less than weekly.

Table 3.3 Respondent estimates of quantity and frequency of heavy drinking of their most harmful drinker, Australian Harm to Others Survey

	20+ ASD % (CI)	11-19 ASD % (CI)	7-10 ASD % (CI)	5-6 ASD % (CI)	<4 ASD % (CI)	Total % (CI)
Every day	7.2 (5.3-9.7)	8.5 (6.2-11.6)	10.6 (8.5-13.3)	2.6 (1.6-4.2)	1.5 (0.8-2.6)	30.5 (26.7-34.5)
5–6 days a week	1.1 (0.5-2.5)	2.4 (1.4-4.0)	1.9 (1.1-3.1)	0.9 (0.4-2.1)	0.4 (0.2-1.3)	6.8 (5.1-9.0)
3–4 days a week	3.2 (2.1-5.1)	4.9 (3.5-7.0)	4.7 (3.4-6.5)	1.4 (0.7-2.1)	0.8 (0.4-1.9)	15.1 (12.4-18.1)
1–2 days a week	6.7 (4.8-9.2)	10.5 (8.1-13.6)	9.4 (7.2-12.1)	2.0 (1.2-3.4)	1.4 (0.7-2.5)	29.9 (26.2-34.0)
2–3 days a month	1.9 (1.0-9.2)	3.8 (2.5-5.7)	2.2 (1.2-4.0)	0.5 (0.1-1.5)	1.1 (0.4-2.8)	9.3 (7.1-12.2)
Once a month or less	1.0 (0.4-2.2)	3.3 (2.1-5.0)	2.0 (1.2-3.3)	1.9 (1.1-3.2)	0.3 (0.1-1.0)	8.4 (6.5-10.8)
Total	21.1 (17.9-24.8)	33.4 (29.5-37.6)	30.7 (27.1-34.6)	9.2 (7.2-11.8)	5.5 (3.9-7.6)	100.0

N=714. ASD: Australian standard drink–equivalent to 10g pure alcohol.

While these questions are difficult to compare to the NDSHS, it is clear that the most harmful drinkers represent a particularly heavy drinking group. For example, more than one tenth of most harmful drinkers are reported to drink more than 20 drinks at least three times a week, when less than 0.5% of Australian drinkers report this behaviour. Even if we look only at the most harmful drinkers' total consumption, we find that more than one third consume over 3000 standard drinks a year, placing them in the heaviest 10% of Australian drinkers.

Finally, Figures 3.1 (males) and 3.2 (females) compare the estimated frequency of risky drinking for the HTO study's most harmful drinkers with the frequency of risky drinking for all drinkers in the NDSHS, broken down by age. For both males and females, the difference between the most harmful drinkers and the general population of drinkers gets more pronounced with age.

For males, the most harmful drinkers in their teens and twenties had around 2.4 times as many risky drinking occasions as the general population in those age groups, while for the most harmful drinkers aged 40 or over, the risky drinking frequency was between 3.7 and 5.7 times higher than in the general population. An even more pronounced pattern was evident for female most harmful drinkers with, for example, most harmful drinkers in their fifties reporting risky drinking more than 12 times more frequently than drinkers in the general population.

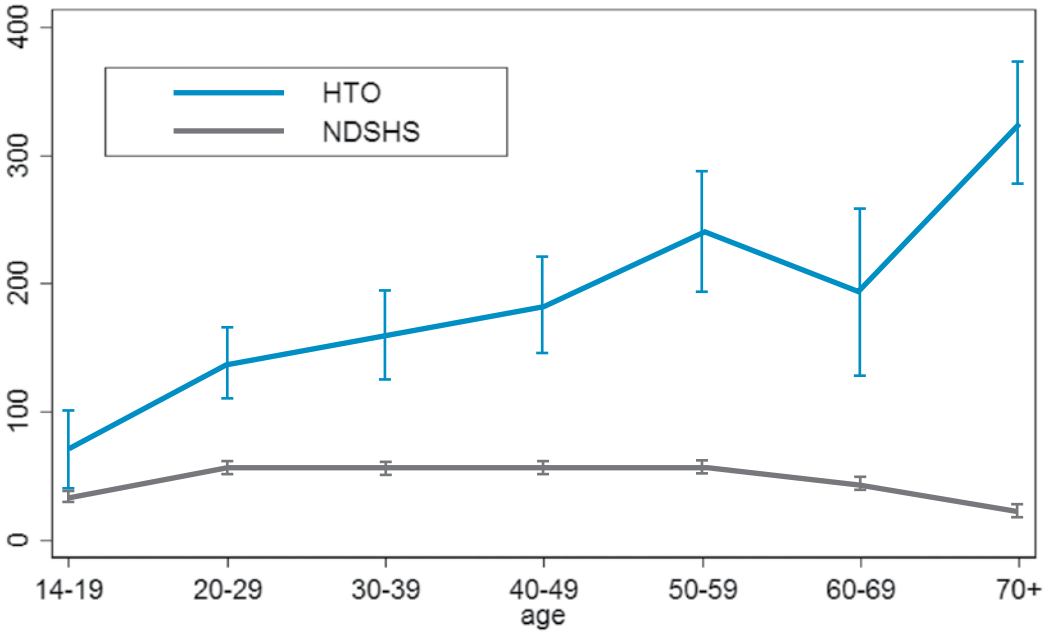

Figure 3.1 **Number of risky drinking occasions per year for the most harmful drinker males from the Australian Harm to Others Survey and all drinker males from the National Drug Strategy Household Survey**

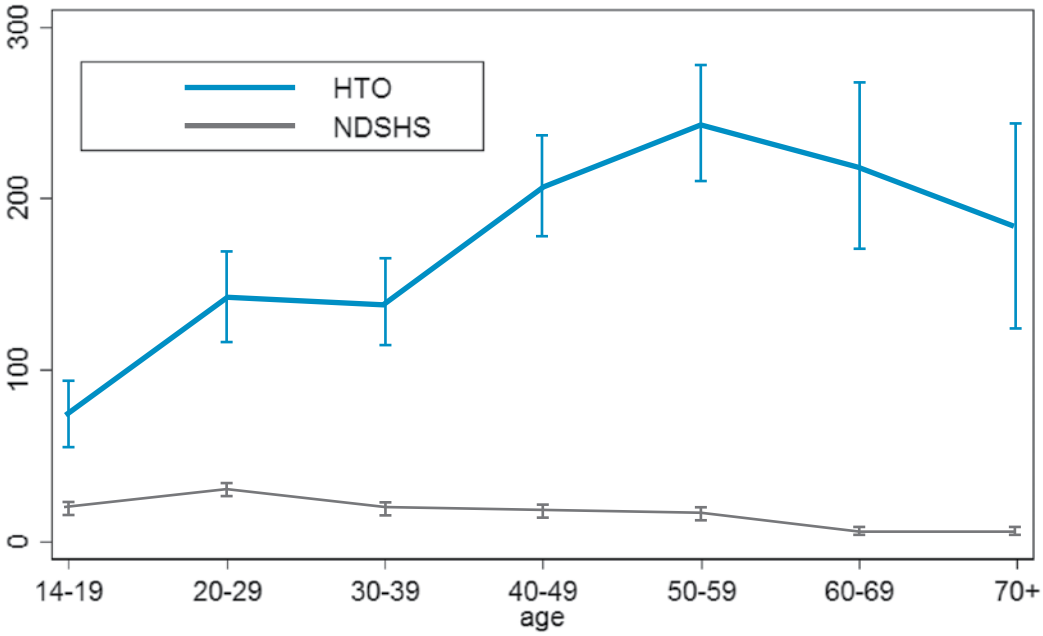

Figure 3.2 **Number of risky occasions per year for the most harmful drinker females from the Australian Harm to Others Survey and all drinker females from the National Drug Strategy Household Survey**

Conclusions

Harmful drinkers are diverse – in terms of both their relationship to the person harmed and their demography. In general, men and younger people are overrepresented, although women and older drinkers also contribute to harm to others. Most commonly, the most harmful drinkers were non-household family members and friends of respondents. Respondents who were in the same household as the most harmful drinker, however, were substantially more likely to report a higher severity of harm than respondents whose most harmful drinker did not live in the same household (Laslett et al. 2014).

Of particular note were the drinking patterns of the most harmful drinkers. Analyses looking at both their drinking during particularly heavy drinking occasions and their frequency of risky drinking (using a more standard

definition [National Health and Medical Research Council 2009]) showed that harmful drinkers were much heavier drinkers than drinkers in the general population. For example, more than a quarter of harmful drinkers were estimated to drink seven or more standard drinks every day (including 7% who drink 20+ drinks each day). Interestingly, some respondents identified most harmful drinkers with relatively low levels of drinking. For example, 5.5% of respondents who identified a most harmful drinker estimated that their heavy drinking occasions involved four or fewer standard drinks.

When the frequency of risky drinking was examined, it was clear that most harmful drinkers were generally much more frequent heavy drinkers than the general drinking population, with frequencies of risky drinking at least double for every age and sex combination explored. These differences were less pronounced for young men than for older men and women.

It is worth noting the substantial limitations of this work. Our data rely on survey reports of alcohol-related harm and alcohol consumption, which have an array of weaknesses, including recall bias and survey nonresponse (Gmel & Rehm 2004). Of particular concern here is our reliance on respondents' estimates of drinking by their most harmful drinkers, adding a further potential layer of uncertainty to the data reported. In spite of these issues, these data present the first detailed analyses of the demography and drinking levels of drinkers who cause harm to those around them, providing critical new insights for policy and practice.

The findings suggest that much of the harm from known drinkers reported by respondents in the Australian HTO Survey came from very heavy drinkers, many of whom would be likely to qualify for a diagnosis of an alcohol-use disorder (Stewart, Borg & Miller, 2010). Thus, while the usual public health policy approaches based on price and availability are likely to reduce alcohol's harm to others (particularly as caused by younger drinkers or strangers), alcohol treatment and programmes targeting heavy or dependent drinkers are likely to be a necessary adjunct to reduce many of the harms caused by drinkers known to those who are harmed.

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Chapter 4

Chapter 4

Adverse effects of other people's drinking by type of relationship in Nigeria

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Introduction

The consumption of alcohol is a significant theme and has been widespread in African social history. Alcohol featured as an "integrated social artefact and culturally valued good" (Dietler 2006) in premodern societies. There is evidence dating back centuries of the production and consumption of various alcoholic beverages in many traditional societies – for example, palm wine, beer made from malted grains, and local gin distilled from palm wine sap (Netting 1979; Olorunfemi 1984; Ambler 1987; Joffe 1998; Heap 2005; Korieh 2003). The drinking of alcoholic beverages took place in different contexts, including religious rituals, ceremonies and festivities, as well as during agricultural activities and in daily life, especially as an aspect of leisure (Akyeampong 1995; Joffe 1998; Willis 2006; Mathee 2014). Much of the alcohol available in precolonial Africa was produced and consumed at source by adults or under adult supervision.

With European colonial expansion there were significant changes in drinking patterns as a result of the introduction of new types of drinks and the rise of industrial production, which brought about the widespread availability of alcoholic beverages. Today in Africa, the traditional homemade beverages remain the most popular, but at least a third of beverages consumed are western commercial beer (World Health Organization 2014), with increasing use of spirits and wines among urban elites.

This increased availability of alcoholic beverages has led to a pattern of use characterised as heavy episodic consumption (Obot 2006) and to a growing appreciation of the negative consequences of drinking. In Nigeria, a country of more than 170 million people, 56.4% of the total population are abstainers (41.9% male, 71.3% female) (World Health Organization 2014). Most of the alcohol consumed is unrecorded (mostly fermented beverages, palm wine and locally distilled beverages) and the average adult per capita consumption is 10.1 L of pure alcohol, almost double the African region average of 6 L (World Health Organization 2014). More than that, the total annual consumption per drinker is 23.1 L of pure alcohol (World Health Organization 2014), highlighting a pattern of consumption that is associated with a high risk of alcohol-related health and social problems (Obot 2007; Roerecke et al. 2008).

The dangers associated with alcohol consumption are widely documented (World Health Organization 2014). Although drinking has social benefits in both traditional and urban societies across Africa, alcohol is also associated with numerous problems, including chronic diseases and acute social problems (Babor et al. 2010). The relationship of alcohol to disease outcomes has been well investigated and there is good evidence that the substance is a direct cause of, or a major contributor to, dozens of health conditions (Babor et al. 2010; Room, Babor & Rehm 2005).

Of the global burden of disease, 5.1% is attributable to alcohol (World Health Organization 2014). The negative health effects of alcohol stem from intoxication, dependence and the direct biochemical effects of alcohol (Babor et al. 2010; Rehm 2010; Rehm et al. 2003). Direct biochemical effects include

chronic pancreatic and liver damage, with intoxication mediating adverse outcomes like injury. Dependence is both a disorder and a mediator of all sorts of alcohol-related health problems. Chronic alcohol abuse can result in cirrhosis of the liver and predispose drinkers to infectious diseases like tuberculosis and HIV (Parry et al. 2009). Alcohol use during pregnancy can cause brain damage to the fetus, leading to long-term developmental and social consequences (Walker, Koornhorf & Wadee 2005).

Alcohol also carries negative consequences for the social environment. For example, alcohol increases the likelihood of aggressive behaviour and can encourage crime; it leads to family disruption, domestic violence, and child abuse and neglect; and it exacts a huge financial toll on drinkers' family members as a result of out-of-pocket expenses, any forgone wages of the drinker, and other intangible costs (Laslett et al. 2011). Furthermore, alcohol abuse is associated with substantial macroeconomic costs, including the cost of healthcare, social work and criminal justice services. Other economic consequences include the cost of reduced output and productivity due to lost workdays and alcohol-related absenteeism.

Globally, the effects of drinking on others have received little attention in studies of the negative consequences of drinking. Although they are often implied in studies of the role of alcohol in violence, crime and family breakdown, cross-sectional surveys of the harm to people from others' drinking are sparse, and many gaps exist in our knowledge of the magnitude and range of these effects, and of the mechanisms that mediate them. In Africa, in particular, little is known about the harms alcohol drinkers cause others in the family and community. The result is that developing effective alcohol control policy has been severely hampered.

This chapter reports findings from a survey of harm to others from drinking conducted in two regions of Nigeria under the WHO/ThaiHealth international collaborative research project. It charts how often respondents knew heavy drinkers in different categories of relationship – family members of different types, friends, work colleagues, neighbours. The proportion

reporting harm from heavy drinking is analysed for the different relationships, and the distribution of those thus harmed in the Nigerian population is mapped by demographic characteristics and respondents' own drinking or abstention.

Method

Setting

Nigeria is the largest country in Africa, with an estimated population of over 170 million people. The population is spread across two geographic zones, namely, a predominantly Muslim north and a Christian south. For administrative purposes the country is divided into 36 states and a federal capital territory that sits at the geographic centre of the country. Several aspects of life in Nigeria today are relevant to the consumption of alcohol and drinking-related problems. One is the fact that the Nigerian population is largely young, with about half under the age of 25. Another is the rapid urbanization experienced in recent years. With so many young people living in urban areas across the country and exposed to an increasing volume of alcohol advertising (Obot 2013), Nigeria provides a ready context for drinking and related problems,

Sampling

The survey used a stratified multistage sampling design in three states selected from northern and southern Nigeria. These three states were chosen because they had been part of an earlier survey of gender and alcohol use (Ibanga et al. 2005). In each one, about 700 households were selected from 40 enumeration areas (EAs) and about 18 households were contacted in each EA, using the sampling frame of the National Bureau of Statistics (NBS), which was responsible for data collection and data entry for the project. The number of respondents interviewed in each state was as follows: Akwa Ibom (South) – 759 (33.4%); Benue (North) – 761 (33.5%); Rivers (South) – 750 (33%).

All three states, including the one from the geographic north, have predominantly Christian populations and all have well-known local traditions of homemade alcohol, especially palm wine in the south and *burukutu* (a fermented beverage made from guinea corn) in the north.

Procedure

An adult aged 18 years or above was randomly selected from each household and interviewed face to face using a questionnaire designed for a multicountry research project on harm to others from drinking. Interviewers from the NBS in the three state offices were trained in the use of the questionnaire and were monitored closely by supervisors from the organization's federal and state offices. A response rate was not calculated because, in the method used by the NBS, a household with no response was replaced with another. In 95% of the households contacted the interview was successfully conducted with a randomly selected adult living in the household.

Analysis

The variables of interest in the analyses were age, gender, marital status, drinking status, education, income, types of preferred drinks, drinking frequency of 60 g alcohol on a single day, mean number of standard drinks per day and reported negative effects from the drinking of people known to the respondent. Descriptive statistics and regression analyses were used to test associations between experiences of harm from others' drinking and relevant sociodemographic and drinking variables. The sample size used in the analyses was 2269 because one respondent, aged 17, was dropped.

All counts presented are raw numbers. All other presented statistics are weighted according to the inverse of the respondent's probability of selection based on the number of eligible persons in the household, and to adjust for an overrepresentation of males (61%) in the sample compared to the estimated distribution of gender in Nigeria.

A logistic regression analysis was conducted on the characteristics of those negatively affected by known drinkers in the last 12 months using the following variables: age, gender, location of residence, educational level, household income and frequency of drinking 60 g of alcohol in a single day.

Results

Sociodemographic characteristics

Table 4.1 shows the sociodemographic characteristics of the sample of 2269 respondents aged 18 and over. The weighted sample had an almost equal representation of male (50.8%) and female (49.2%) respondents, with 43.6% of them in the 30–49 age group. A majority (67.3%) lived in rural areas, 67.3% were married, 16.1% had no formal education, and 35.2% were in the lowest income tertile. The table also shows a past year drinking abstention rate of 61.5%. A little over 30% drank, but never 60 g as often as once a week, 4.8% drank 60 g or more one to two times a week, and 2.4% drank 60 g or more three times or more a week.

The second column in Table 4.1 describes the quarter (N=582) of all respondents who knew a heavy drinker. The descriptive data reported in Table 4.1 also show that a greater percentage of male (26.9%) than female (22.2%) respondents knew a heavy drinker. Although respondents aged 30–49 were more likely to know a heavy drinker than other age groups, this difference was not statistically significant. There were few significant differences in the characteristics associated with respondents knowing a heavy drinker apart from education and income. Thus college-educated respondents were more likely to know a heavy drinker than those with primary to high school education or those with no formal education. The highest income group was also more likely to report knowing a heavy drinker than the lowest income group. Abstainers were less likely to report knowing heavy drinkers than all other drinker categories.

Also shown in Table 4.1, in Column 3, are data on the characteristics of the 5.2% of respondents who lived with a heavy drinker. These data need to be treated with caution because of small numbers. They show few significant differences apart from heavy-drinking respondents reporting that they were more likely than light drinkers and abstainers to live with heavy drinkers, and middle income drinkers reporting that they were more likely than low and high income earners to live with heavy drinkers.

Table 4.1 Sociodemographic and drinking characteristics of the sample, and percentage of those who know a heavy drinker and who live with a heavy drinker for each demographic classification

Demographic variables	N (% down)	% who know a heavy drinker (CI)	% who live with a heavy drinker (CI)
Gender			
Male	1,390 (50.8)	26.9 (24.2, 29.8)	4.6 (3.4, 6.1)
Female	879 (49.2)	22.2 (19.1, 25.6)	5.8 (4.1, 8.0)
Age group			
18-29	545 (23.9)	20.3 (16.2, 25.0)	4.0 (2.2, 7.4)
30-49	1,076 (43.6)	26.7 (23.6, 30.0)	4.9 (3.5, 6.8)
≥50	648 (32.5)	25.0 (21.4, 29.0)	6.4 (4.5, 8.9)
Location of residence			
Rural	1,514 (67.3)	23.1 (20.7, 25.7)	5.3 (4.1, 6.9)
Urban	753 (32.7)	27.8 (24.0, 31.9)	4.9 (3.2, 7.6)
Marital status			
Never married	452 (18.2)	19.4 (14.6, 25.2)	4.2 (1.9, 8.8)
Married or de facto	1,480 (67.3)	26.4 (23.9, 29.0)	5.2 (4.0, 6.7)
Other	337 (14.5)	23.0 (18.0, 28.9)	6.4 (3.8, 10.5)
Highest level of education			
No formal education	319 (16.1)	18.0 (13.6, 23.4)	6.0 (3.5, 10.2)
Primary to high school	1,692 (72.8)	24.6 (22.2, 27.1)	4.9 (3.7, 6.4)
≥Studied at college or university	250 (11.1)	34.3 (27.7, 41.5)	4.9 (2.3, 10.1)
Household Income			
Lowest tertile	866 (35.2)	21.3 (17.9, 25.1)	4.7 (3.0, 7.3)
Middle tertile	497 (22.0)	28.2 (23.9, 32.9)	8.6 (6.2, 11.9)
Highest tertile	672 (30.4)	30.6 (26.7, 34.8)	3.6 (2.2, 5.8)
Can't say/don't know/refused	234 (12.4)	13.1 (8.5, 19.5)	4.4 (2.1, 8.8)
Respondents' frequency of drinking 60g alcohol on a single day*			
Abstainer	1,152 (61.5)	17.2 (14.7, 20.1)	4.8 (3.5, 6.7)
Drinker, but not 60 g/weekly	699 (31.3)	32.0 (28.0, 36.2)	4.2 (2.6, 6.6)
1-2 times/week	126 (4.8)	30.1 (22.0, 39.7)	13.8 (8.3, 22.1)
≥3 times/week	70 (2.4)	36.3 (24.5, 50.0)	17.8 (9.6, 30.8)
Total sample	2,269 (100)	24.6 (22.5, 26.8)	5.2 (4.1, 6.5)

** >5% missing data, N=2,269.*

Respondents' relationships to heavy drinkers

Table 4.2 examines the relationship of identified heavy drinkers to respondents and if respondents were negatively affected by those heavy drinkers. It shows that, overall, relatives were the most likely source of heavy drinkers in the respondent's life. In terms of the more specific categories, neighbours were most commonly reported to be the heavy drinkers in respondents' lives, then immediate family members (parents, siblings, children) and friends or flatmates.

Table 4.2 Relationship categories of heavy drinkers in respondents' networks in the last 12 months, whether living with the heavy drinker and whether negatively affected by the heavy drinker

Relationship category	Number identifying a heavy drinker (% of total sample, = 2,269)	% living with a heavy drinker in last 12 months among those who identify a heavy drinker [n=582] in each relationship category (CI)	% negatively affected by a heavy drinker among those who identify a heavy drinker [n=582] in this category (CI)
Spouse/partner/ex-spouse/ex-partner	60 (2.7)	62.3 (46.0, 76.2)	90.3 (78.4, 96.0)
Immediate family members (parents, children & siblings)	197 (8.7)	25.8 (18.2, 35.2)	86.6 (79.1, 91.7)
Other relatives	165 (6.7)	4.4 (2.2, 8.6)	79.3 (70.0, 86.2)
Friends/flatmates	204 (8.7)	6.5 (2.9, 13.8)	80.6 (73.1, 86.4)
Work colleagues	35 (1.3)	2.4 (0.3, 16.8)	78.8 (59.8, 90.3)
Neighbours/other	334 (13.7)	3.9 (2.3, 6.8)	58.0 (51.3, 64.4)
Any relationship (of the above)	582 (24.6)	21.0 (17.1, 25.6)	81.5 (77.4, 85.0)

Table 4.2 also indicates whether respondents lived with the heavy drinker. Depending on the relationship, respondents were more or less likely to report living with the drinker. Those identifying a partner or ex-partner as a heavy drinker were more likely than not to be living with that person, but over

one third were living apart. About one quarter of those who identified other immediate family members as heavy drinkers were living with the person or persons, while only a small proportion of those identifying people in other relationship categories were living with them.

The final column in Table 4.2 tells us that irrespective of the relationship to the drinker, almost all respondents reported that they were negatively affected by the drinking of the identified heavy drinker, especially if that person was a spouse or partner or other family member, as compared to a heavy-drinking neighbour. In other words, even though respondents more often identified neighbours as heavy drinkers than any other people in their lives, less than two thirds of them reported being negatively affected by them.

Effects of others' drinking on men and women of different ages in the last 12 months

Table 4.3 shows the percentages of those negatively affected in the last 12 months by drinkers in various relationships by gender and age. Both male and female respondents were commonly negatively affected by the drinking of a friend or co-worker or by a household member, relative or an intimate partner. Respondents affected by household members were least likely to be young males and most likely to be older women. Respondents were more likely to be negatively affected by the drinking of relatives or intimate partners who did not live with them, which may be because of the greater total number of relatives living outside the respondent's home, because respondents may leave home if they are affected by heavy drinkers, or because heavy drinkers may have been pressured to leave the home. Men of all age groups were most likely to report that they were negatively affected by friends or co-workers, whereas women in all age groups were most likely to report being negatively affected by household members, relatives and partners.

Table 4.3 Percentages negatively affected in the last 12 months by drinkers in various relationships, by gender and age of the respondent

Negatively affected by the drinking of…	Male				Female				Total
	18-29	30-49	≥50	Sub total	18-29	30-49	≥50	Sub total	
(N)	(313)	(657)	(420)	(1,390)	(232)	(419)	(228)	(879)	(2,269)
Household member	3.0	3.8	4.9	4.1	3.9	5.4	7.2	5.5	4.8
Relative or intimate (not in household)	5.1	13.3	9.9	10.4	8.1	10.8	10.7	10.7	10.2
Household member, relative or intimate (pooled)	7.7	16.7	13.8	13.9	10.4	15.0	14.8	13.6	13.7
Friend	5.5	8.0	8.6	7.7	9.0	5.9	3.4	6.1	6.9
Co-worker	0.1	1.9	1.5	1.4	0.3	0.7	0.9	0.6	1.0
Friend, co-worker, other (pooled)	9.1	15.3	14.7	13.8	13.9	12.0	8.8	11.6	12.7
Any relationship (of the above)	15.1	24.4	21.9	21.6	16.9	19.1	19.0	18.5	20.1

Note: percentages are for the corresponding age and gender group.

Likelihood of negative effects associated with others' drinking

Table 4.4 shows the odds of being negatively affected by an identified heavy drinker in the past 12 months according to several sociodemographic variables and by the drinking status of the respondent. Variables included in the analysis were the respondent's gender, age, residence, educational level, income and frequency of drinking 60g or more on a single day. In the bivariate (unadjusted) model, respondents aged 30–49, those with college education, those with middle to high incomes, and those who were weekly drinkers of six or more drinks or other drinkers (those who never consumed six or more drinks on the one occasion or did so three times or less per month) were more likely to have been negatively affected by a known heavy drinker. In the multivariate (adjusted) model, the respondents most likely to report being affected by a known heavy drinker were drinkers when compared with abstainers, and people in the middle income tertile when compared with those in the low income tertile. In general, higher income respondents were more likely than those with lower incomes to report being adversely affected by a heavy drinker. Among

respondents who drank at all, their own regularity of drinking made little difference to the likelihood of their being adversely affected by another's drinking.

Table 4.4 Odds ratios (OR) of being negatively affected by a known heavy drinker in the last 12 months according to respondents' gender, age, location of residence, education level, income and own drinking

Variables	Bivariate model	Multivariate model^
	OR (CI)	OR (CI)
Gender		
Female (vs male)	0.8 (0.6, 1.1)	1.4 (1.0, 1.8)
Age group (years)		
30-49 (vs 18-29)	1.5* (1.0, 2.0)	1.1 (0.8, 1.7)
≥50 (vs 18-29)	1.4 (0.9, 1.9)	1.1 (0.8, 1.7)
Location of residence		
Urban (vs rural)	1.2 (1.0, 1.6)	1.3 (0.9, 1.7)
Highest level of education		
Primary to high school (vs no formal schooling)	1.3 (0.9, 2.0)	1.1 (0.7, 1.7)
≥Studied at college or university (vs no formal schooling)	2.2** (1.4, 3.6)	1.7 (1.0, 2.9)
Annual household income		
Middle tertile (vs low tertile)	1.5* (1.1, 2.1)	1.6* (1.1, 2.3)
High tertile (vs low tertile)	1.6** (1.2, 2.2)	1.4 (1.0, 2.0)
Can't say/don't know/refused (vs low tertile)	0.7 (0.4, 1.2)	0.9 (0.5, 1.6)
Respondents' frequency of drinking 60g alcohol on a single day^		
Drinker, but not 60g+weekly (vs abstainer)	2.2*** (1.7, 2.9)	2.4*** (1.7, 3.2)
1-2 times/week (vs abstainer)	1.9* (1.2, 3.0)	2.1** (1.3, 3.5)
≥3 times/week (vs abstainer)	2.7** (1.5, 5.1)	3.1*** (1.6, 6.1)

** p < 0.05, ** p < 0.01, *** p < 0.001, total sample N= 2,269, ^ >5% missing data.*

Number of heavy drinkers in respondents' networks

Table 4.5 shows the number of known heavy drinkers identified by respondents classified according to their own drinking. The data show that more abstainers (82.8%) than the other three categories of drinkers (64–75%) reported knowing no heavy drinkers. Heavy drinkers among respondents were more likely than respondents who were abstainers to report knowing one or more heavy drinkers. Overall, nearly 25% of those who responded to this question knew someone who drank heavily; with more than 17% indicating that they knew persons in two or more of these relationship categories.

Table 4.5 Number of known heavy drinkers according to respondents' own drinking: percentages of each drinker type reporting zero to three or more different categories of relationship to heavy drinkers

Number of relationship categories in which the respondents knew a heavy drinker	Frequency of drinking 60g alcohol on a single day^				Total
	Abstainer	Drinker, but not 60g+weekly	1-2 times/week	≥3 times/week	
	N=1,152	N=699	N=126	N=70	N=2,269
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
0	82.8 (79.9, 85.3)	66.0 (63.8, 72.0)	69.9 (60.1, 78.1)	63.7 (49.6, 75.8)	75.4 (73.2, 77.5)
1	4.5 (3.3, 6.2)	8.9 (6.7, 11.7)	14.7 (8.9, 23.2)	17.8 (9.6, 30.7)	7.0 (5.9, 8.4)
2	12.4 (10.2, 15.0)	21.0 (17.6, 24.8)	12.4 (7.3, 20.2)	18.5 (9.8, 32.1)	16.2 (14.5, 18.2)
≥3	0.3 (0.1, 1.4)	2.1 (1.2, 3.5)	3.1 (1.3, 6.9)	0.0 (-)	1.3 (0.9, 1.9)

Total sample N= 2,269, ^ >5% missing data.

From the data reported in Tables 4.4 and 4.5, the association between one's own drinking and the risk of being negatively affected by a heavy drinker is a strong reflection of the respondents' drinking networks (that is, heavy drinkers tend to know more heavy drinkers), and suggests that knowing many heavy drinkers increases the chance of being harmed by a heavy drinker. However, it is also surprising that around two thirds of all drinker categories reported knowing no other heavy drinkers. This may in part be a reflection of the terminology drinking respondents use to describe a heavy drinker.

Discussion

It is well known that alcohol is a direct or indirect cause of many physical, psychological and social problems, and that these problems can affect the well-being of individuals, families and society at large. For many years, the focus of much scientific research has been on the health consequences for the drinker. This study sought to identify the various factors associated with harms that people are exposed to because of the drinking of others in the environment – at home, in the workplace or where people are going about normal daily activities. Although the majority of Nigerians are abstainers, it has long been known that those who drink tend to engage in high-risk drinking behaviours which could lead to a variety of acute and chronic consequences (Obot 2006; Roerecke et al. 2008). This is the first study that has attempted to associate drinking with a variety of problems experienced by both drinkers and non-drinkers in Nigeria.

The study has confirmed the high level of abstention (61.5%) mentioned above – especially among women. One limitation of this study is that the data reported are from a cross-sectional survey using a sample that is not fully representative of the Nigerian population, especially its religious composition. It is important to note that the abstention rate would be higher than reported here if the sample were truly national in scope. The sample used in this study was predominantly Christian and was drawn from states in the country where various alcoholic beverages are widely available and consumed freely.

The findings from this study show that a high proportion of respondents knew someone who could be described as a heavy drinker. While respondents often identified neighbours as heavy drinkers, it was heavy drinkers from other contexts who were most likely the cause of negative effects for respondents. Among those who had lived with a heavy drinker in the last 12 months, the adverse effect was particularly likely to be associated with a spouse or partner.

Certain characteristics of respondents were associated with negative effects from a known drinker. In an analysis that controlled for the influence of several demographic variables, income and being a regular consumer of 60 g of alcohol in a single day were positively associated with the experience of negative effects of another's drinking. The finding that men were just as likely as women to be affected by any known heavy drinker is interesting because it is contrary to findings elsewhere that women are more likely than men to be at the receiving end of alcohol-related social harm (Rossow & Hauge 2004).

In Nigeria, as has been found elsewhere (Casswell, You & Huckle 2011, Laslett et al. 2011), being exposed to a heavy drinker is associated with negative experiences, and this is as true for abstainers as for drinkers. While this chapter shows us that drinkers in Nigeria are more likely to report harms from other drinkers they know than are abstainers, 14% of abstainers (results not shown) report harms from heavy drinkers in their social circle. It is also apparent that the harms experienced as a result of household members' drinking are not evenly distributed, with older women in particular being more likely to be negatively affected by others' drinking. In a country that does not have a national alcohol policy, these findings underscore the need to develop and implement broad population-based policies to regulate the availability and promotion of alcoholic drinks to protect abstainers and drinkers from harmful drinkers in their social milieux.

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Chapter 5

Chapter 5

Harm from co-workers' drinking in the Lao People's Democratic Republic

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Introduction

The Lao People's Democratic Republic is one of the lowest income and least formally educated countries in the South-East Asia region, yet it has been among the region's fastest growing economies for the last ten years, with an average yearly GDP growth rate of approximately 7.5% (World Bank 2014). Lao People's Democratic Republic is classified as a lower middle income economy with a gross national income per capita of US$ 1460 (World Bank 2014). Lao People's Democratic Republic is a geographically small but densely populated country, with an estimated total population of 6.7 million inhabitants in 2014, 33% of whom reside in urban areas (WHO 2014). Lao People's Democratic Republic is a one-party socialist republic, with policy decisions made by the Lao People's Revolutionary Party and the 49-member Central Committee.

Lao People's Democratic Republic's substantial economic development has seen improvement in the overall health of the nation. The poverty rate has been halved from 46% in 1992/1993 to 23.2% in 2012/2013 (World Bank 2014). Lao People's Democratic Republic's commitment to achieving the Millennium Development Goals and graduating from a "least developed country" by 2020 indicates a dedication to further reducing poverty and improving health and education (World Bank 2014; World Health Organization 2014).

Alcohol: a barrier to health and development in Lao People's Democratic Republic

In 2010 the World Health Organization (WHO) (2014) rated Lao People's Democratic Republic as having moderately risky patterns of drinking. Almost half (47.9%) of the Lao People's Democratic Republic population were current drinkers in 2010, with 40.5% of males and 63.3% of females abstaining from drinking (World Health Organization 2014). While Lao People's Democratic Republic has a lower annual per capita consumption of alcohol (7.3 L of pure alcohol) than high income countries such as Australia and the USA, the rates of heavy episodic drinking are high among those who do drink (30.5% among drinkers) (World Health Organization 2014).

Alcohol is a significant contributor to morbidity and mortality in Lao People's Democratic Republic as alcohol is among the top five risk factors for disease in South-East Asia (Lim et al. 2012) and is a moderate contributor to total years of life lost to disease (World Health Organization 2014). While alcohol has impacts on both males and females, in Lao People's Democratic Republic alcohol consumption patterns and consequences for health vary greatly between genders. Male abstention rates are 20% lower than female rates, while male per capita alcohol consumption and prevalence of alcohol use disorders and dependence are five times greater. Reflecting these differences, a greater percentage of liver cirrhosis and traffic accidents is attributable to alcohol for males than for females (World Health Organization 2014). Drinking patterns and health consequences in Lao People's Democratic Republic according to age are not well researched.

Lao People's Democratic Republic established a national alcohol control policy in 2011, which was further revised in 2012. These policies, for the first time, introduced an excise tax that at the time of writing has been implemented only for beer. A minimum legal drinking age was set at 18, but again only for beer. Lao People's Democratic Republic enforces a maximum legal blood alcohol concentration of 0.08% when driving a vehicle (World Health Organization 2014). Restrictions on sale and consumption in specified places and at particular

events have been established, and advertisements or displays that encourage drinking are no longer allowed. Beyond those listed above, Lao People's Democratic Republic has no apparent legislation or policies for control of alcohol consumption in the workplace.

Alcohol-related harms experienced in the workplace

Lao People's Democratic Republic's workforce is engaged primarily in agriculture, manufacturing, tourism and transport industries. As of September 2016, the World Bank provides support of US$ 427 million (Worldbank 2016) for Lao People's Democratic Republic's development, with environment and natural resources (28%), social development (18%), and energy and mining (13%) sectors being the major beneficiaries. Healthcare, education and service sectors are expanding, with a particular focus on improving health and education in disadvantaged districts (World Bank 2014; Kongrukgreatiyos 2015). The importance of these listed sectors within the Lao People's Democratic Republic workforce is expected to increase.

Occupational injuries are high in Lao People's Democratic Republic. Although only an estimated 48 occupational accidents were recorded in Vientiane, the capital, in the period 2001–2004, this is likely to be a gross underestimation due to the lack of a formal reporting system (Ministry of Labour and Social Welfare of Lao People's Democratic Republic 2005). It is important to explore the potential causes of these accidents, one being alcohol consumption. This is one of many reasons for exploring alcohol's association with harms experienced in workplaces in Lao People's Democratic Republic.

Extensive research, mostly in high income countries, has explored the types and magnitude of harms experienced by people in the workplace as a result of their own alcohol consumption. Some of the key impacts and risks felt by the drinker include work accidents; reduced productivity and work performance due to absenteeism; and morbidity and premature mortality (Jones, Casswell & Zhang 1995; Stewart et al. 2003; Devlin, Scuffham & Bunt 1997; Collins & Lapsley 2008; Pidd et al. 2006b).

The impacts of co-workers' alcohol consumption on others in the workplace has until recently received negligible attention. An Australian survey that explored alcohol's harm to others in the workplace (Dale & Livingston 2010) found that 8% of Australian workers were negatively affected in some way by co-workers' drinking in a one-year period, and 3.5% had to work extra hours to cover for co-workers' alcohol-related absenteeism and reduced productivity in that time. In the same study, Dale and Livingston (2010) estimated that the extra hours worked to cover for alcohol-affected co-workers cost the Australian economy AUD$ 453 million dollars annually.

While alcohol's impact in the Lao People's Democratic Republic workforce is not well understood, it is likely that alcohol consumption negatively affects a significant portion of the workforce. The cumulative effects of alcohol's harm to others in the workplace pose a potentially substantial barrier to the economic efficiency and development of the nation. The magnitude and type of harms experienced in the Lao People's Democratic Republic workforce due to co-workers' drinking is unknown. To address this gap, this chapter aims to provide the first estimations of the prevalence and types of harms experienced in the Lao People's Democratic Republic workforce due to co-workers' drinking. As a secondary goal, this chapter aims to identify key risk factors and the subpopulations at greatest risk of experiencing harm due to co-workers' drinking.

Methods

A nationally representative survey of the Lao People's Democratic Republic population was conducted between October 2013 and November 2013. Face-to-face interviews were conducted in three regions, three provinces and six districts in Lao People's Democratic Republic to measure the range and magnitude of the effects of drinking on people other than the drinker. The survey was designed and conducted as part of the WHO/ThaiHealth international research project, The Harm to Others from Drinking Project. Surveys were translated from English to Lao and back-translated to English as a check for accuracy of the translation.

The questionnaire was completed for 1257 respondents aged between

15 and 64, with a response rate of 99.8%. Respondents were randomly selected (via stratified multistage sampling selection, followed by simple random household member selection) from a target population of 1.7 million inhabitants in the Vientiane capital, and in Luangphrabang and Champasak provinces.

Data collection was completed by 18 interviewers from the National Institute of Public Health and provincial health departments. Survey interviewers received formal training and were supervised by two Lao investigators and four co-investigators from the Thai Centre for Alcohol Studies to ensure adherence to the WHO/ThaiHealth protocol and standard data quality assurance.

Measures

The analysis in this chapter uses data gathered from the Lao People's Democratic Republic's survey section titled "Impact of others' drinking on work", as well as sociodemographic information gathered throughout the survey. Survey participants who had worked or volunteered alongside colleagues (co-workers) in the last 12 months were asked a series of questions aiming to quantify harms due to co-workers' drinking. In this chapter we refer to this subsample of 669 cases as the "respondents"; thus all denominators relate to people with co-workers (unless otherwise stated).

Respondents were asked a series of questions aiming to quantify the amount and type of harms experienced due to co-workers' drinking. Firstly, all respondents were asked whether they had experienced problems with a co-worker or boss due to that person's drinking in the last 12 months. All respondents were then asked, "Because of a co-worker's drinking in the last 12 months": a. "have you had to cover for a co-worker?"; b. "has your productivity at work been reduced?"; c. "has your ability to do your job been negatively affected?"; d. "have you been involved in an accident with a co-worker?" ; and e. "have you had to work extra hours?" A variable asking whether the respondent had "experienced any harm due to a co-worker's drinking" was generated, which was coded "yes" if a respondent answered yes to any of the co-worker harms questions (listed above), and "no" if a respondent

answered no to all of the above questions.

Respondents were also asked a series of questions pertaining to their personal sociodemographic characteristics. Gender, age, geographic classification, household income, marital status, current occupation and education level were variables considered as potential specifying variables for harms in the workplace. A variable called "employment type" was constructed from the "current occupation" variable. Respondents were classified into one of three categories: 1. "regular/seasonal employment": respondents whose current occupation was "own business", "private employment", "government employee", "trader" or "farmer/fisher"; 2. "casual employment": respondents whose current occupation was "casual labour"; and 3. "unclear employment": respondents whose current occupation was "student", "unemployed" or "other". The regular/seasonal employment category included occupations that are likely to be more consistent than casual wageworkers, including farmers and fishers, who experience seasonal variations in work circumstances and income (Ministry of Planning and Investment & United Nations Development Programme 2009).

Analysis

All analyses were conducted using Stata version 14 (Stata Corp 2015). All counts presented are raw numbers. All other presented statistics are weighted according to the inverse of the respondent's probability of selection based on the number of eligible persons in the household, and to adjust for overrepresentation of females (58%) and underrepresentation of males (41%) in the sample, compared to the estimated distribution of gender in Lao People's Democratic Republic. Ninety-five percent confidence intervals (CI) were provided for all effect estimates in this chapter. Descriptive statistics were used to describe the sociodemographic characteristics and prevalence of co-worker harms – in the total subsample (respondents with co-workers), and separately for female and male respondents.

Bivariate and multivariate logistic regression models were used to examine the association between the main specifying variables – gender and

employment type – and risk of experiencing any harm in the workplace due to a co-worker's drinking. There was no evidence of difference in exposure time, quantified by number of hours worked per week, between the categories of gender and employment type. Age, geographic classification and employment type were included in the multivariate logistic regression models to account for potential confounding and mediatory effects. Stratified multivariate logistic regressions were fitted to explore both the association between gender and harms due to co-workers' drinking separately in casual and regular/seasonal employment types and the association between employment type and harms due to co-workers' drinking separately for males and females.

Description of the sample

Of the 1257 people who completed the survey, 669 reported having work colleagues in the last 12 months. One respondent with co-workers was excluded from analysis as the data for the "harms to others due to co-workers' drinking" was missing. Thus our sample comprised 668 respondents who had co-workers, all of whom answered the "harms to others due to co-workers' drinking" section. A full tabulation of the sociodemographic characteristics of the sample is not included in this chapter due to space constraints but is available on request. In this sample: 47% of respondents with co-workers were female; 46% were aged 30–49, compared to 29% aged 15–29 and 25% aged 50–64; 62% were currently occupying a "regular or seasonal" employment position, compared to 16% currently in casual employment and 21% whose employment status was unclear; 65% resided in urban locations, compared to 35% in rural residences; and 56% of respondents had not completed a high school diploma, while 19% of respondents had completed some form of higher education.

Important differences identified between male and female respondents with co-workers in the subsample are outlined here to inform interpretation of later results. Evidence of association was found between gender and age, current occupation, employment type and education level of respondents with co-workers. Males who had co-workers or bosses were slightly older than the

women in this sample (mean age = 40 years vs 37 years, $P = 0.041$); a greater proportion of males were currently in casual employment (26% vs 5%, $P < 0.001$); a greater proportion of females were currently in regular or seasonal employment (71% vs 55%, $P < 0.001$); a greater proportion of females had not completed high school (62% vs 50%, $P = 0.004$); and a greater proportion of males had completed higher education (23% vs 14%, $P = 0.012$). Current occupational status of respondents who had co-workers varied by gender, with a greater proportion of males in casual labour (26% vs 5%, $P < 0.001$), private employment (7% vs 2%, $P = 0.012$) and government occupations (16% vs 9%, $P = 0.020$), and a higher proportion of females who were traders (33% vs 11%, $P < 0.001$) or currently unemployed (10% vs 3%, $P = 0.003$). There were no significant differences between male and female respondents who had co-workers in relation to geographic location, household income or marital status.

Results – alcohol's harm to others in the Lao People's Democratic Republic workforce

Prevalence of harms experienced in the workplace due to co-workers' drinking

Table 5.1 describes the prevalence of various harms experienced in the workplace due to a co-worker's drinking in the last 12 months. Overall, 13% of Lao respondents with co-workers (equating to 7% of the overall sample) reported experiencing one or more of the listed harms due to co-workers' drinking (that is, they had covered for a worker, had their own productivity reduced, their ability to do their job was affected, they had been involved in an accident, or they had worked extra hours). It should be noted that responding positively to one or more of these items did not necessarily mean that the respondent considered that they had had problems with the co-worker's drinking. While only 4% of male respondents with co-workers responded "yes" to experiencing a problem due to a co-worker's drinking, 17% of the same respondents (equating to 10% of males in the overall sample) reported experiencing at least one of the specific harms described in Table 5.1.

Similarly, 7.5% of female respondents with co-workers (equating to 3.8% of females in the overall sample) experienced at least one of the specific harms due to a co-worker's drinking, despite only 2.6% of these respondents answering yes to experiencing a problem with a drinking co-worker. While effects were evident in both genders, there appeared to be a greater percentage of male than female respondents with co-workers who were negatively affected by a co-worker's drinking for all measures in Table 5.1.

Table 5.1 Percentage of respondents who experienced various types of harm, and the percentage that were negatively affected in any way, because of a co-worker's drinking in the last 12 months, in the total sample and by gender

	Female	Male	Total
	N=365	N=303	N=668
Problem with a co-worker because of their drinking	2.6 (1.2, 5.6)	4.4 (2.7, 7.2)	3.6 (2.4, 5.4)
Covered for a co-worker's drinking	4.9 (2.9, 8.1)	10.0 (6.7, 14.5)*	7.6 (5.5, 10.3)
Own productivity reduced because of a co-worker's drinking	3.0 (1.6, 5.4)	9.3 (6.2, 13.8)**	6.3 (4.5, 8.9)
Ability to do job negatively affected by a co-worker's drinking	3.0 (1.6, 5.5)	9.0 (5.9, 13.5)**	6.2 (4.3, 8.7)
Involved in an accident because of a co-worker's drinking	1.5 (0.5, 4.1)	4.6 (2.5, 8.4)	3.2 (1.8, 5.3)
Worked extra hours because of a co-worker's drinking	2.4 (1.1, 5.0)	3.4 (1.8, 6.5)	2.9 (1.8, 4.8)
Negatively affected in any way by a co-worker's drinking^	7.5 (4.9, 11.2)	17.4 (13.1, 22.7)***	12.7 (10.1, 16.0)

Denominator is those who had co-workers in the last 12 months, and may have included respondents who participated in paid employment in the last 12 months, respondents who volunteered in the last 12 months, and respondents who were currently not employed or volunteering.

*Adjusted Wald test investigated differences in survey weighted proportions between males and females: * P < 0.05, ** P < 0.01, *** P < 0.001.*

^ = answered yes to any of: experienced a problem, covered for co-worker, own productivity reduced, ability to do job negatively affected, involved in an accident, or worked extra hours.

Risk of experiencing harm due to a drinking colleague: influence of gender and employment

Table 5.2 describes the relative risk of experiencing harm due to a co-worker's drinking (represented by odds ratios [*OR*]) associated with the respondent's gender, age group, employment type and rural vs urban residence. Results from logistic regressions, both bivariate and multivariate, indicate a greater risk of harm due to a co-worker's drinking for males, compared to females (Table 5.2). Males were estimated as having almost three times greater risk of experiencing harm due to a co-worker's drinking than females (*OR* = 2.61, *CI* = 1.49, 4.57). The difference in risk between genders remained, but was lessened after adjusting for the age, employment type and geographic location of respondents (*OR* = 2.15, *CI* = 1.19, 3.88). After adjusting for respondents' gender, geographic classification and employment type, those aged between 30 and 49 had a slightly reduced risk of experiencing harm from a co-worker's drinking compared to those aged less than 30 (*OR* = 0.53, *CI* = 0.28, 0.99). Respondents with co-workers whose current occupation was casual labour were at just under three times the risk of experiencing harm in the workplace due to a colleague's drinking compared to those who were currently in regular or seasonal employment (*OR* = 2.81, *CI* = 1.48, 5.35) after adjusting for the gender, age and geographic location of participants.

Table 5.2 Odds ratios (*OR*) of experiencing any harm in the workplace because of a co-worker's drinking in the last 12 months, according to respondent's gender, age, employment type and geographic location, in respondents who had co-workers in the last 12 months

	Bivariate models	Multivariate model
	OR (CI)	OR (CI)
Gender		
Male (vs female)	2.61 (1.49, 4.57)***	2.15 (1.19, 3.88)*
Age-group		
30-49 years (vs 15-29 years)	0.61 (0.34, 1.11)	0.53 (0.28, 0.99)*
50-64 years (vs 15-29 years)	0.51 (0.24, 1.08)	0.46 (0.21, 1.03)
Geographic classification		
Urban (vs rural)	1.21 (0.67, 2.16)	1.30 (0.73, 2.34)
Employment type		
Casual (vs regular/seasonal)	3.80 (2.02, 7.14)***	2.81 (1.48, 5.35)**
Unclear^ (vs regular/seasonal)	1.10 (0.54, 2.21)	0.81 (0.39, 1.70)

Denominator is those who had co-workers in the last 12 months, and may have included respondents who participated in paid employment in the last 12 months, respondents who volunteered in the last 12 months, and respondents who were currently not employed or volunteering. (N=668)

** P < 0.05, ** P < 0.01, *** P < 0.001.*

^ Currently unemployed, student or other.

Table 5.3 describes associations between the main specifying variables (gender, employment type, age and geographical classification) and risk of experiencing any harm in the workplace due to a co-worker's drinking, separately for women and men, and separately for respondents in regular/seasonal and casual employment. The following associations adjust for the respondent's age, geographical classification and either gender or employment type. When considering only those whose current occupation was casual in nature, men were estimated as having almost 20 times the risk of experiencing some form of harm due to a drinking co-worker as compared to women (*OR* = 19.96, *CI* = 2.32, 171.48). Interestingly, the association between gender and risk of being harmed due to a colleague's drinking was not evident in people currently in "regular or seasonal" employment (*OR* = 1.57, *CI* = 0.71, 3.45); nor was it in people whose employment type was unclear (unemployed,

student, other) (results not shown). After stratification for employment type, geographic location was associated with risk of experiencing alcohol-related co-worker harm; respondents in regular/seasonal employment who reside in urban locations were at greater risk of harm than respondents in regular/seasonal employment residing in rural locations (*OR* = 3.20, *CI* = 1.21, 8.45).

Males who participated in casual employment were almost four times as likely as males in regular/seasonal employment to have experienced some harm due to a co-worker's drinking (*OR* = 3.60, *CI* = 1.66, 7.78). Moreover, younger males were more likely to have experienced alcohol-related co-worker harm in the workplace. Interestingly, there was no evidence of an association between employment type or age and harm from a drinking co-worker for females.

Table 5.3 Odds ratios (*OR*) of experiencing any harm in the workplace due to a co-worker's drinking in the last 12 months according to respondents' age, employment type and geographic location, separately for men and women who had co-workers in the last 12 months and for those in casual and regular/seasonal employment who had co-workers in the last 12 months

	Gender			
	Female (N = 365)		Male (N = 308)	
	Bivariate models	Multivariate model	Bivariate models	Multivariate model
	OR (CI)	OR (CI)	OR (CI)	OR (CI)
Age-group				
30-49 years (vs 15-29 years)	0.56 (0.21, 1.53)	0.52 (0.20, 1.33)	0.62 (0.29, 1.32)	0.48 (0.20, 1.16)
50-64 years (vs 15-29 years)	0.93 (0.27, 3.20)	0.86 (0.25, 2.93)	0.33 (0.13, 0.88)*	0.35 (0.13, 0.95)*
Geographic classification				
Urban (vs rural)	1.20 (0.43, 3.32)	1.31 (0.47, 3.63)	1.29 (0.62, 2.65)	1.41 (0.69, 2.87)
Employment type^				
Casual (vs regular/seasonal)	0.30 (0.04, 2.46)	0.26 (0.03, 2.09)	3.91 (1.86, 8.23)***	3.60 (1.66, 7.78)**
Unclear (vs regular/seasonal)	0.95 (0.35, 2.56)	0.82 (0.31, 2.17)	1.21 (0.46, 3.20)	0.80 (0.28, 2.32)
Employment type~				
	Regular/seasonal employment (N = 436)		Casual employment (N = 108)	
	Bivariate models	Multivariate model	Bivariate models	Multivariate model
	OR (CI)	OR (CI)	OR (CI)	OR (CI)
Gender				
Male (vs female)	1.50 (0.71, 3.17)	1.57 (0.71, 3.45)	19.50 (2.34, 162.80)**	19.96 (2.32, 171.48)**
Age group				
30-49 years (vs 15-29 years)	0.53 (0.22, 1.29)	0.52 (0.21, 1.26)	0.62 (0.19, 2.07)	0.51 (0.15, 1.79)
50-64 years (vs 15-29 years)	0.49 (0.17, 1.38)	0.47 (0.16, 1.43)	0.84 (0.17, 4.01)	0.73 (0.14, 3.85)
Geographic classification				
Urban (vs rural)	3.27 (1.22, 8.79)*	3.20 (1.21, 8.45)*	0.55 (0.19, 1.56)	0.73 (0.24, 2.18)

~ May have included respondents who participated in paid employment in the last 12 months, respondents who volunteered in the last 12 months, and respondents who were not currently employed or volunteering.

** P < 0.05, ** P < 0.01, *** P < 0.001.*

^ Not included in stratification: currently unemployed, student or other.

Drawing all of the results together, both women and men with co-workers have a small but significant likelihood of experiencing harm in the workplace due to the drinking of a co-worker. Males, and especially younger males, are more likely than females to experience one or more of the specific types of co-worker harms, and to report being negatively affected by a co-worker's drinking. Being in casual employment is a stronger predictor of experiencing harm from a drinking co-worker than being in regular or seasonal employment. When stratifying by gender and employment type, the increased risk of males experiencing alcohol-related co-worker harm compared to females is more extreme in casual employment-type occupations, and not evident in regular or seasonal employment-type occupations. Furthermore, male respondents are far more likely to experience harm if they are in casual-type employment than if they are in regular or seasonal employment. No such effect was seen for females.

Discussion – indications, implications and limitations of the findings

A small but significant proportion of the Lao People's Democratic Republic working population is negatively affected as a result of the alcohol consumption of co-workers. While co-worker harms due to alcohol consumption were experienced at some level in all demographic categories, prevalence was not consistent across gender and employment types. Overall, males were more likely than females, and people in casual employment were more likely than people in regular or seasonal employment, to be negatively affected in the workplace by a co-worker's drinking. Interestingly, males have a greater risk of harm from co-workers than females apparently only when in casual employment, with no apparent difference between genders in respondents in regular/seasonal employment. Moreover, the association between being in casual employment and the risk of experiencing harm from drinking co-workers is apparent for males but not for females. Specifically, males, especially younger males, and males in casual employment, appear to be the most frequently harmed in the workplace because of co-worker alcohol consumption.

Harms experienced in the workplace due to a co-worker's drinking: impacts for society

While the percentage of workers who are negatively affected by co-workers' drinking may be relatively small, these harms can have a profound impact at the societal level, particularly for economic efficiency. The equivalent Australian survey (Dale & Livingston 2010), which revealed a similar prevalence of co-worker harms to those in Lao People's Democratic Republic (8.0% of adult Australian workers were negatively affected, and 3.5% worked extra hours, because of a co-worker's drinking over a 12-month period), estimated the extra hours worked to cover for a co-worker's assumed alcohol-related absenteeism and reduced productivity cost the Australian economy AUD$ 453 million annually, or 0.035% of Australia's GDP in 2009–10 (Australian Institute of Health and Welfare 2011). Similar estimates of alcohol-related costs in the workplace have quantified national annual economic costs in other countries in excess of US$1 billion (Cabinet Office 2004; Cabinet Office 2003; Wiese, Shlipak & Browner 2000; Single et al. 1998; Collins & Lapsley 2008). Applying a 0.029% loss to GDP, which adjusts for the slightly smaller proportion of workers who reported working extra hours to cover for co-workers (2.9%) in Lao People's Democratic Republic, the extra work to cover for alcohol-related absenteeism and reduced productivity and performance of co-workers may cost the Lao People's Democratic Republic economy in the region of AUD$ 4.7 million (USD$ 3.5 million) annually. The extra work to cover for alcohol-related co-worker issues is likely to come at a relatively large cost to the Lao People's Democratic Republic economy, thus hindering efforts towards economic development.

Beyond working extra hours, a significant proportion of Lao People's Democratic Republic respondents who had co-workers reported experiencing reduced productivity, negative effects on job performance, and being involved in an accident perceived as due to a co-worker's alcohol consumption. Reduced productivity and performance and increased accidents at work among the working population as a result of co-workers' drinking are likely to contribute substantial additional costs to the Lao People's Democratic Republic economy

(Jones, Casswell & Zhang 1995; Stewart et al. 2003; Devlin, Scuffham & Bunt 1997; Collins & Lapsley 2008; Pidd et al. 2006b). Overall, alcohol-related co-worker harms may negatively impact the socioeconomic development of Lao People's Democratic Republic, as well as affecting costs in other sectors, including healthcare, employment, welfare and law enforcement.

Predictors of harm due to a drinking co-worker: influence of gender and type of employment

This chapter's analyses reveal the first clues about subsections of the Lao People's Democratic Republic workforce at highest risk of experiencing harm in the workplace due to a co-worker's drinking. Our findings are consistent with the Australian equivalent harms to others survey, which found men were more likely to be affected by the drinking of a co-worker than women (Livingston, Wilkinson & Laslett 2010). The majority of research into alcohol effects in the workplace has concerned harms incurred by the drinker. In Australia, in general, high-risk alcohol consumption was more prevalent in male workers (Pidd, Shtangey & Roche 2008), and male workers were more likely to consume alcohol in ways that were likely to compromise their own productivity and workplace safety (Pidd, Shtangey & Roche 2008). Data on such gender differences in the Lao People's Democratic Republic workforce, however, are not available. This chapter provides the first clues on such differentiation: in casual employment men were more likely to experience harm than women, but not in regular/seasonal employment. One explanation may be gender segregation in employment, with men being more likely to work with other men. Since men tend to consume more alcohol than women, male workers may be exposed to higher rates of alcohol-related harm from co-workers due to having more male co-workers. Moreover, males may be more likely to engage in the types of casual work that are associated with heavier drinking cultures, such as the construction and hospitality industries (Pidd, Shtangey & Roche 2008), which increases their likelihood of experiencing alcohol-related harm from co-workers.

Nonetheless, further research exploring why male workers tend to experience more alcohol-related harm from co-workers is necessary.

To our knowledge, this is the first study to explore differences between casual and regular/seasonal employment types and harms experienced in the workplace as a result of co-workers' alcohol consumption.

Australia's alcohol harm to others study found middle-aged Australians were slightly more commonly affected by a drinking co-worker compared to younger (18–29 years) and older (60 years and above) age groups (Laslett et al. 2011). In contrast, we found that in Lao People's Democratic Republic younger workers were the most likely age group to experience alcohol-related harm from co-workers, most evidently males. While in the population as a whole middle-aged adults may be more likely to experience harms due to a drinking co-worker, within the population that is working with co-workers younger people may be most at risk.

Does the normalization of drinking affect productivity?

As noted above, four times as many male workers reported specific impairments of workplace productivity from co-workers' drinking as reported they had experienced a problem due to co-workers' drinking. For female workers, almost twice as many reported specific productivity impairments as reported experiencing a problem. These differences could be affected by question wording and the attribution of events to drinking. But they may well reflect a normalization of drinking and its effects as a routine part of work life rather than as something to be kept separate from work life. The respondents – particularly male respondents – may be telling us that, yes, these impairments of productivity because of others' drinking happen to me and around me, but a lot of the time they don't pose a problem for me. If further investigation supports this interpretation, a strong effort to remove alcohol from in and around the workplace would be justified not only on public health grounds but also as a way of increasing productivity.

Limitations

Some harmful effects felt by respondents were perhaps not measured in the survey. Pidd and colleagues (2006a) found co-worker alcohol consumption to be positively associated with verbal and physical abuse experienced by co-workers. Furthermore, respondents may experience less tangible effects such as worry and stress due to a co-worker's drinking. Therefore, the full extent of alcohol's harm to others in the workplace is probably not captured in this study.

As with other studies of alcohol's harm to others in which outcomes are self-reported, there is potential bias as respondents can misclassify harms experienced as being a result of another's alcohol consumption, thereby under- or overestimating alcohol-related co-worker harms.

Having to work extra hours due to absenteeism, reduced work performance or the mistakes of a co-worker (Dale & Livingston 2010) is usually a negative experience for workers, who do not receive additional payment or time in lieu, and for employers. However, it is not always so. For instance, when participating in casual labour, a considerable portion of one's income may come from hours worked while covering for the absenteeism of co-workers. Therefore, working extra hours in this situation may not be regarded as a harm by the affected worker.

In Lao People's Democratic Republic, an estimated 28.3% of children aged 7–10 and 52.4% of children aged 11–14 participate in the workforce (Huebler 2008). As the survey sample did not include children under 15, this chapter's findings do not consider or include any harms to this age group of workers from co-workers' drinking.

In Lao People's Democratic Republic, farming and fishing businesses are commonly family owned and run, and work is often performed alongside family members (Murray & Kesone 1998). It is possible that respondents whose current occupation was farming/fishing may have underreported co-workers due to them being considered family members. The rate of harm experienced from family member co-workers may be less or greater than the rate experienced

from non-family member co-workers. Therefore, prevalence of alcohol-related harm in the Lao People's Democratic Republic workforce may be underestimated or overestimated in this chapter.

Conclusions

Some research explores the feasiblility and effectiveness of interventions in relation to alcohol use in workplaces, particularly in male-dominated industries, where alcohol screening, secondary prevention and low-intensity intervention programs have had some benefit for heavy drinkers (Lee et al. 2014). However, further research is needed to identify and assess interventions that may remedy harms experienced in the workplace due to co-workers' alcohol consumption. The findings in this chapter take an important first step in acknowledging and identifying harms experienced in the Lao People's Democratic Republic workforce as a result of co-workers' drinking. These harms are felt not only by individual workers – their cumulative effects are a substantial hurdle for the socioeconomic development of Lao People's Democratic Republic. Further research is needed to explore the types, mechanisms and perceptions of harm experienced in the workplace from co-workers' drinking, particularly in younger male workers and casual employees, and into interventions to reduce the negative impact of alcohol consumption in the workforce. A cross-national comparison would potentially shed light on the various cultural and socioeconomic factors underlying workplace harms to others from alcohol.

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Chapter 6

Chapter 6

Harms to children from others' drinking in Viet Nam

Hoang Thi My Hanh and Vu Thi Minh Hanh

Introduction

The drinking of alcohol by others has harmed children in many ways (Laslett et al. 2010). These harms may be categorized into direct and indirect harms. The former may include the effects of fetal alcohol spectrum disorder prior to birth due to maternal drinking, or the mental and physical harm a child suffers from injury and violence due to another's drinking. The latter may occur when a family's or parents' drinking weakens their ability to supervise and care for children. Additionally, family members may model poor behaviours when intoxicated, or be unable to carry out the basic responsibilities required as part of their parental or other familial roles. As a result of others' drinking, children's social, nutritional and other developmental needs may not be met.

Evidence of the negative effects of drinkers upon children can provide useful insights for child welfare, family services, child protection and alcohol-related-harm advocacy, policy-making and implementation. However, in many developing countries, where resources are limited, little is known about the impacts of alcohol on child health and well-being. Furthermore, there are often only developing or underresourced responses. For instance, child protection, family support and alcohol treatment systems are limited in many

places, including Viet Nam (Laslett et al. 2016). Even in high income countries, many current registration systems for child protection and hospitals have not been designed to monitor the effects of drinkers upon children (Laslett et al. 2010) or do not provide usable data to monitor and study alcohol-related child health and welfare outcomes (Connor & Casswell 2012). Studies of general populations have filled some current knowledge gaps on the magnitude of harms to children, with the United Nations International Children's Emergency Fund (UNICF) and the World Health Organization (WHO) funding multicountry studies of child health indicators (Peden 2008; UNICEF 2011; UNICEF 2014), yet to date there has been limited emphasis on the role of alcohol in international studies of child maltreatment and injury (Krug et al. 2002; Peden 2008; World Health Organization 2007). This WHO/ThaiHealth International Collaborative Research Project on the Harm to Others from Drinking explores the issue of alcohol-related harms to children from the perspective of children's parents or caregivers.

This chapter will describe alcohol-related harms to children that occur because of others' drinking and examine how this varies in different socioeconomic and demographic settings in Viet Nam. It will start with a brief country profile of the drinking of alcohol and some relevant issues for children in Viet Nam. The chapter closes with a discussion of the findings, the use of evidence for policy advocacy in Viet Nam, and recommendations.

Country profile

In 2014, Viet Nam had a population of 90 493 400, 23.5% of which was under the age of 15 (General Statistics Office 2015).

Viet Nam is one of a several countries in the Western Pacific Region of WHO that has shown a sharp increase in alcohol consumption per capita over the last decade. The rate increased from 3.8 L of pure alcohol in 2003 to 6.6 L in 2010, (World Health Organization 2014) and 8.3L in 2016, which is higher than the global average of 6L per year (World Health Organization 2018).

In 2010, 57% of households in Viet Nam frequently purchased alcohol for consumption (Minh et al. 2016). Alcohol use and harmful use were common among men. Compared to urban drinkers, rural drinkers had drunk more per occasion during the past week, and this was the case for both male and female drinkers. In 2010, 70% of men and 6% of women aged 25–64 had drunk alcohol in the past 30 days. Approximately 60% of men and less than 5% of women had consumed alcohol in the past week. Of the men, 40% were hazardous or harmful drinkers.[2] One in four reported having consumed at least 50 g of pure alcohol on at least one occasion in the last week (Bui et al. 2015). These figures appear to be increasing. In 2015, 80% of men and 11% of women aged 25 – 64 had drunk alcohol in the past 30 days, and 44% of males aged 18 – 69 engaged in heavy episodic drinking (60g or more of ethanol on one occasion in the previous 30 days – Ministry of Health 2016. Underage drinking has also increased for both male and female young people under the age of 18 (General Office of Population and Family Planning 2018). Almost one third of children (60.5% of boys and 22% of girls) 14-17 in Viet Nam reported having ever been drunk (World Health Organization, General Statistics Office and Ministry of Health 2010).

Gender roles and social norms in child disciplining

Although women's status and gender equality have greatly improved, gendered roles within families remain, with most decision-making power concentrated in the male head of the household. Women's attitudes to domestic violence are concerning. Half of women aged 15–49 feel a husband or partner is justified in hitting or beating his wife in specific situations (General Statistics Office & UNICEF 2015). The use of physical force as punishment or for disciplining children is practised commonly in Viet Nam (UNICEF 2010; General Statistics Office & UNICEF 2015). More than 68% of children aged 1–14 years suffered at least one form of violent discipline (psychological or physical) in the last month in 2014. Approximately 43% were subjected to at least one physical punishment and 58% to psychological aggression (General Statistics Office &

[2] Hazardous = 40–<60 g of pure alcohol on arerage per day during the last year; harmful = 60+g of pure alcohol on average per day during the last year.

UNICEF 2015). Children from the poorer households and those whose mothers had low education were more likely to have experienced at least one form of violent psychological or physical punishment over the past 12 months. In 2010, one fifth of women with children under 15 reported that their partner physically abused their children and 54% of women who experienced physical partner violence also reported that their children witnessed such violence at least once in the previous 12 months (General Statistics Office 2010).

Child protection

In 1990, Viet Nam was the first country in Asia and second in the world to ratify the International Convention on the Rights of the Child. Domestic legislation, including the Law on Child Protection, Care and Education (2004), the Law on Prevention and Control of Domestic Violence (2007), the newly adopted Child Law (2016) and other family-related laws, have provided a comprehensive legal foundation for child protection. These laws are contributing to changes in social norms that relate to all types of domestic violence, including violence against children, by making such behaviour illegal, rather than an internal family affair. They have facilitated measures to prevent violence, abuse and neglect towards children and aim to inform the creation of a routine network of child protection and support services for all victims in the near future.

Methods

Design and sample

The study was a retrospective cross-sectional study. There were 1501 respondents, aged 18 years or over, from 1501 households. Respondents were recruited from six provinces in six socioeconomic regions of the country using a two-stage stratified sampling approach. The response rate was 99.2%. The mean age was 42.5 years (SD=11.9). Among the 1501 respondents, 961 reported that they were parentally responsible for a child or children under 18

that was living in or outside their household. The mean age of the parental sample was 41.7 years (SD=10.8), and females accounted for 50.2% of parents.

Measures

The subset of respondents responsible for children were asked about five specific harms suffered by one or more of their children because of the respondent's or someone else's drinking in the past 12 months. These harms included children being left in an unsupervised or unsafe situation; being yelled at, criticized or otherwise verbally abused; being physically hurt because of someone's drinking; being a witness to serious violence in the home; and having inadequate funds for the things needed by the child or children. How many times these harms occurred was reported using two categories: three or more times, and once or twice. Respondents were also asked if they had called a child protection agency or family service because someone's drinking had harmed their child or children.

Following these questions about specific harms, respondents were asked a question about harm to children in general: "Was a child you are responsible for negatively affected by someone else's drinking in the last 12 months?" This was followed by a question about the relationship of the drinker seen as responsible for the harm. Then, respondents who had reported that their child or children had suffered a specific harm, or said yes to the question about harm in general, were asked to assess the severity of the harms from others' drinking for their child or children by answering the question: "How much has the drinking of other people negatively affected your children?" on a scale of 1 to 10, where 1 was a little and 10 a lot. Questions about having a heavy drinker in the household and about the respondent's own pattern of drinking over the past 12 months enabled identification of a heavy drinker in the family environment. Respondents identified a household member as a heavy drinker using their own perceptions of what was heavy drinking.

Analysis

In this study, each parent or person with parent-like responsibilities (carer) was asked about harms caused to one or more of their children by others' drinking. The unit of analysis, therefore, is the respondent who was responsible for one or more children, not the child. It is important to keep in mind that the results reported in this chapter reflect the prevalence of a carer's reporting of harms to one or more of their children, which is not the same as the prevalence of under18-year-old children being harmed by others' drinking.

The parent or carer's social and demographic characteristics reflect the residential/family environment of the children they are responsible for. The following family environment characteristics were selected for analysis: education, ethnicity and religion of the parent/parental carer; per capita income; urbanicity, province/region; and having a heavy drinker in the family.

The outcomes measured were: harms in general (negative effects); one, two or three or more of the five specific harms; and level of severity of harm, categorized as severe (6–10), mild (1–5) or no (0) harm.

The analysis was undertaken using R version 3.2.1 (epicalc, survival, epid packages) on unweighted data. There were 753 males and 748 females in the overall sample, an almost even sex ratio. The gender distribution of the parent/parental-carer subsample was also even, with a sex ratio of 50.2 (male): 49.8 (female). There was thus no need for gender weighting, although the number of people in the household was not adjusted for (which is likely to result in respondents living in households with fewer adults being somewhat overrepresented).

The univariate associations between respondents' sociodemographic and socioeconomic factors and harms to children were analysed using Pearson's Chi-squared tests. Variables with a p-value < 0.2 were included in the prototype model of multivariate logistic regression which explored association between family environment factors and harms to children. Likelihood ratio tests were used to determine the final model, Chi-square goodness-of-fit tests were used to evaluate the model, and adjusted ORs are presented for variables in the best fitted model.

Results

Family environment of children

Using the carer's social and demographic characteristics, the family and residential environment of families with one or more children can be described as follows: 30% of families with children had a carer who had at least completed high school; 31% were from an urban area; 77.3% had a carer who was a Kinh[3]; most carers did not follow a religion; three quarters had a monthly income per capita of less than VND 2 000 000[4]; and 37% had a heavy drinker in the household in the previous year.

Specific harms to children from others' drinking

Of the 961 carers, 14% reported that their children had suffered one or more of the five specific harms. The most frequently reported harms caused by others' drinking were: being yelled at, criticized or verbally abused (11%); being left unsupervised or in unsafe situations (6%); and witnessing serious violence in their home (6%) (see Table 6.1).

Table 6.1 Five specific harms to children as reported by respondents who had parental responsibility

One or more children	% (95% CIs)
Left in an unsupervised or unsafe situation	6.3 (4.9, 8.1)
Yelled at, criticized or otherwise verbally abused	10.9 (9.0, 13.0)
Physically hurt	2.9 (2.0, 4.2)
Witnessed serious violence in the home	5.9 (4.6, 7.7)
Not enough money for the things needed by the child/children	2.5 (1.6, 3.8)
One or more of the five harms	13.9 (11.8, 16.3)
Two or more of five harms	7.9 (6.3, 9.8)
Three or more of five harms	3.6 (2.6, 5.1)

Denominator is number of respondents with children in or out of the household, N = 961.

3 There are 54 ethnic groups in Viet Nam. The Kinh people comprise the ethnic majority; 85.7% of the country's population were Kinh in 2009 (Viet Nam Population Census 2009).

4 In mid-November 2016, one US dollar was equivalent to 22 262.9 Viet Nam dong, so this is a monthly income per capita of US$89.84.

About 8% of carers confirmed that one or more of their children suffered at least two types out of the five specific harms, and approximately 4% had suffered at least three types of harms.

Negative effects of others' drinking on children in general, and level of severity

While 14% of carers reported that at least one or more of their children suffered at least one of the five specific harms, the number of carers who reported that one or more children suffered any negative effects in general from others' drinking, including their own drinking, was much higher: 20.8% (95% CI, 8.3, 23.5). This implies there are other negative effects in addition to the listed harms that are important in the determination of perceived harms.

Twelve percent of respondents assessed the harm to their children as severe, rating this with scores between 6 and 10.

Among the 134 families with children that had suffered any of the five specific harms, 9.7% of carers (95% CI = 5.5,16.3) called a child protection agency or local authority for support. Less than 2% of all carers sought help.

Covariates of having children that had experienced harms from others' drinking

Harm in general

Table 6.2 presents the family characteristics that were associated with reporting negative effects upon children of others' drinking, with the odds ratios in the final column adjusted for all other variables in the model. From the perspective of the carers, children from families with a heavy drinker were 2.3 times (95% CI = 1.62, 3.15) more likely to suffer harms from others' drinking than families without a heavy drinker. Rural families were at about 1.7 times higher risk of having children that were harmed than urban families. Parents/parental carers from the Red River Delta region of Vinh Phuc and the Mekong River Delta region of Long An were no more or less likely than carers from the Dong Nai province of the south-east region to report harm to their children. However, carers from the other three provinces – Khanh Hoa province (north central and central coastal region), Daklak province (central highlands region),

and Lai Chau province (northern, mountainous and upland region) – reported an approximately threefold higher risk of their children being harmed than those from Dong Nai.

Table 6.2 Predictors of children experiencing general harm (negative effects) from others' drinking: bivariate and multivariate logistic regressions with children's family characteristics

Family characteristic[+++]	Crude OR (95% CI)	Adjusted OR (fitted model) (95% CI)
Education of parent/parental carer		
Less than high school	**(ref)**	
At least completing high school	0.69 (0.48, 0.99)*	
Monthly income per capital		
<VND 2000000	**(ref)**	
>VND 2000000	0.67 (0.46, 0.99)*	
Urbanicity		
Urban	**(ref)**	**(ref)**
Rural	1.76 (1.22, 2.53)**	1.66 (1.14,2.43)**
Ethnicity of parent/parental carer		
Kinh	**(ref)**	
Others	1.49 (1.04, 2.11)*	
Religion of parent/parental carer		
None	**(ref)**	
Buddhism	1 (0.70, 1.43)	
Other (Christian)	0.5 (0.33, 1.01)	
Province		
Dong Nai	**(ref)**	**(ref)**
Khanh Hoa	3.18 (1.67, 6.03)***	3.05 (1.59, 5.85)***
Long An	2.17 (1.10 , 4.3)***	1.92 (0.96, 3.84)
Daklak	4.14 (2.22, 7.71)*	3.22 (1.70, 6.09)***
Lai Chau	3.46 (1.84, 6.51)***	2.93 (1.54, 5.57)***
Vinh Phuc	1.45 (0.72, 2.93)	1.56 (0.77, 3.17)
Having a heavy drinker in the family		
No	**(ref)**	**(ref)**
Yes	2.66 (1.94, 3.66)***	2.26 (1.62, 3.15)***

*p<.05, **p<.01, ***p<.001; OR: odds ratio.

At least one of the five specific harms

Families with at least one heavy drinker and families situated in certain provinces were identified as being more likely to report children experiencing at least one of five specific harms (Table 6.3). Again, having a heavy drinker in the family was associated with a much higher risk of reporting at least one specific harm to children from others' drinking.

Table 6.3 Predictors of children experiencing any of five harms from others' drinking: bivariate and multivariate logistic regressions with children's family characteristics

Family characteristic	Crude OR (95% CI)	Adjusted OR (fitted model) (95% CI)
Urbanicity		
Urban	**(ref)**	
Rural	1.49 (0.98,2.28)	
Province		
Dong Nai	**(ref)**	**(ref)**
Khanh Hoa	3.49 (1.75,6.94)***	2.45 (1.21,4.98)*
Long An	2.58 (1.26,5.28)**	2.39 (1.16,4.95)*
Daklak	1.91 (0.89,4.09)	1.58 (0.73,3.44)
Lai Chau	1.73 (0.82,3.64)	1.35 (0.63,2.89)
Vinh Phuc	1.27 (0.57,2.8)	1.36 (0.61,3.03)
Having a heavy drinker in the family		
No	**(ref)**	**(ref)**
Yes	3.27 (2.24,4.77)***	2.92 (1.97,4.33)***

*p<.05, **p<.01, ***p<.001; N = 96, OR: odds ratio.

Predictors of perceived suffering of severe harms

Carers from families with heavy drinkers were three times more likely than carers from other families to report children suffering severe harms from others' drinking. Carers living in rural areas were 1.8 times more likely to report severe harm to their children than those in urban areas. In addition, lower

income families reported more severe negative effects to chidren from others' drinking than children from higher income families. Carers describing themselves as Christian were less likely to report severe harm to children than those without religious affiliation (see Table 6.4).

Table 6.4 Predictors of children experiencing severe harms from others' drinking

Family characteristic	Crude OR (95% CI)	Adjusted OR (fitted model) (95% CI)
Education of a parent		
Less than high school	**(ref)**	
At least completed high school	0.63 (0.38, 1.01)	
Income per cap/month		
≥VND 2000000	**(ref)**	**(ref)**
<VND 2000000	2.58 (1.45,4.61)**	1.84 (1.30, 39)*
Urbanicity		
Urban	**(ref)**	**(ref)**
Rural	2.32 (1.39, 4.06)**	1.78 (1.04, 3.05)*
Ethnicity of parent		
Kinh	**(ref)**	
Others	1.88 (1.24, 2.87)**	
Religion of parent		
None	**(ref)**	**(ref)**
Buddhism	0.54 (0.33, 0.88)*	0.6 (0.36, 1.00)
Other (Christian)	0.37 (0.17, 0.82)*	0.38 (0.17, 0.84)*
Province		
Dong Nai	**(ref)**	
Khanh Hoa	1.06 (0.51, 2.17)	
Long An	1.06 (0.51, 2.24)	
Daklak	1.15 (0.57, 2.30)	
Lai Chau	1.99 (1.04, 3.81)*	
Vinh Phuc	1.06 (0.52, 2.19)	
Having a heavy drinker in the household		
No	**(ref)**	**(ref)**
Yes	3.73 (2.50, 5.56)***	2.93(1.95,4.39) ***

*p<.05, **p<.01,***p<.001; N = 961, OR: odds ratio.

Conclusions and discussion

A substantial proportion of carers in this study reported that their children had experienced adverse effects from others' drinking. The pattern of specific harms in this study is similar to that reported in Australia (Laslett et al. 2015) and New Zealand (Casswell et al. 2011). That is, verbal abuse was the most common type of harm, followed by the witnessing of serious domestic violence and being left in an unsupervised or unsafe situation, followed by being physically hurt. However, more carers in Viet Nam reported that their children suffered harm compared to those in Australia for each of the specific harms, and for one or more of the five harms (14% compared to 12%). The prevalence of harm to children from others' drinking in Viet Nam and New Zealand was similar, except for the financial measure of harm "not enough money for the things needed by the child/children", which was higher in New Zealand (5%) compared to Viet Nam (2.5%).

Three family environment factors associated with harms to children were clearly identified. Having a heavy drinker in the family increased the risk of harm to children. Children from rural areas seemed to be at greater risk of harm from others' drinking than those from urban areas. This might be because drinkers in rural areas drink more per occasion than drinkers in urban areas (Tan 2015). The prevalence of harm to children also appears to differ according to the various regions of Viet Nam.

The perceived severity of harm to other children was higher among parents and carers without any religious affiliation, in families with a heavy drinker, and in poorer families and in families from rural areas.

As identified in Australia (Laslett et al. 2015), this study found most of the drinkers causing harm to children were parents or other relatives (although, in this study, a large proportion of respondents did not report who the perpetrator was). Few families had received or called for support from child protection and other family services.

The availability of child protection services in Vietnam addressing domestic violence was not widely known at the time of the study. Moreover, most of the heavy drinkers were male and roles in the family are still highly gendered, with men assuming a more dominant role. Because of these factors, and because the social norm in Vietnam is that domestic violence is a private family affair, parents and carers may not have disclosed, or may have underreported, these problems. This may also be a potential reason why few families and children affected by others' drinking seek social support.

Recommendations

This evidence on harm to children from others' drinking in Viet Nam has been communicated to policy-makers and the public via mass media to make plain, and increase awareness of, the alcohol-related social consequences for children and families. Findings from this survey on harms to others in general, and harms to children in particular, are being used as important evidence for advocacy for laws to reduce alcohol-related harm. The magnitude and types of harm to children identified here provide an evidence base for the development of future solutions to protect children from others' drinking. When designing a population-based intervention programme to prevent and reduce alcohol-related harms to children, appropriate approaches should be devised for the more vulnerable target groups, including children from families with a heavy drinker, poor families and families living in rural areas.

To complement population surveys, a comprehensive study to estimate harms to children from others' drinking in child protection and hospital registration systems is a crucial next step required to gauge the magnitude of this issue. Further studies should also investigate harms to children at the individual level and from the perspectives of children themselves.

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Chapter 7

Chapter 7

Alcohol-related harm to others from the drinking of strangers in Sri Lanka

Oliver Stanesby and Siri Hettige

Introduction

Sri Lanka: a country at a time of relative peace and potential for development

The Democratic Socialist Republic of Sri Lanka, or Sri Lanka for short, is a country which, despite the widely known ethnic conflict of the recent past, natural disaster and global economic recession, has recently progressed to lower middle income country status (UNDP 2012). To put Sri Lanka's current level of development into perspective, it ranked highest among all South Asian countries on the 2014 Human Development Index (Jahan 2015; UNDP 2015), which provides a summary of health, education and economy by weighting life expectancy at birth, mean and expected years of schooling, and gross national income per capita (Jahan 2015).

Sri Lanka is dedicated to maintaining and preferably improving its health, education and economic standing (Sri Lanka & Maldives Country Management Unit & International Finance Corporation 2012) as it seeks to attain upper middle income country status. The country is well-placed to do so given the recent end to Sri Lanka's long-standing conflict (UNDP 2012). Presidential and

parliamentary elections held in 2015 paved the way for a new regime committed to good governance and ethnic reconciliation. The newly elected government has also shown its commitment to pursuing Sustainable Development Goals (Boerma et al. 2015).

Sri Lanka is a moderately sized nation in terms of its geographical size and population. Approximately 20 million people live in Sri Lanka, the majority of whom reside in rural areas (77%), with 18% residing in urban locations and 4% on estates (Department of Census and Statistics 2012). More recent demographic changes indicate an increasing trend towards urbanization, particularly in and around Western Province, where the country´s capital city is located. The term "estate" is used in Sri Lanka to refer to large, commercial plantations of tea or rubber where there is a resident labour force accommodated in rudimentary housing provided by plantation owners (Department of Census and Statistics 2012; Vijayakumar & Březinová 2012). But this is also changing, with increasing state intervention in health, education and housing in plantation regions in recent years.

Alcohol's burden on health and development in Sri Lanka

As is true for most countries, alcohol puts a considerable burden on the nation's health and economic sectors and is therefore a significant barrier to Sri Lanka's aspirations to further improvements in health, education and economy. While alcohol is consumed by both men and women in Sri Lanka, it is a highly gendered activity, with men doing most of the drinking. It is thus appropriate to describe alcohol consumption separately for each gender. The World Health Organization's (WHO) *Global status report on alcohol and health 2014* estimated that 27% of male Sri Lankans (15 years and over) drank alcohol in the previous 12 months in 2010 – 3.1% of whom were heavy episodic drinkers – equating to 26.7 L of pure alcohol per capita among male drinkers (World Health Organization 2014). This is compared to an estimated 9.9% of female Sri Lankans who drank alcohol in the previous 12 months in 2010 – 0.3% of whom were heavy episodic drinkers – equating to a relatively low 2.9 L of pure alcohol

per capita among female drinkers (World Health Organization 2014). Similar but greater differences were identified in men's and women's drinking in Sri Lanka in Katulanda and colleagues' (2014) study of Sri Lankan drinking patterns and prevalence. This study found an estimated 48% of Sri Lankan men and 1.2% of Sri Lankan women were current drinkers. There are also indications that frequent heavy and potentially harmful drinking is occurring among particular groups, such as estate workers (Bass 2004; Hettige 1988).

While alcohol-related health problems are experienced by both genders, men's elevated consumption means the direct consequences of alcohol to health are also disproportionately experienced by men. An estimated 5.6% of male Sri Lankans had an alcohol-use disorder, and 4.9% experienced alcohol dependence in 2010 (World Health Organization 2014). Among female Sri Lankans, in 2010 an estimated 0.6% had an alcohol-use disorder and 0.6% experienced alcohol dependence (World Health Organization 2014). Furthermore, a 2014 study of Sri Lankan drinking patterns and prevalence estimated 5.2% of Sri Lankan men and 0.02% of Sri Lankan women drank at a hazardous level (Katulanda et al. 2014). The percentage of liver cirrhosis is 1.5 times greater, and percentage of traffic accidents attributable to alcohol 25 times greater, for men than for women (World Health Organization 2014).

In addition to harming those who consume alcohol, drinking alcohol is also known to harm others. While the range and magnitude of alcohol's harmful effects on others are yet to be extensively quantified in Sri Lanka, detailed research on this topic has been carried out in other countries. Alcohol's harmful effects are known to have specific and widespread impacts for people who are known to drinkers, as well as for those unknown to drinkers (Laslett et al. 2010; Laslett et al. 2011; Callinan & Room 2014; Ramstedt et al. 2015). For example, approximately 30% of Australians report being negatively affected by the drinking of people close to them and 70% report being negatively affected by drinkers they don't know (Laslett et al. 2011). Given that there are at least some hazardous drinkers in Sri Lanka (Katulanda et al. 2014), one could expect some proportion of the Sri Lankan population to be experiencing harm from others' drinking.

Aims of this chapter

This chapter aims to provide the first detailed description and discussion of the prevalence and severity of harm experienced as a result of the drinking of strangers in Sri Lanka, from the perspective of individuals who report having experienced harm from others' drinking. This chapter also aims to identify some of the circumstances and behaviours associated with increased risk of harm from strangers' drinking in Sri Lanka.

Methods

Materials and sample

As part of an international study supported by the World Health Organization (WHO) and ThaiHealth, a nationally representative survey of alcohol's harms to others was completed in 21 districts of nine Sri Lankan provinces between September 2013 and February 2014 (Callinan et al. 2016). Households were selected for invitation to participate in the study based on a multistage, stratified, population probability sample. Within each selected household, one adult (aged 18 or over) was randomly selected by the first birthday method for invitation to participate in the survey (Hettige et al. 2015). The survey instrument used in the Sri Lankan study was based on Version 2 of the WHO/ThaiHealth Alcohol's Harm to Others Survey template, with slight modifications to the wording of questions to align with Sri Lankan cultural sensibilities. Social science graduates, who were trained and monitored in the field by the field coordinator and senior researchers, administered 2475 interview-style face-to-face surveys, yielding a survey response rate of 93%. For a more detailed description of the survey design and methods, please refer to *The harm to others from drinking, a WHO/ThaiHealth international collaborative research project: national report for Sri Lanka* (Hettige et al. 2015).

A description of the sample of 2475 respondents, and of the 1214 male and 1261 female respondents, is provided in Table 7.1. The majority (91%) of the sample were aged under 60, with 45% aged between 18 and 35 and 46%

between 36 and 59. The age distribution of male and female respondents was fairly similar, with a slightly greater proportion of men than women being over 35. Approximately three quarters (76%) of the sample reported being currently married, and the percentage of married respondents did not appear to differ between men and women. More than half of respondents lived in a rural location, 10% lived on a large estate, 10% lived in a suburb near a large city and 18% lived in a large city. There appeared to be little difference between the proportion of men and women living in various types of residential location. However, there was a slightly greater percentage of men (12%) than women (10%) living on large estates. Lastly, drinking differs greatly between genders, with a far greater percentage of women (97%) being abstainers compared to men (33%). Men also drank heavily far more frequently than women: 21% of men drank five or more standard drinks in one day at least weekly compared to less than 1% of women. The drastic differences between the drinking patterns of Sri Lankan men and women provided the rationale for presenting and analysing this chapter's results separately for men and women, as well as for the combined sample.

Measures

The outcome variables in this chapter are derived from data in the section of the Sri Lankan harm to others survey entitled "Alcohol-related harm in the community". Respondents' sociodemographic and drinking-pattern characteristics also derive from that study. This chapter has multiple outcome variables, each pertaining to harm from the drinking of strangers, who in this chapter include both drinkers unknown to respondents and those they "don't know very well". Respondents were asked, "in the last 12 months…": 1. "has someone who had been drinking harassed or bothered you on the street or in some other public place?"; 2. "has someone who had been drinking made you afraid when you encountered them on the street?"; 3. "have you been kept awake at night by drunken noise?"; 4. "have you felt unsafe in a public place because of someone's drinking?"; and 5. "would you say you have been bothered at all by the drinking of strangers or people you don't know very well?".

From the five specific harm items, two variables were created to quantify whether respondents had experienced any harm from strangers' drinking in the previous 12 months. For the first of these variables, respondents who answered "yes" to experiencing any of the five harm items were coded as "yes" to having experienced any harm, and respondents who answered "no" to all five harm items (or answered no to one or more items and missing for the remaining ones) were coded as "no" for having experienced any harm. Another version of this variable was constructed from respondents' answers to four of the harm items – excluding the item that asked whether respondents had been kept awake at night due to drunken noise because of the nature of this type of harm. Being kept awake by drunken noise tends to be experienced as a result of being in the general vicinity of noisy drinkers as opposed to encountering or being targeted by a drinker (Callinan & Room 2014). The negative effects of being kept awake at night may also be mild.

A survey question was drawn upon to quantify the overall severity of negative effects experienced due to strangers' drinking (SNS). Respondents who answered yes to experiencing any of the five specific harm items were asked to rate, on a scale from 1 (a little) to 10 (a lot), how much the drinking of strangers had negatively affected them in the previous 12 months. Respondents who did not experience any of the five stranger harm items were not asked to rate the negative effects they experienced as a result of strangers' drinking, and were thus given a value of zero for SNS. The final SNS variable ranged from 0 (no negative effects) to 10 (a lot of negative effects).

Respondents were asked a series of questions pertaining to their personal sociodemographic characteristics and alcohol consumption. Gender, age, marital status, location of residence and frequency of drinking 60 g of alcohol or more in one day were included as potential explanatory variables for the experience and severity of harm from strangers' drinking. Notably, respondents' residential location was classified into different categories from those used in the other chapters in this book. These are: rural; large estate (refers to large commercial plantations of tea, rubber and so forth, with housing

on the estate as defined in the introduction); suburb near a large city; and large city.

Analysis

Stata version 14 was used to conduct all data analysis. All counts presented are raw numbers. All other presented statistics are weighted according to the likelihood of being invited to participate in the survey based on the number of adults in the household, and to adjust for a slight underrepresentation of females (51%) and overrepresentation of males (49%) in the sample compared to the estimated distribution of gender in Sri Lanka. All effect estimates are accompanied by 95% confidence intervals (CI) in this chapter.

Descriptive statistics were used to present the sociodemographic characteristics, drinking pattern, and experience and severity of harm from strangers' drinking in the sample and in sociodemographic subgroups. Bivariate and multivariate logistic regression models were used to examine the association between the main explanatory variables (gender, age group, location of residence, marital status and respondents' own drinking) and likelihood of experiencing any harm from strangers' drinking in the last 12 months. Instances where >5% of the sample contained missing data for a variable are noted alongside the relevant results.

Results

Prevalence and severity of harm from strangers' drinking

The prevalence of different types of harms from strangers' drinking, as well as the prevalence of any type of harm from strangers' drinking and the overall severity of negative effects from strangers' drinking (SNS), are described in Table 7.1. Results are given for the entire sample of respondents and also, because of the vast difference in drinking between genders, separately for men and women. Approximately 30% of respondents reported experiencing any

harm from strangers' drinking in the previous 12 months. The mean severity of negative effects from strangers' drinking (SNS) appeared quite low on the scale of zero to ten in the sample (0.93). However, after excluding the 70% of respondents who did not experience any harm from strangers' drinking, the mean SNS was approximately triple (3.05) that among those who had experienced any harm from strangers' drinking. As shown in Figure 7.1, which depicts the distribution of SNS scores among those who had experienced any harm from strangers' drinking, strangers' drinking usually caused little harm – approximately 68% of those who had been harmed reported an SNS score between one and three. In some cases, however, strangers' drinking caused a lot of harm – 11% of those who had been harmed reported an SNS score above five.

Looking at the various types of harm from strangers' drinking, one type of harm appears to be more prevalent than others – approximately 17% of respondents were kept awake at night – while between 11% and 13% of respondents were harassed, bothered, made afraid or made to feel unsafe because of strangers' drinking.

Table 7.1 Sociodemographic characteristics, own drinking status and exposure to and severity of harm from strangers' drinking in the last 12 months

	Male	Female	Total
	N=1,214	N=1,261	N=2,475
Age group, % (CI) ^			
18-35 years	41.9 (38.8, 45.1)	48.1 (45.0, 51.2)	45.1 (42.9, 47.3)
36-59 years	46.7 (43.6, 49.9)	45.5 (42.5, 48.6)	46.1 (43.9, 48.3)
≥ 60 years	11.4 (9.7, 13.3)	6.4 (5.2, 7.9)	8.8 (7.8, 10.0)
Marital status, % (CI)	76.4 (73.5, 79.1)	74.8 (72.0, 77.4)	75.6 (73.6, 77.5)
Location of residence, % (CI)			
Rural	58.2 (55.1, 61.2)	62.5 (59.5, 65.5)	60.4 (58.3, 62.6)
Large estate	12.5 (10.6, 14.6)	8.2 (6.7, 10.1)	10.3 (9.1, 11.7)
Suburb	9.6 (7.7, 11.8)	12.0 (10.0, 14.4)	10.8 (9.4, 12.4)
Large city	19.8 (17.4, 22.4)	17.2 (15.0, 19.6)	18.5 (16.8, 20.2)
Respondents' frequency of drinking 60 g alcohol on a single day, % (CI)			
Abstainer[a]	32.7 (29.9, 35.6)	96.7 (95.5, 97.6)	65.6 (63.5, 67.7)
≤3 times/month[b]	46.6 (43.5, 49.7)	2.8 (2.0, 3.9)	24.1 (22.2, 26.0)
1-2 times/week	13.6 (11.5, 15.9)	0.3 (0.1, 1.0)	6.7 (5.7, 8.0)
≥3 times/week	7.2 (5.7, 9.0)	0.2 (0.0, 0.8)	3.6 (2.9, 4.5)
Harm from strangers' drinking			
Harassed or bothered in public by someone who had been drinking, % (CI)	11.8 (9.9, 14.1)	9.4 (7.8, 11.4)	10.6 (9.3, 12.0)
Made afraid by someone who had been drinking, % (CI)	8.9 (7.1, 10.9)	13.0 (11.1, 15.1)	11.0 (9.7, 12.4)
Kept awake at night by drunken noise, % (CI)	20.0 (17.6, 22.7)	13.6 (11.7, 15.9)	16.7 (15.1, 18.5)
Felt unsafe in public because of someone's drinking, % (CI)	9.8 (8.0, 11.9)	14.1 (12.1, 16.3)	12.0 (10.6, 13.5)
Bothered at all by drinking of strangers, % (CI)	15.8 (13.6, 18.4)	9.7 (8.0, 11.6)	12.6 (11.2, 14.2)
Experienced any of the above harms from strangers' drinking, % (CI)	32.3 (29.4, 35.4)	28.0 (25.3, 30.8)	30.1 (28.1, 32.1)
Severity of negative effects from strangers' drinking (SNS), mean, score range 0-10	1.00 (0.88, 1.11)	0.86 (0.75, 0.96)	0.93 (0.85, 1.00)

^N = 2,431, [a] Did not consume alcohol in the last 12 months.

[b] Includes those who did not consume 60g alcohol on a single day, and those drinking 60 g less than once a week.

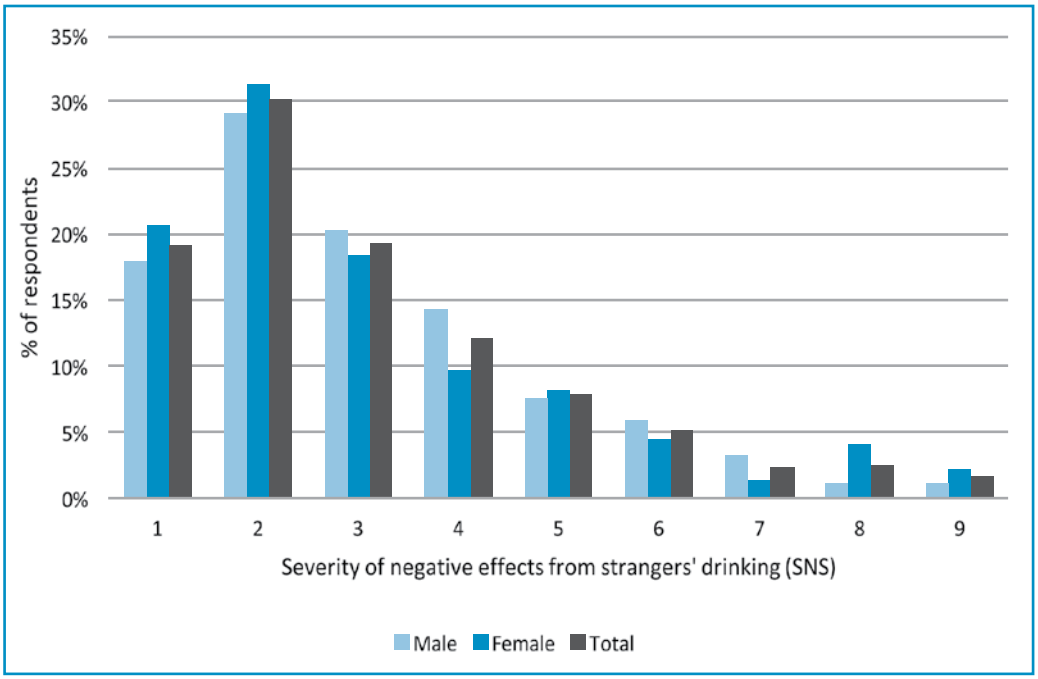

Figure 7.1 Severity of the negative effects from strangers' drinking among respondents who reported experiencing any harm from strangers' drinking^ in the last 12 months, and by gender

^ In the last 12 months, experienced any of five different types of harm from strangers' drinking: i) harassed or bothered in public, ii) made afraid, iii) kept awake at night, iv) felt unsafe in public, v) bothered by strangers' drinking. N=706.

Differences in prevalence and severity of harm from strangers' drinking according to gender, age and location of residence

Despite abstention being far less common (almost all women were abstainers) and risky drinking being vastly more common in men, the prevalence of experiencing any harm from strangers' drinking and SNS were similar for men and women. While a slightly greater percentage of men experienced any harm from strangers' drinking (32%) compared to women (28%), and there was a greater mean SNS for men (1.00) than women (0.86), the confidence intervals of the effect estimates for men and women overlapped, indicating a lack of statistically significant differences between genders. Looking at the distribution of SNS among those who were harmed (Figure 7.1), a greater percentage of

women than men reported a very high (greater than seven) or a very low SNS (less than three). So it appears the severity of harm from strangers' drinking is more consistently moderate among men and more likely to be either very severe or not very severe among women.

Looking at the prevalence of different types of harm from strangers' drinking may partially explain why SNS is distributed differently by gender. A greater percentage of women than men were made afraid (13% vs 9%) or felt unsafe (14% vs 10%) because of strangers' drinking (Table 7.1). On the other hand, a greater percentage of men than women were kept awake at night (20% vs 14%) or bothered in some way (16% vs 10%) by the drinking of strangers. There may also be some types of harm that were not asked about in the survey. Moreover, the survey did not collect detailed contextual data that would enable linking types of harm experienced by men and women to specific situations where they were exposed to such harm. While it is true that the labour force participation rate for women is much lower than for men, this does not mean that women are not economically and socially active outside their homes – such as on family farms and in other household economic activities, as well as in taking children to schools and other activities – and that they could therefore be exposed to harms from strangers' drinking even in cities. As local media often report, women are exposed to such situations on public transport (Wanigasuriya 2017).

At this point we have established that the prevalence and severity of harm from strangers' drinking differs only slightly for men and women, and this is despite alcohol consumption being a highly gendered activity almost exclusively engaged in by men. Tables 7.2, 7.3 and 7.4 explore how prevalence and severity of harm from strangers' drinking differs according to other commonly associated variables – age, marital status and location of residence. Table 7.2 shows how harm from strangers' drinking differs according to age. Prevalence and severity of harm from strangers' drinking does not appear to differ greatly between age groups. The effect estimates of Table 7.2 indicate that a slightly greater percentage of younger and middle-aged women may experience harm

from strangers' drinking (29% and 28%, respectively); they report more severe negative effects from strangers' drinking (SNS = 0.88 for both age groups) compared to older women (23% and SNS = 0.78). These trends, however, are not statistically significant. Age also appears decidedly unrelated to prevalence and severity of harm among men.

Table 7.2 Percentage of respondents who experienced harm, and severity of harm, from strangers' drinking in the last 12 months, according to gender and age group

		(N)	Any harm from strangers' drinking^, % (CI)	SNS~, mean (CI)
Male	≤35 years	(429)	35.5 (30.8, 40.6)	1.04 (0.86, 1.23)
	36-59 years	(578)	29.6 (25.6, 34.0)	0.98 (0.81, 1.15)
	≥60 years	(184)	34.6 (27.0, 43.1)	1.03 (0.74, 1.32)
Female	≤35 years	(510)	29.0 (25.0, 33.3)	0.88 (0.72, 1.03)
	36-59 years	(604)	28.2 (24.4, 32.3)	0.88 (0.72, 1.04)
	≥60 years	(126)	23.1 (14.8, 34.0)	0.78 (0.39, 1.17)

^ In the last 12 months, experienced any of five different types of harm from strangers' drinking: i) harassed or bothered in public, ii) made afraid, iii) kept awake at night, iv) felt unsafe in public, v) bothered by strangers' drinking.
~ Severity of negative effects from strangers' drinking.

Table 7.3 describes the prevalence and severity of harm from strangers' drinking according to marital status among younger and older men and women. The results do not indicate any important differences between married respondents (or those living with a partner) and unmarried respondents across the various age and gender groups.

Table 7.3 Percentage of respondents who experienced harm, and severity of harm, from strangers' drinking in the last 12 months, according to gender, age group and marital status

		(N)	Any harm from strangers' drinking*, % (CI)	SNS~, mean (CI)
Male	≤35 years & married^	(260)	33.1 (27.1, 39.6)	1.06 (0.80, 1.32)
	≤35 years & not married	(169)	38.9 (31.3, 47.0)	1.02 (0.78, 1.26)
	>35 years & married^	(685)	31.4 (27.6, 35.5)	1.02 (0.87, 1.18)
	>35 years & not married	(77)	22.5 (13.8, 34.4)	0.68 (0.27, 1.10)
Female	≤35 years & married^	(354)	26.9 (22.3, 32.1)	0.82 (0.63, 1.01)
	≤35 years & not married	(156)	33.2 (25.9, 41.4)	0.99 (0.72, 1.25)
	>35 years & married^	(578)	27.4 (23.6, 31.6)	0.84 (0.68, 1.00)
	>35 years & not married	(152)	28.3 (20.3, 37.8)	1.01 (0.63, 1.40)

* In the last 12 months, experienced any of five different types of harm from strangers' drinking: i) harassed or bothered in public, ii) made afraid, iii) kept awake at night, iv) felt unsafe in public, v) bothered by strangers' drinking.
~ Severity of negative effects from strangers' drinking.
^ Currently married or living with partner.

Table 7.4 describes the prevalence and severity of harm from strangers' drinking in various residential locations separately for men and women. There are some differences, but also similarities, between men and women in terms of harm from strangers' drinking according to residential location. Sri Lankan men who reside on a large estate report a considerably higher prevalence of harm from strangers' drinking (52%), and we see a greater mean SNS (1.54) for these men than for men who reside in a large city (30% and 1.13), in a suburb near a large city (34% and 0.81), or in a rural location (28% and 0.87). As discussed in the *Harm to others from drinking national report on Sri Lanka* (Hettige et al. 2015), alcohol prevalence, the self-reported presence of heavy drinkers in the vicinity, and self-reported harms to others from respondents' drinking are much greater on estates than in all other places of residence.

The effect of residing on a large estate was similar but not as great among Sri Lankan women. Women who reside on large estates reported a greater prevalence (37%) of harm from strangers' drinking than women in other rural locations (22%) but not women in a large city (50%). In fact, women who live

in a large city reported a similar prevalence and severity of harm from strangers' drinking to men who live on large estates (50% vs 52% and SNS = 1.73 vs 1.54). Interestingly, men who live in large cities reported less prevalence and severity of harm from strangers' drinking compared to women living in large cities. Given that a similar percentage of men and women reported living in large cities (Table 7.1), harm from strangers' drinking appears disproportionately experienced by women in urban locations. As noted earlier, a lower level of engagement in formal economic activities does not preclude women from being exposed to harm in public places.

To further explore how harm from strangers' drinking differs according to location of residence, Table 7.4 also describes the prevalence of different types of harms. Greater prevalence of all types of harm (except for "being harassed or bothered") was reported by men living in large estates compared to the prevalence of each harm among all men (Table 7.1). Similarly, greater prevalence of all types of harm was reported by women living in large cities compared to the prevalence of each harm among all women (Table 7.1). However, the harm by far the most prevalent for both men on large estates and women in large cities was "being kept awake by drunken noise". Given this, it is likely that drunken noise increases the prevalence of harm from strangers' drinking on these large estates for men, and in large cities for women. It is necessary to emphasize here that high-density housing, particularly in low-income settlements in congested cities like Colombo, Jaffna and Kandy, seems likely to be a significant factor contributing to a higher level of reporting of exposure to drunken noise.

Table 7.4 Percentage of respondents who experienced harm, and severity of harm, from strangers' drinking in the last 12 months, according to gender and residential location

		(N)	Harassed or bothered in public, % (CI)	Made afraid, % (CI)	Kept awake at night, % (CI)	Felt unsafe in public, % (CI)	Bothered at all, % (CI)	Any harm from strangers' drinking^, % (CI)	SNS~, mean (CI)
Male	Rural	(702)	13.7 (11.0,17.0)	7.8 (4.7, 10.6)	17.4 (14.3,21.0)	9.3 (7.0, 12.2)	16.4 (13.4,20.0)	28.4 (24.7,32.5)	0.87 (0.73,1.01)
	Large estate	(168)	10.4 (5.9, 17.6)	12.9 (8.2, 19.8)	37.8 (30.0, 46.3)	13.8 (9.0, 20.6)	21.9 (15.6, 29.8)	52.2 (43.8, 60.3)	1.54 (1.17, 1.91)
	Suburb	(106)	7.0 (3.4, 13.7)	6.5 (2.7, 15.0)	11.4 (6.6, 19.2)	9.1 (4.9, 16.2)	9.8 (5.1, 18.2)	34.3 (25.0, 45.0)	0.81 (0.51, 1.12)
	Large city	(238)	9.5 (6.2, 14.3)	10.4 (6.8, 15.6)	20.7 (15.6, 26.9)	9.0 (5.8, 13.8)	13.1 (9.1, 18.5)	30.3 (24.3, 37.0)	1.13 (0.84, 1.41)
Female	Rural	(825)	7.0 (5.3, 9.2)	10.3 (8.3, 12.9)	6.9 (5.2, 9.2)	12.4 (10.1, 15.1)	8.3 (6.5, 10.7)	22.4 (19.4, 25.7)	0.67 (0.56, 0.79)
	Large estate	(105)	9.6 (5.0, 17.6)	14.5 (8.7, 23.1)	27.1 (19.0, 37.1)	16.3 (9.9, 25.6)	18.6 (11.8, 28.1)	37.0 (27.6, 47.4)	0.79 (0.52, 1.06)
	Suburb	(119)	10.3 (5.9, 17.2)	11.7 (6.8, 19.3)	8.7 (4.7, 15.3)	5.8 (2.9, 11.6)	5.1 (2.4, 10.8)	20.0 (13.5, 28.6)	0.59 (0.30, 0.89)
	Large city	(212)	17.6 (12.6, 24.0)	22.6 (17.1, 29.4)	35.0 (28.4, 42.3)	25.0 (19.2, 31.9)	13.4 (9.1, 19.2)	49.6 (42.4, 56.9)	1.73 (1.40, 2.07)

^ In the last 12 months, experienced any of five different types of harm from strangers' drinking: i) harassed or bothered in public, ii) made afraid, iii) kept awake at night, iv) felt unsafe in public, v) bothered by strangers' drinking. ~ Severity of negative effects from strangers' drinking.

What circumstances and behaviours influence the risk of experiencing harm from strangers' drinking?

To investigate which circumstances and behaviours influence the risk of experiencing harm from strangers' drinking, Table 7.5 presents estimates from bivariate and multivariate logistic regression models predicting harm. Importantly, the outcome for the models is whether respondents experienced any of four types of harm from strangers' drinking – disregarding whether respondents were "kept awake at night due to drunken noise". As mentioned earlier in this chapter, "being kept awake at night by drunken noise" is a tangible harm that people tend to experience as a result of being in the general vicinity

of noisy drinkers, as opposed to encountering or being targeted by a drinker (Callinan & Room 2014). The negative effects of being kept awake at night may also be mild.

In line with the results in Tables 7.2, 7.3 and 7.4, bivariate regression models found living in certain types of location – namely, large estates and large cities – and frequently drinking 60 g of alcohol in one day (that is, risky drinking) were associated with increased risk of experiencing harm from strangers' drinking.

After adjusting for the effects of gender, age, marital status and respondents' frequency of risky drinking, living in a large estate and living in a large city were associated with increased risk of harm from strangers' drinking. This finding is in spite of excluding the item "being kept awake by drunken noise" – an important driver of the greater prevalence of harm observed by men and women in these locations. After adjusting for gender, age, marital status and location of residence, frequency of risky drinking was found to be positively associated with increased risk of harm from strangers' drinking. That is, risk of experiencing harm from strangers' drinking increases when the respondent's own frequency of risky drinking increases.

Table 7.5 Odds ratios (OR) of experiencing harm from strangers' drinking^ in the last 12 months according to gender, age, marital status, location of residence residence and respondent's own drinking in the total sample

	Bivariate models	Multivariate model
	OR (CI)	OR (CI)
Gender		
Female (vs male)	0.9 (0.7, 1.1)	1.1 (0.8, 1.4)
Age group (years)		
36-49 (vs 18-35)	0.9 (0.7, 1.1)	0.9 (0.7, 1.1)
≥60 (vs 18-35)	0.9 (0.6, 1.3)	0.8 (0.6, 1.2)
Marital status		
Not married (vs married/living with partner)	1.2 (0.9, 1.5)	1.2 (0.9, 1.5)
Location of residence		
Large estate (vs rural)	1.7*** (1.3, 2.4)	1.6** (1.2, 2.3)
Suburb (vs rural)	1.1 (0.8, 1.6)	1.1 (0.8, 1.6)
Large city (vs rural)	1.7*** (1.3, 2.2)	1.6*** (1.2, 2.1)
Respondent's frequency of drinking 60 g alcohol on a single day		
≤3 times/month (vs abstainer)	1.0 (0.8, 1.3)	1.0 (0.7, 1.4)
1-2 times/week (vs abstainer)	2.0*** (1.3, 2.9)	2.0** (1.3, 3.2)
≥3 times/week (vs abstainer)	2.6*** (1.6, 4.3)	2.7*** (1.5, 4.7)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

^ Experienced any of four different types of harm from strangers' drinking: i) harassed or bothered in public, ii) made afraid, iii) felt unsafe in public, iv) bothered by strangers' drinking.

N = 2,431.

As can be observed in Tables 7.1, 7.2, 7.3 and 7.4, prevalence of experiencing any harm from strangers' drinking appears positively associated with severity of harm from strangers' drinking. That is, as prevalence of harm from strangers' drinking increases, the mean SNS tends to increase. As such, location of residence and frequency of risky drinking (consumption of at least 60 g of alcohol in one day) may be associated with severity of harm from strangers' drinking in Sri Lanka.

Discussion

Overall prevalence and severity of harm from strangers' drinking in Sri Lanka

Approximately one in three Sri Lankan adults (30%) experience harm as a result of the drinking of people they don't know (strangers) each year. Most of those who experienced harm in this study experienced a mild severity of negative effects as a result of strangers' drinking: 89% of those harmed, or 27% of the total population, rated the severity of negative effects between 1 and 5 on a scale of 1 to 10. However, a small but important percentage of those harmed reported experiencing severe negative effects as a result of strangers' drinking: 11% of those harmed, or 3% of the total population, rated the severity of negative effects to be at least 6 on a scale of 1 to 10. Despite abstention from drinking alcohol being far less common, and risky drinking vastly more common, in men, the prevalence of any harm from strangers' drinking and the severity of the negative effects were similar for men and women (men vs women: prevalence = 32% vs 28%; mean severity of negative effects out of ten = 1.00 vs 0.86).

It should be made clear that the focus of this chapter is harm from strangers' drinking. Given that harm can be experienced as a result of the drinking of known people as well as strangers (Laslett et al. 2011; Laslett et al. 2010; Casswell et al. 2011) – with differing types of harm, prevalence and affected subpopulations for each (Laslett et al. 2011) – this chapter does not estimate the amount of harm from others' drinking in Sri Lanka. However, it does indicate the extent to which harm is experienced as a result of strangers' drinking, which tends to form a significant part of the overall harm from others' drinking (Callinan & Room 2014; Laslett et al. 2011; Laslett et al. 2010; Casswell et al. 2011).

The estimated prevalence of harm from strangers' drinking is lower in Sri Lanka than in other countries such as Australia (70%) (Laslett et al. 2011) and New Zealand (71%) (Casswell et al. 2011). One would expect that populations that consume more alcohol per capita or have a higher percentage of people

who drink would also have a higher prevalence of alcohol-related harm (Rehm et al. 2003) and perhaps also harm from strangers' drinking. If we also consider that drinking alcohol is relatively uncommon for half of the Sri Lankan population (women) compared to the approximately 80% of women in Australia and 74% of women in New Zealand who drink alcohol (World Health Organization 2014), harm from strangers' drinking appears relatively widespread in Sri Lanka.

There are also other factors, in addition to the amount of alcohol consumed, that can influence the amount of harm experienced as a result of strangers' drinking in a population. One only needs to encounter or be in the vicinity of strangers (Callinan & Room 2014) who have been drinking to be able to experience harm from strangers' drinking. Therefore, the amount of harm from strangers' drinking within a population is likely to be related to proximity to others and amount of interaction between strangers. Populations characterized by high-density living arrangements – measured by the number of resident people per unit of area population density -- might also have high rates of exposure to strangers and, therefore, greater opportunity to experience harm from strangers' drinking. Looking only at this study's results, the majority of respondents appear to reside in rural locations, which generally tend to have a lower population density than urban and estate areas (Cromartie & Bucholtz 2008). However, given that Sri Lanka is among the most densely populated countries in the world (Department of Census and Statistics 2001), the average Sri Lankan is still likely to have a relatively high exposure to strangers, thus increasing the likelihood of experiencing harm from strangers' drinking. This relationship is stronger in large cities and plantation communities, where overcrowding is more common, than in rural areas.

There are of course numerous other cultural factors that could influence the amount of harm from strangers' drinking in the Sri Lankan context: for instance, cultural norms related to public drinking and intoxication. In Sri Lanka, a combination of common religious beliefs that encourage avoidance of alcohol (approximately 77% of the Sri Lankan population are Buddhist

[Department of Census and Statistics 2001]) and government policies (for example, licences to sell and consume alcohol are not permitted to premises within 500 m of educational institutions and places of religious worship, or retail sales premises within 100 m of educational institutions and places of religious worship) (Hettige and Paranagama 2005) may discourage alcohol consumption and public intoxication in some public areas. Alternatively, drinking has become increasingly common in Sri Lanka (Hettige & Paranagama 2005), which may have contributed to a partial relaxation of intolerance towards public intoxication.

Prevalence of harm provides an overview of the breadth of harm from strangers' drinking across the population, and while it is likely to be correlated with the overall impact of harm from strangers' drinking, it may not be a perfect reflection. The negative impact of strangers' drinking may be more accurately captured by respondents' mean rating of the severity of the negative effects of strangers' drinking, which may account for the frequency and intensity of various types of harm experienced as a result of strangers' drinking (Callinan 2014; Department of Communities 2015). Cross-country comparisons of severity of harm may be difficult, however, due to potential cultural differences in the perception of harm (Callinan 2014).

Harm from strangers' drinking in Sri Lanka: influence of gender, respondent's own drinking and residential location

Given the large gender differences in drinking in Sri Lanka, it was interesting to find that the prevalence and mean severity of harm of strangers' drinking did not greatly differ between men and women. In numerous countries women are more likely to be harmed by others' drinking, despite traditionally drinking less than men. For example, about the same proportion of Australian women (73%) report being harmed by another's drinking as Australian men (73%) (Laslett et al. 2011), despite there being a greater proportion of female (20%) than male (12%) abstainers in Australia (World Health Organization 2014); and similar estimations exist for New Zealand (Casswell et al. 2011; World Health Organization 2014).

In relation to this, male respondents may have a greater exposure to strangers who have been drinking due to the gender disproportionality of the Sri Lankan workforce. According to the 2012 Sri Lankan *Census of population and housing* (Department of Census and Statistics 2012), 70% of the employed population in Sri Lanka are men, while a greater proportion of those participating in unpaid family work are female. However, unpaid family work is not necessarily confined to the domestic sphere, as much of this work is performed outside the household, as is the case with family farms, small family businesses, child care and so forth. Nevertheless, if women spend more of their time than men engaged in domestic activities within the household they may be less exposed to harms from strangers, although more exposed to harm from the drinkers in their own families and homes (Laslett et al. 2011; Huhtanen & Tigerstedt 2012).

Despite Sri Lankan women perhaps having less exposure to strangers and other drinkers than men, gender was not found to be associated with risk of harm from strangers' drinking after controlling for respondents' demographics and drinking, and there may be other important predictors of harm from strangers' drinking in Sri Lanka that were not controlled for in the multivariate model. What is important to recognize here is that social, economic and cultural contexts cannot always be disaggregated into discrete variables, as they tend to interact with each other in complex ways to produce particular effects. For instance, on the estates, low education, poverty, lack of leisure activities, higher levels of alcohol abuse, poor housing and overcrowding provide a conducive environment for exposure to harms from strangers' drinking.

Greater frequency of drinking 60 g or more of pure alcohol in a day was associated with increased risk of being harmed by the drinking of strangers. Compared to those who live in rural or suburban locations, Sri Lankan adults who live in urban locations (large cities) and on large estates were at greater risk of being harmed by strangers' drinking. Gender, age and marital status were not associated with risk of harm from strangers' drinking.

That people who drink more heavily are more likely to experience harm from strangers' drinking may be indicative of the type of social worlds of heavier drinkers. An Australian study by Callinan and Room found that not only are heavier drinkers more likely to report experiencing harm from other drinkers but people who have used drugs are also more likely to report experiencing harm from other drug users (Callinan & Room 2014). These findings, as well as those in this chapter, may be a reflection of the number of potentially harmful alcohol-drinking strangers present in heavier drinker's circles. Assuming that heavier drinkers in Sri Lanka more regularly attend public places where alcohol is served (such as bars and pubs) than lighter drinkers and abstainers, heavier drinkers may have a greater chance of encountering and experiencing harm from a stranger who has been drinking.

There are numerous explanations for why those who reside in large cities and on estates are at elevated risk of experiencing harm from strangers' drinking. It is intuitive that heavier drinking is more likely in large cities and on estates – and the latter is confirmed, with frequent heavy and potentially harmful drinking noted among estate workers (Bass 2004; Hettige 1988). However, residing on an estate was associated with increased risk of harm from strangers' drinking even after adjusting for respondents' drinking.

A likely explanation is that these findings reflect the population density of urban and estate residential locations. Urban locations tend to be more densely populated than rural locations (Cromartie & Bucholtz 2008), probably leading to increased exposure of residents to strangers, thereby increasing the likelihood of experiencing harm from strangers. Greater anonymity due to high population density in urban centres may also contribute to greater likelihood of being harmed by someone you don't know. The population density of Sri Lankan estate communities is also much higher than for other rural areas.

Some studies also note that boredom may be widespread in tea plantation estates due to lack of entertainment in these locations and poor access to cities (Hettige & Paranagama 2005; Ariyawardana et al. 2007).

These factors may contribute to feelings of unrest, potentially leading to tension or conflict within estate populations. As noted earlier, heavier and more frequent drinking is more prevalent on estates.

Limitations

Some limitations related to the design of the study and measures used in the analysis may have implications for the findings in this chapter. Firstly, there were some types of harm from strangers' drinking that were not explicitly asked about, for example, "have you been involved in a traffic accident because of a stranger's drinking?". Consequently, the prevalence of harm from strangers' drinking could be underestimated. Secondly, some predictors for other types of harms from strangers' drinking were not asked about. However, by asking if respondents had been "bothered at all" by strangers' drinking, these drawbacks were partly remedied, allowing, for example, respondents to include possible factors like "being involved in a traffic accident", even if not explicitly mentioned. Furthermore, respondents' overall rating of harm from strangers' drinking allowed weight to be given to types of harm that were not specified.

Lastly, in comparison to the WHO's estimates for 2011 (World Health Organization 2014), this study sample might slightly underrepresent female drinkers and slightly overrepresent male drinkers in Sri Lanka. However, this chapter's estimates are similar to those reported by another study of alcohol consumption in Sri Lanka, which reported a 30% and 98% abstention rate for Sri Lankan men and women, respectively (Katulanda et al. 2014). It would seem therefore that the risk of biased estimates due to non-representative sampling is small.

Conclusions and implications

A considerable proportion of the Sri Lankan population experiences harm as a result of the drinking of strangers, or those they do not know personally, and a smaller but still important proportion experience severe negative effects as a result of those harms. Harm from strangers' drinking is one

of two large pieces of the "alcohol's harms to others" puzzle (the other piece being harm from known people's drinking). For both pieces, the study indicates that the harmful impacts of alcohol within Sri Lanka are profound.

It is important to recognize that harm from strangers' drinking does not randomly vary in prevalence, severity or type across different groups defined by such factors as age, gender, residence and drinking pattern. Future research is needed to fully explore how one's own drinking and location of residence influence risk of harm from strangers' drinking. It should also explore other factors not considered in this chapter. Lastly, the authors of this chapter anticipate future research into the extent of harm attributable to known drinkers in Sri Lanka. This chapter will complement such future research as it begins to map the full extent of alcohol's harm to others in Sri Lanka. Buddhism, the most common religious affiliation in the country, discourages drinking. In particular, the norm against the public display of drinking-related behaviour, and the high level of abstention in Sri Lankan women may possibly discourage an increase in drinking. The high rate of abstinence is also a significant factor. Nevertheless, the survey data point to a significant association between higher concentration of alcohol consumption – in estate communities and large cities – and harms from strangers' drinking. In these places of residence, harm to others from strangers may be more likely because such social conditions as population density, transitory social relationships and overcrowding are all in play.

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Chapter 8

Chapter 8

Alcohol misuse and its harms to others under conditions of anomie in India's transition towns

Vivek Benegal and Girish Rao

Introduction: A long history of temperance and sensitivity to alcohol's harm to others

Harms from alcohol can be disaggregated into harms to the drinker and harms to others around the drinker. The concerns regarding harm to the drinker's health that dominated twentieth-century Western discourse in the field – leading to alcohol control as a part of public health policy and inclusion of alcohol as a risk factor in the Global Burden of Disease (Parry, Patra & Rehm 2011) – are relatively recent additions to public health thinking in India (Garg et al. 2014). Historically, the discourse that guided development of alcohol controls in India, and much of South Asia, centered on the harms from the alcohol user to those around the drinker, particularly women and children. This was related to concerns about both violence in the family and the economic impact on the family of (predominantly male) drinkers.

This major theme has been at the core of a political agenda for prohibition, starting with the temperance crusades of the nineteenth century and amalgamating with the pro-independence self-reliance Swadeshi movement of Gandhi. These sentiments were echoed in the deliberations of

the Constituent Assembly, which led to the constitutional aspiration for total country-wide prohibition of spirituous liquors as a long-term goal of the Indian Union and Directive Principle of State Policy within the Constitution of India (Tekchand 1972; Constituent Assembly of India 1948). Temperance thought, imported directly into India from Britain in the nineteenth century, located the source of alcoholism in the drug itself – alcohol was inherently brutalizing and addicting, and caused moral deviance (Levine 1978). The independence movement further modified the popular view of the alcohol problem, portraying it as a peculiarly English vice and as actively used to repress the native and fill the colonial coffers (Hurst 1889; Hardiman 1985). The path to national purity thus required the radical remedy of total reduction of supply: national prohibition. The later disease model, which located the source of addiction in the individual body – asserting that only some people, for reasons yet unknown, became addicted to alcohol – seems to have had less traction historically in the Indian discourse on alcohol. Consequently, there has been relatively less curiosity about examining which factors lead to harmful patterns of drinking in individuals and groups or identifying the conditions that moderate unsafe behaviours consequent on alcohol use.

The temperance model thus continues to be the basic axiom shaping most of the political and social reasoning about alcohol controls in India. Despite numerous failed attempts at prohibition in some states – most often triggered by women's movements (Maheshwari 2004; Larsson 2006) highlighting harms to women and children from male alcohol users – this form of alcohol control continues to be the reflex choice of politicians and populace.

Alcohol use in India

Given this background, abstinence has been common in India, with 81.7% of men and 96.5% of women reporting no drinking in the previous year, according to the National Family Health Survey of 2015 (NFHS 2016). Yet drinking, where it occurs, is marked by patterns of hazard and harm at rates relatively higher than global averages. Studies from India have consistently

estimated the prevalence of hazardous and harmful use of alcohol (strongly influenced by prevailing sociocultural and economic determinants) at over 50% of all drinkers (Gururaj et al. 2011; Benegal, Chand & Obot 2009; D'Costa et al. 2007).

Harms to others are commonly encountered, and these dominate current public discourse on public well-being, women's safety, economic and social development, and law and order. A recent household study of the impact of alcohol use in five Indian states noted that approximately 83% of adult respondents, regardless of their own drinking status, reported at least one alcohol-related harm from a heavy drinker in their lives in the past year; that over 60% of the population had experienced one or more harms from strangers' drinking in the past year; and that adults' drinking was associated with physical and psychological abuse and neglect of children (Esser et al. 2016a; Esser et al. 2016b; Esser et al. 2016c).

Harmful use is associated with a wide range of problems: problems that affect drinkers themselves – for example, dependence, liver disease and some cancers – as well as a range of effects on non-drinkers, including women and children, colleagues and co-workers, strangers and society more generally. Harmful use of alcohol is proximally linked to a number of social determinants, including age, gender and availability of alcohol, as well as social disadvantage, exclusion, unemployment and lack of social support networks (Marmot & Wilkinson 2006; Galea, Nandl & Vlahov 2004; Room et al. 2002; Wilkinson & Marmot 2003). This chapter focuses on one of these factors, of particular relevance in a rapidly developing modern India: residential location.

Changing geographies of alcohol-related harm in India

It is generally accepted that the prevalence of alcohol use and harms from alcohol misuse in India is higher in rural areas than in urban areas. Previous studies have repeatedly documented this pattern. A household survey of alcohol use conducted in Karnataka state in 2013 highlighted these "strong rural–urban differences in prevalence of use" and noted that the

"prevalence of drinking appear[ed] significantly higher in rural areas compared to urban areas (61% vs. 39%) among adult males" (Benegal, Gururaj & Murthy 2003). More recent studies, however, indicate that this pattern may be changing. Household surveys in this same region have detected increased prevalence of alcohol use and its harmful consequences in Tier II and III cities (Girish et al. 2010).

Tier II and III cities are smaller than metropolises, having populations of one million and less than a million, respectively. In the past two decades, India has seen major social and economic changes. Partly due to massive rural to urban migration, and partly also due to the reclassification of population agglomerates, the rural to urban ratio is changing rapidly. This has led to the development of a large number of these Tier II and III cities. With economic growth and construction opportunities in the major cities at saturation levels, Tier II and III cities have been emerging as engines of economic growth over the past decade. It is claimed that India's Tier II and III cities account for more than 75% of India's aggregate GDP (Taneja 2016).

In this chapter, we divide the population into four geographically based groupings around the categories of rurality and urbanism. One of these is "rural", the traditional category related to farms and villages. The other three are various kinds of urban agglomeration: the older, larger metropolitan city, with rich and middle class areas, designated "urban metro"; the urban slum, primarily comprising poor and working-class families, within both the metropolitan and Tier II and III cities; and the Tier II and III cities, which are areas in transition that have swelled rapidly from rural or small towns and have large migrant populations attracted by industrial jobs, and many unattached men. The characteristics of the population in these four types of location are often different. These include differences in individual factors (age, gender ratios, education, occupation, marital status, health status) and in terms of social and economic conditions (social supports and informal social controls, indices of social well-being, loneliness and so on). A number of these factors are likely to influence alcohol consumption, changes in the demand for alcohol, and

alcohol-related harm. Our focus here is on the particular urban setting noted above, the Tier II and III cities, also referred to as transition towns in this chapter. Indian National Crime Records show annual rises in crime rates (2012–13) that are dramatically tilted towards the districts in this study dominated by transition towns – Dharwad (11.7%) and Udupi (8.0%) – compared to the other districts in the study – Kolar (2.9%); Bangalore (3.3%); and Bangalore Rural (1.8%) (National Crime Records Bureau 2013).

During the period 1992–2012, the per capita consumption of alcohol in India increased by 55%, the third highest increase in the world, after the Russian Federation and Estonia (OECD 2015). This in part reflects the drastically increased demand for alcoholic beverages in India's towns and small cities. This has not gone unnoticed, and the alcohol industry has begun strategically to target towns and small cities, which are estimated to be responsible for 70% of liquor sales in the country (Unnikrishnan 2009). The growth in alcohol sales in transition towns has recently been consistently higher than in Tier I, the large metropolitan cities. For example, in the financial year 2014–15, Tier II and III cities like Thane in Maharashtra state have raced ahead of megalopolises like Mumbai in the neighbouring state. The growth in sales of spirits respectively for Mumbai and Thane was 3.6% and 8.0%, and the growth in beer sales was 2.4% and 5.0%, respectively (Kulkarni 2015).

Economic development, alcohol consumption and anomie

Although free-market societies are very productive, they also subject people to irresistible pressures towards individualism and competition, tearing them away from close social ties and spiritual values. This has particular resonance in India, especially in the southern states such as Karnataka, where over the past two decades there has been a dramatic shift from a socialist to a free-market economy. According to some sociological theories, people adapt to such dislocations by finding ways to deal with the new stresses: most often through alcohol and drugs. Addictive behaviours are thus seen as common adaptive responses to societal dislocation caused by increasing consumerism,

individualism, competition and inequality (Alexander 2008). Anomie, a concept originally elaborated by the French sociologist Emile Durkheim, refers to a condition in individuals where the diminution of standards or values due to rapid social and economic change creates a state of "normlessness" leading to feelings of alienation and lack of purpose (Durkheim 1951). Robert Merton, in a slightly different interpretation, argued that "people in success-driven societies feel deprived and frustrated as a divide forms between idealistic ambitions and factual reality" (Merton 1968). The two theories differ as to the cause of alienation – the loss of regulation or loss of means. Both, however, concur that anomie can develop in success-driven societies, where an imbalance between societal expectations and realistic opportunities can cause people to feel highly strained and frustrated. While the concept of anomie was traditionally used to describe conditions in developed capitalist states like France and the USA, theorists suggest that the growth of neoliberalism has extended this problem to countries worldwide (Passas 2000) and may be particularly relevant in contemporary India. Anomie has been frequently linked to heavy alcohol use, and "alcoholism" has been referred to as a condition prevalent in anomic societies. Similarly, violent crime is seen as an adaption to society's increasing emphasis on success goals in people who do not have access to the means to achieve these goals. Violent crime is also thought to be common in anomic societies (Merton 1968).

Aims

The current chapter focuses on how different conditions in different places of habitation moderate harms from others' drinking by examining differences in harms between the geographical areas represented in our survey, as well as variations in other factors likely to drive such harm. It also explores how some of these factors might influence the risk of suffering harm due to others' drinking. A related aim is to examine how these factors moderate the likelihood of drinkers causing harm to others consequent on their own drinking.

Methods

Altogether, 3404 completed interviews with people aged 18 and over, conducted using face-to-face interviewing, were obtained between the months of November 2013 and March 2014. The sampling strategy was a stratified cluster-sample technique, based on a systematic listing of households. It used a random method to select the first household, and the nearest-door method for further sampling units until the requisite sample size within each cluster was achieved. Using a simple random-choice method, one person per household was invited to participate; the response rate was 97%. Survey data were entered onto the WHO Epi Info 3.5.1 program after checking for accuracy and completeness. Further analyses of the data were undertaken in SPSS v16.

The analysis was undertaken on the weighted sample. The sample was adjusted for the adult gender distribution for the country. Further, to reflect the likelihood of selection within the households, the inverse of the number of adults in the respondent's household was used for weighting. Further detail on the weighting methodology is available in Chapter 2.

Approval for this study was obtained from the WHO Ethical Review Committee for the master protocol, as well as from the Institutional Ethics Review Board of the National Institute of Mental Health and Neurosciences, Bengaluru.

The household survey used to collect the data analysed in this chapter was conducted in four districts (administrative units) in the southern state of Karnataka, corresponding to three regions of the state: South (Bengaluru and Kolar); North (Hubli-Dharwad); and coastal (Manipal–Udupi). The sites were stratified to provide a representation of the various areas in the state: urban metropolitan cities (Tier I cities), transition towns (Tier II and III cities), urban slums (peri-urban or inner underprivileged urban neighbourhoods drawn from Tiers I, II and III cities), and traditional rural areas.

The Version 1 questionnaire of the WHO/ThaiHealth protocol was used. The questionnaire was translated into Kannada, the language of the region, and also back-translated to check meanings using the World Health

Organization protocol for translation and back translation techniques (World Health Organization, n.d.).

Outcome measures

The main outcome variable focused on in this chapter was: "Experienced one or more specified harms from others' drinking". Since there were a large number of questions pertaining to harm which included general enquiries about harms experienced, and which covered harms from known persons and co-workers, harms to children under one's care, as well as harms from strangers, we constructed a binary measure of "any harm suffered due to another's drinking".

Any drinker who answered "Yes" to the question "Has your drinking resulted in or caused any harm to others (in the past year)?" was asked whether they had caused harms to others consequent on their own drinking. This item was used to derive a secondary outcome variable.

Predictor, or independent variables

The aim of this inquiry was to explore differences, if any, in alcohol-related harms to others in different types of place of residence (rural, urban metro, town and urban slums) and to explore the factors that might modulate such harm in the different areas. The predictor variables used to explore such risks (see Figure 8.1), were first used in bivariate analyses of the two outcome variables. Then the significant variables were used in multivariate logistic regression models to explore associations with the two conditions.

Figure 8.1: Predictor variables (relevant sections from the WHO/ThaiHealth questionnaire Version 1

A. Individual factors

1. Gender: male; female (A1)[a]
2. Age: in years (A2)
3. Education: in years (A3)
4. Occupation: unemployed, unskilled incl. housework; semiskilled, skilled, clerical, professional (A14)
5. Marital status: unmarried; married-cohabiting; divorced-separated-widowed (A7)
6. Health-related quality of life (B2–B6)

B. Environmental/social conditions

7. Location: urban metro (middle–high income); urban slum (low income areas from urban metro and Tier II and III cities); transition town (Tier II and III cities); rural (A6 modified for India)
8. Social support factors: number of people in the home (A10); whether staying with spouse: whether staying with children (A11)
9. Informal social controls: presence of elders at home (A11)
10. Personal well-being index (PWI) score: includes measures of satisfaction with 1. life as a whole, 2. standard of living, 3. health, 4. achievement in life, 5. personal relationships, 6. personal safety, 7. feeling part of one's community (community connectedness), 8. future security, and 9. one's spirituality or religion (B1)
11. Anomie item subscale: items 4 and 6 to 9 of the PWI score relate to the individual's belief or faith (or lack of) in the stability of social norms and ability to achieve one's goals and includes items on satisfaction with community connectedness (feeling part of your community), spirituality, safety and future security rated 0–50, with lower scores indicating greater distress (B1)
12. Perceived loneliness (A22)

C. Alcohol use and problems

13. Alcohol use patterns: respondents were coded as a) abstainers, infrequent light drinkers, frequent light drinkers, infrequent heavy drinkers or frequent heavy drinkers. This variable was collapsed for some analyses to b) abstainers vs. light and heavy drinkers (K1-K4)
14. Harms caused due to one's own drinking (K5)
15. Any harms suffered, computed from: brief assessment (C2 to C13); harms from known heavy drinkers: (D5a to D5k); harms to children (G3); work harms (H1 to H3); harms from strangers in the community (I1a to I1d and I2)
16. Perception of severity of harms from known users, to children, from co-workers and from strangers (D6, G7, H3, I2a)
17. Positive experience of alcohol as a whole (C1 reversed)
18. Help-seeking for alcohol harms (J)

[a] Figures in brackets refer to sections of the questionnaire and question numbers, e.g. (A1). For further detail on the exact items please see Rekve et al. (2016).

Statistical tests were run to illustrate the differences between different habitation areas, with an X^2 test for categorical variables, with post-hoc test using adjusted standardized residuals and ANOVA for continuous variables, using post-hoc Dunnett's T3 test for pairwise comparisons. In order to understand which of these factors contributed to the likelihood of 1) suffering harm due to another's drinking, and 2) causing harm due to one's own drinking, the same factors were applied first to run bivariate and then binomial multivariate logistic regressions for the two conditions: caused harm vs caused no harm; suffered harm vs no harm.

Results

The 3404 interviews included 1596 males, with an average age of 40.4 (SD=13.4), and 1808 females, with an average age of 37.6 (SD=12.9). The sample drawn from the Indian state of Karnataka was predominantly non-rural and included respondents from an urban metropolis (Bangalore city) and from transition towns and slums (drawn from the urban locales of Udupi, Hubli-Dharwad and Kolar) (see Table 8.1). The tables in this section provide information about how the areas under study differ by gender, as alcohol use in the Indian context is very highly gendered.

Given the previous literature from India, which largely indicates that alcohol consumption and alcohol-related problems predominate in rural areas, we examined firstly the prevalence of alcohol use, and the prevalence of reported harms due to others' use of alcohol, comparing respondents from rural and urban areas. Counter to previous data from the region, there were no significant differences between rural and urban respondents with respect to prevalence of drinking (vs abstaining), heavy drinking, suffering harms from others' drinking, or suffering harms from known drinkers. Rural respondents did, however, report higher perceived harms from strangers' drinking. Since this finding appeared to justify our initial assumption of a recent shift in consumption in urban areas and, presumptively, greater harms from drinking, we proceeded to explore possible differences in alcohol use and its

consequences within the different urban sites (urban metropolitan/Tier I city; Tier II and Tier III cities/transitional towns; urban working-class areas/slums within urban areas).

Table 8.1 Location types by gender and geography

	Urban metro (UM)		Urban slum (US)		Transition town (TT)		Rural (RUL)	
n (% of total sample)	791 (23.2)		752 (22.1)		973 (28.6)		888 (26.1)	
Male (n, % within place type)	280 (35.4)		310 (41.2)		471 (48.4)		535 (60.2)	
Female (n, % within place type)	511 (64.6)		442 (58.8)		502 (51.6)		353 (39.8)	
	Male (n = 1,596)				Female (n = 1,808)			
	URN	US	TT	RUL	URN	US	TT	RUL
N	280	310	471	535	511	442	502	353
Bangalore-metro (% of place type)	100.0	20.1	0	0	100.0	34.9	0	0
Kolar district (%)	0	33.0	29.7	32.0	0	16.8	38.2	33.1
Hubli-Dharwad district (%)	0	23.6	21.9	29.3	0	31.3	36.2	38.0
Udupi-Manipal district (%)	0	23.3	48.4	38.7	0	17.0	25.6	28.9

N = 3404.

We examined the differences between the different community types represented in our study population on a number of measures, pertaining to 1. demographic attributes; 2. social conditions that might moderate drinking patterns and harms from drinking (Table 8.2); and 3. patterns of alcohol use and harms due to others' use of alcohol (Table 8.3).

Table 8.2 Socioeconomic indicators by location type

	Male					Female				
	Urban metro	Urban slum	Transition town	Rural	Sig	Urban metro	Urban slum	Transition town	Rural	Sig
N	280	310	471	535		511	442	502	353	
General demographics										
Education, mean (years)	11.7↑	5.0↓	7.0	5.7↓	***	10.8↑	3.92↓	6.6	4.8↓	***
Employment status										
Unemployed, %	13.2	9.4↓	19.6	15.7	***	83.0↑	40.5	39.0	29.2↓	***
Unskilled/ semi-skilled, house-work %	7.8↓	70.8	42.8	61.2↑		3.7↓	51.4↑	47.4	57.8	
Skilled, %	11.0	3.2↓	9.4	10.1		3.5	2.0	2.4	5.9	
Clerical, %	43.4↑	11.7	11.3	6.3↓		6.7	5.0	4.6	2.8↓	
Professional, %	24.6	5.2↓	17.0	6.7↓		3.1	1.1↓	6.6	4.2	
Monthly income, mean (Rupees)	35827↑	7797↓	19101	73736↓	***	19627↑	5959↓	21867	7388↓	***
Health & well-being										
Loneliness, mean	1.3↓	1.7↓	2.1	2.0↓	***	1.3↓	1.7	1.9	1.7	***
PWI score, mean	74.7↑	66.3↑	65.6	64.6	***	72.1↑	60.3	66.2	63.0	***
PWI-anomie subscale, mean	41.95↑	38.5↑	37.0	37.0	***	40.39↑	34.8↓	37.4	35.4↓	***
Household composition										
Living alone (<2), %	3.5↓	6.5	10.4	7.7%	**	6.9	8.3%	9.1%	7.1%	
Living with spouse, %	94.7↑	85.1	75.2	83.5	***	90.0↑	77.0↓	79.4	82.2	***
Living with elders, %	32.4↓	39.3	47.0	43.0	**	28.5↓	47.8	47.9	48.8	***
Living with children, %	89.1↑	80.1↑	67.7	71.7↑	***	91.9↑	80.5	75.5	79.3	***

↓ significantly lower than town; ↑ significantly higher than town; Chi square p-values: p<.001***; p<.01**; p<.05*.

N = 3,404.

Men in towns and hazardous drinking

Men living in towns, compared to those from the other sites, were less likely to be lifetime abstainers; more likely to have hazardous patterns of drinking (frequent heavy drinking); more likely to endorse positive experiences with alcohol; more likely to report having suffered harms from others' use of alcohol; more likely to have suffered harms from strangers; and more likely to have suffered harm from known drinkers. They were also more likely (although not significantly) to report having caused harm to others due to their own drinking (except for rural drinkers) (see Table 8.3).

Men in towns, social support and anomie

Men living in transition towns, as compared to other areas, were significantly more likely to report greater loneliness; more likely to be living alone; less likely to be living with a spouse; less likely to be living with children; more likely to have a higher education level than those in slums and rural areas but less likely to have a higher education level than men in the urban metro area; more likely to be unemployed than those in other areas; and more likely to be high-earning professionals (like doctors and engineers) than respondents in rural areas and urban slums, but not those in urban metro areas (possibly indicative of a greater poor–rich divide). They were also more likely to report subjectively poorer personal well-being (PWI) compared to those in urban metro areas and urban slums; and to score lower on the anomie subscale, including community connectedness, sense of future security, personal safety and spirituality (Table 8.2).

Women in towns and socioeconomic and personal well-being

Women living in transition towns were more educated than their rural and slum counterparts; were more likely to be in professional employment; were less likely to be unemployed than women in urban metro and urban slum areas; earned more than women living in slum and rural areas; were less likely to be living with children; were less likely to be living with spouses than those

in urban metro and rural areas, but not urban slums; reported higher PWI scores (doing better on indices of anomie); while simultaneously reporting greater loneliness (Table 8.2).

Women drinkers in towns and hazardous drinking

Women from the transition towns were more likely to be frequent heavy drinkers (and had a higher per capita measure of number of drinks per year; results not shown) than women from urban metro areas (Table 8.3).

Table 8.3 Drinking and harm from drinking in each location type

	Male					Female				
	Urban metro	Urban slum	Transition town	Rural	p-value	Urban metro	Urban slum	Transition town	Rural	p-value
N	280	310	471	535		703	442	502	353	
Respondent's drinking pattern										
Abstainer, %	59.1↑	52.1	46.5	54.4	***	99.1↑	86.6	87.3	86.4	***
Infrequent - light, %	10.3	6.1	9.4	8.5		0.6↓	4.9↑	3.6	1.7	
Frequent - light, %	19.4	32.0↑	21.1	22.8		0.1↓	5.8	6.0	9.3↑	
Infreq - heavy, %	3.7↑	1.0	1.2	0.9		0.1	0	0.3	0	
Freq - heavy, %	7.6↓	8.7↓	21.8	13.5		0.0↓	2.8	2.7	2.5	
Harms from others' drinking										
Suffered any harm, %	28.9↓	33.0	42.2	40.6	***	24.4	44.8↑	23.7	33.0	***
Harms from strangers, %	13.4↓	17.9↓	32.2	30.9	***	2.76↓	13.5↑	8.4	12.6↑	***
Harms from known drinkers, %	28.1↓	31.4	40.4	38.6	**	23.9	42.9↑	22.8	31.4	***
Negative effect score - known drinkers (1-10)	3.2↓	5.1	5.9	3.4↓	***	2.9↓	5.7↓	6.5	6.6	***
Negative effect score - drunk strangers (1-10)	2.0↓	4.8↓	5.5	3.4↓	***	1.6↓	5.4	5.7	5.4	***
Harm to others due to own drinking, %	16.7	19.7	19.9	22.8		0.1↓	6.6%↑	3.8	6.4	***
Positive experience with alcohol, mean	2.2↓	2.1↓	2.7	2.3↓	***	2.3↑	1.9↑	1.4	1.5	***

↓ significantly lower than town; ↑ significantly higher than town; p<.001***; p<.01**; p<.05*.

Town women and negative perception of harms from others

While a smaller proportion of women from the transition towns reported actual incidents of harms from others' drinking, harms from drinkers they knew and harms from drinking strangers (except in comparison to urban metro women), women from towns reported more negative subjective perceptions of negative effects of the drinking of others (Table 8.3).

Table 8.4 Factors associated with likelihood of suffering harm due to others' drinking among male and female respondents

	Male n = 1,596				Female n = 1,808			
	Bivariate			Multivariate	Bivariate			Multivariate
	Not harmed	Harmed	Test	OR (95% CI)	Not harmed	Harmed	Test	OR (95% CI)
n	1186	410			1649	159		
Education in years, mean	7.3	6.5	**	ns	7.4	5.3	***	0.94 (0.92-0.97)
Living with spouse (vs not living with spouse), %	81.9	85.6	ns	ne	80.7	86.0	**	ns
Not living with elders (vs living with elders), %	53.7	66.3	***	ne	80.7	86.0	**	ns
Heavy drinkers (vs abstainers/ light), %	7.5	28.5	***	ns	ne	5.0%		ns
Employed/other (vs unemployed), %	79.1	86.5	***	ns	31.8	39.1	***	1.5 (1.15-1.97)
PWI anomie items score, mean	30.9	27.8	***	0.91 (0.89-0.93)	29.8	25.8	***	0.90 (0.88-0.92)
Loneliness, mean	1.6	1.8	***	1.24 (1.10-1.39)	1.10	1.13	**	1.17 (1.04-1.31)
Heavy drinker in life (vs none), %	30.5	75.5	***	5.85 (4.51-7.58)	31.3	81.2	***	10.33 (7.89-13.51)

Variables not significantly associated with the outcome in the bivariate analyses were not entered (ne) into the multivariate models. OR Odds Ratio. CI Confidence Interval.

Bivariate Chi-square and T-test comparisons, and multivariate odds ratios (OR) presented, p<.001***; p<.01**; p<.05*, ns: non-significant.

We compared the factors examined in Tables 8.2 and 8.3 across the two in bivariate (Chi-square/Fischer's exact test and T-test analyses) and then fitted multivariate models (using binomial logistic regression – Tables 8.4 to 8.6). Table 8.4 reports on this analysis for the whole sample for the outcome "suffered harm from others' drinking", while Table 8.5 presents parallel analyses, limiting the sample for analysis to those living in the Tier II and III cities. Table 8.6 reports on the factors associated with increasing risk for "having caused harm to others from one's own drinking" in the subset of drinkers.

Suffering harms from others' drinking predicted by heavy alcohol use and socioeconomic strain

The multivariate model predicted 77% of the membership of the condition "suffered harm from others' drinking" in males and 78% in females. The proportion of the variance explained (Nagelkerke R^2) with respect to males was 0.37 and for females was 0.39. For men (Table 8.4), the following factors were significantly associated with suffering harm from others' drinking: proximity to a known heavy drinker (OR=5.85); heavy drinking of the respondent (OR=2.61); not living with elders (OR=1.54); lower personal well-being indices, especially items likely to be indicative of greater anomie (OR=.91); and greater perceived loneliness (OR=1.24). In women (Table 8.4), an overlapping but different set of factors was significantly associated with suffering harm from others' drinking: proximity to a known heavy drinker (OR=10.33); living with their spouse (OR=1.59); being employed (OR=1.5); lower educational attainment (OR=.94); greater perceived loneliness (OR=1.17); and lower personal well-being indices, especially items likely to be indicative of greater anomie (OR=.90).

Table 8.5 Factors associated with likelihood of suffering harm due to others' drinking among male and female respondents in Tier II and & III cities

	Male N = 471				Female N = 503			
	Bivariate			Multivariate	Bivariate			Multivariate
	Not harmed	Harmed	Test	OR (95% CI)	Not harmed	Harmed	Test	OR (95% CI)
n	319	152			461	42		
Education in years, mean	7.3	6.5	**	ns	7.4	5.3	***	0.94 (0.92-0.97)
Living with spouse (vs not living with spouse), %	81.9	85.6	ns	ne	80.7	86.0	**	ns
Not living with elders (vs living with elders), %	53.7	66.3	***	5.71 (3.00-10.85)	2.6	5.0%		ns
Heavy drinkers (vs abstainers/ light), %	7.5	28.5	***	ns	ne	39.1	***	1.50
Employed/other (vs unemployed), %	79.1	86.5	***	ns	31.8	39.1	***	1.5 (1.15-1.97)
PWI anomie items score, mean	30.9	27.8	***	0.91 (0.89-0.93)	29.8	25.8	***	0.90 (0.88-0.92)
Loneliness, mean	1.6	1.8	***	1.24 (1.10-1.39)	1.10	1.13	**	1.17 (1.04-1.31)
Heavy drinker in life (vs none), %	30.5	75.5	***	5.85 (4.51-7.58)	31.3	81.2	***	10.33 (7.89-13.51)

Variables not significantly associated with the outcome in the bivariate analyses were not entered (ne) into the multivariate models. OR Odds Ratio. CI Confidence Interval.

Bivariate Chi-square and T-test comparisons, and multivariate odds ratios (OR) presented, p<.001***; p<.01**; p<.05*, ns: non-significant.

Table 8.5 repeats the analyses of Table 8.4, but now looking only within the part of the sample living in transition towns. The multivariate model prediction of whether the respondent suffered harm increased to 80% in males and 82% in females and the estimated proportion of the variance explained (Nagelkerke R^2) with respect to males was 0.49 and for females it was 0.40 (Table 8.5). The factors that were significantly associated with suffering harm from others' drinking for men in towns were almost the same as those for men across all sites: proximity to a known heavy drinker (OR=7.53); heavy drinking of the respondent (OR=5.71); lack of social supports from elders (OR=2.96); lower personal well-being indices (lower scores indicate greater anomie)

(OR=.89); being employed (OR=1.86) (indicating had funds to buy alcohol); and greater perceived loneliness (OR=1.41). Among women, only proximity to a known heavy drinker (OR=11.92), lower personal well-being indices (OR=.87), and lower educational attainment (OR=.94) were significantly associated with risk of being harmed.

Likelihood of causing harms consequent on one's own drinking

Of male drinkers, 42.7%, and of female drinkers, 40.9%, admitted that they had caused harm to others as a consequence of their own drinking. These percentages are likely to be underestimated due to social desirability bias. Nevertheless, we sought to examine the factors that might influence the risk of harming others. We used the factors PWI-Anomie item score, living with elders, living with spouse, positive attitude to alcohol, personal drinking patterns, proximity to known heavy drinker, age, education, gender, occupation and marital status in a logistic regression model with the outcome: causing harm to others due to one's own drinking. Due to the small number of female drinkers, we did not disaggregate for gender, unlike the previous analyses. The variables remaining in the equation are illustrated in Table 8.6. The model correctly predicted 66.9% of the binary condition: whether or not the respondent's own drinking caused harm.

The likelihood of causing harm to others due to one's own drinking was associated with heavier drinking patterns, a more positive (presumably permissive) attitude to drinking, lack of (or loss of) social restrictions (or informal social sanctions against drinking and other harmful behaviours as indicated by living with elders), and reduced measures of well-being (likely measures of higher anomie/alienation), as well as socialising with (knowing) other heavy drinkers.

Table 8.6 Factors associated with likelihood of causing harm to others due to one's own drinking

	Bivariate			Multivariate	
	Not harmed	Harmed	Fisher's exact test	OR	(95% CI)
Heavy drinker (vs light), %	39.4	60.6	***	2.27	(1.66, 3.09)
Not living with elders (vs living with elders), %	44.0	72.4	***	1.56	(1.13, 2.16)
PWI anomie score, mean	37.5	34.6	***	0.94	(0.92, 0.96)
Positive experience with alcohol, mean	1.9	3.2	***	1.3	(1.20, 1.50)
Heavy drinker in life (vs none), %	48.7	51.3	***	1.62	(1.14, 2.31)

Sample n = 934. OR Odds Ratio. CI Confidence Interval.

Bivariate Fisher's exact test and multivariate odds ratios (OR) presented, p<.001***.

Discussion

In this study, harms from another's use of alcohol is higher in Tier II and III towns than in any of the other three types of place of residence (rural areas, urban slums and urban metropolitan areas). This is especially true for men in towns, who reported significantly higher rates of drinking as well as harm from others' drinking. This included higher rates of harm from known drinkers as well as from strangers. Men in towns also rated the subjective impact of harms from alcohol use in known persons, co-workers and strangers significantly higher than men in other areas.

Women in Tier II and III towns, on the other hand, reported fewer incidents of harm than women in slums and rural areas, although more than in urban metro areas. But women's (and men's) subjective rating of the negative impact of harms from alcohol use in known persons, co-workers and strangers was significantly higher than women (and men's) in urban areas. Women in Tier II and III towns also had, overall, a higher negative perception of alcohol experiences than other women. This may point to greater apprehension about or sensitivity to alcohol-related harms, and a reaction to the greater occurrence of harms from intoxicated persons (mostly men) in their milieu. The likelihood of suffering harm from others' drinking was predictably strongly determined by one's proximity to a heavy drinker. Having a known heavy drinker increased the risk of harm from others' drinking 9.7 times in the towns. Also, one's own

drinking was a strong predictor of risk to oneself in these towns: heavy male drinkers had 5.7 times the risk of suffering harm from others' drinking than abstainers.

The higher occurrence of alcohol harms in towns is strongly (though only partly) determined by the higher prevalence of drinking and of frequent heavy drinking among men and women in these areas. Men in towns had the lowest rates of life-time abstention and the highest rates of hazardous drinking, typified by frequent heavy drinking. Male drinkers in towns (53.5% of the male population) were also likely to rate their experience of alcohol positively, compared to those in other areas, which may have been a promoter of their greater consumption. Heavy drinking by women was also higher among women in towns than in urban metro areas. Town women also reported less harm but more negative experiences of drinking than town men, and more so than women from urban metro areas.

In this household survey, conducted in 2013–14, 47.5% of men and 9.7% of women across all sites were drinkers. The prevalence rates are far higher than rates reported a decade earlier in the same population (Benegal, Gururaj & Murthy 2003). One important determinant of a rise in the prevalence of alcohol use in the community is of course easy availability. Official statistics of sales of beverage alcohol in the state of Karnataka have shown a massive rise over ten years. This rise, however, has been uneven. As noted earlier, across India, towns in transition have seen recent, rapid increases in sales, indicating rising demand. To understand our findings, we looked at the Karnataka state excise revenues for the different areas covered by our survey (Karnataka Government 2016). The Excise Department in Karnataka regulates the production, licensing, marketing, taxation and sales of all alcoholic beverages in the state. Over a six-year period, from 2008–09 to 2014–15, sales revenues climbed in Dharwad (town) by 418%, in Udupi/Manipal (town) by 243%, in rural Bangalore by 162%, in Kolar (with a large urban slum) by 73% and in urban Bangalore (slum and middle income areas) by 61% (Figure 8.2).

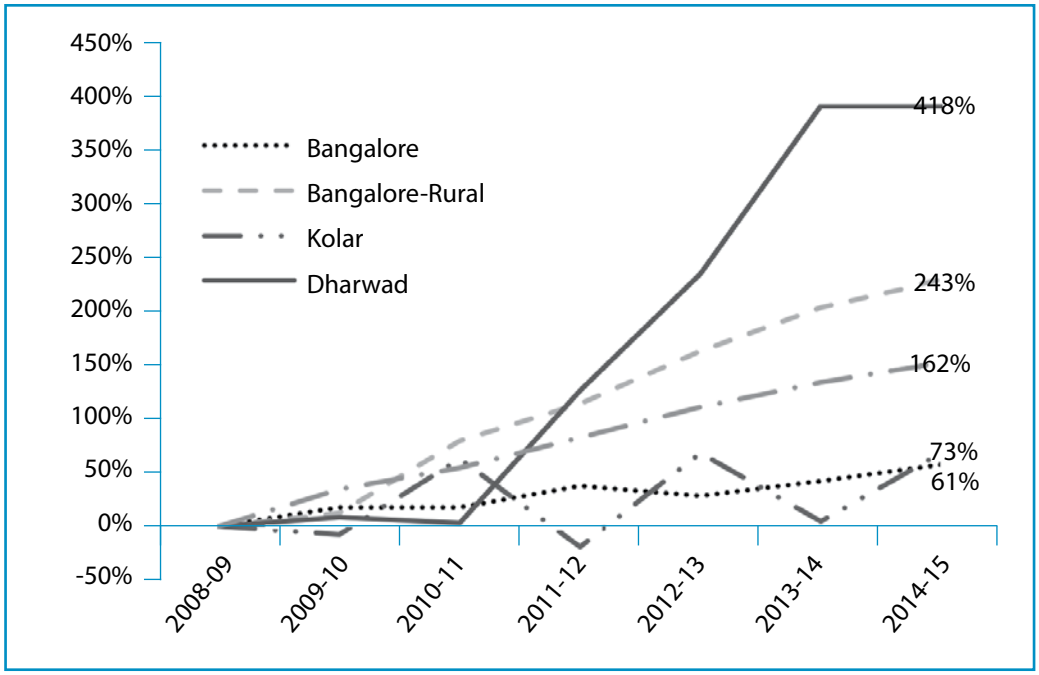

Figure 8.2 Increase in alcohol sales across different areas in Karnataka

Source: created from data from Excise Department, Karnataka (http://stateexcise.kar.nic.in/districtwise_revenue.asp).

Social and economic factors are powerful determinants of harmful alcohol use. Rapid social changes are known to affect the context of drinking and the risks of alcohol-related problems in different populations (Room et al. 2002; McKee & Leon 2005; Galea, Nandl & Vlahov 2004; Subramanian et al. 2005). In this survey, people in towns, compared to other locations, and especially males, reported significantly greater loneliness, with higher rates of living alone, thus lacking the emotional cushion of family support and the restraints of family. Not living with elders predicted both vulnerability to harm and the likelihood of causing harm to others. The proximity of elders and other family members in the Indian context would seem to provide informal controls against drinking and restraints against other high-risk behaviours.

Men in towns also reported significantly lower PWI scores relative to men from other areas. In contrast, town women fared better in terms of PWI scores than their rural and slum counterparts.

Men and women in the transition towns appear to have higher educational attainment than their counterparts in other areas (except for urban metro areas). These towns had the highest prevalence of people in the unemployed category. Alongside this, they also had the second highest prevalence of highly paid people in professional jobs (engineers, doctors or skilled and clerical jobs), although less than metro areas. This suggests that in towns there was a significantly higher rich - poor gap - a potent source of disaffection, often linked to social unrest as well as harmful use of alcohol (Karriker-Jaffe, Roberts & Bond 2013). It is useful to mention here that India's net Global Index of Inequality (Gini coefficient), based on income net of taxes and transfers, rose from 45.18 in 1990 to 51.36 in 2013, and is much higher than the global average. This has been mainly attributed to rising inequality between urban and rural areas, as well as within urban areas (Jain-Chandra et al. 2016). Taken together, the presence of wide disparities in social and occupational position, the loss of the emotional cushion of the family, a lack of informal social controls and constraints, greater loneliness, lower perceptions of well - being - especially relating to connectedness with community and anxieties about personal safety, future security and personal achievement - along with loss of spiritual comfort, might suggest the presence of a deep sense of alienation, especially among the respondents from towns. The men in towns, compared to the other sites, appeared to be experiencing both loss of normative social regulation and loss of means to attain their goals. Their condition appears to fit well the sociological construct of anomie (Durkheim 1951). That many are living alone or in small groups, away from close family supports, appears to indicate that many of these men have migrated from their homes to find work in fast-growing towns. The jobs that they may find there may not be commensurate with their education. The resulting unmet socioeconomic aspirations, loneliness, and loss of family ties and social restraints of a known community, give rise to normlessness - highlighted by low levels of satisfaction with achievement in life, low levels of feeling safe, and low levels of feeling part of one's community, and by their sense of a lack of security about the future and personal relationships. The relatively better socioeconomic

conditions of women in towns may at first appear to run counter to the narrative of anomie. It could be argued, however, that the higher number of women in the workforce and their better personal well-being indices are an indication of the greater empowerment of women in towns. In India, women's employment outside the home has often been perceived as a challenge to entrenched patriarchy.

The odds of suffering harm consequent on another's drinking strongly depended on having a known heavy drinker in one's life. Among women, living with a drinking spouse greatly increased the odds. The risk was greater for the relatively less educated working woman, and was moderated by adverse social conditions (implying anomie). In towns, less educated women appeared more likely to suffer harm from heavy drinking spouses. For men, the harms were more likely among those in contact with heavy drinkers, and were strongly associated with their own heavy drinking, occurring in conditions of reduced social controls and lack of social support - in other words, conditions that promote anomie. In towns, harm appears to occur as a consequence of heavy-drinking men engaging with other heavy drinkers in an atmosphere of reduced social controls.

There was, nevertheless, a large proportion of the population in this study - particularly men - who reported harms from intoxicated strangers. In the Indian context, the male dominance here reflects that there are relatively fewer women in the workforce, and men are more likely to travel from the home and interact with strangers. This also explains why employed subjects are at higher risk of suffering harm.

Some of these indices of anomie (or alienation) that are evident in transition towns appear to significantly predict the likelihood of drinkers causing harm to others due to their drinking. The odds of causing harm to others from one's own drinking were significantly higher for those who were more lonely (lacked social and emotional supports), lived away from their elders (lacked informal social controls/constraints), and scored lower on the PWI (greater anomie). The odds of causing harm were also higher, as might be expected, in drinkers who had hazardous drinking patterns (frequent to heavy

and infrequent heavy, compared to frequent light and infrequent light consumption), had a positive attitude to alcohol experiences, and had a close acquaintance with one or more heavy drinkers. Male drinkers were more likely than female drinkers to report having caused harm with their drinking.

Taken together, the data appear mainly to implicate heavy-drinking working males living in towns in causing harm to others. The harm is directed towards their spouses as well as to other males (often heavy drinkers also). In most societies, "drinking is a marker of masculine identity, and drinking practices, like other structured practices like fighting, cursing, and ritualized feminine degradation, are used to construct masculine hierarchies" (Connell & Messerschmidt 2005). Working-class men, with decreasing access to traditional forms of patriarchal authority in the rapidly changing towns, seek to claim some sort of power in the settings available to them. Heavy alcohol consumption may be a part of their response to marginalization (Hinote & Webber 2012). In lower and middle income countries like India, men who are unemployed, or employed uncertainly or below their expectations, have often had to withdraw from their traditional roles as breadwinner and provider. Alongside this, women have often created new socioeconomic roles for themselves that challenge men's positions. Without a similar, proactive shift in gender norms for men, this shift in gender roles and rise of women's rights (as well as women's empowerment being a major focus of development interventions) is thought to have exacerbated gender-based violence. In the absence of traditional pathways to masculinity, men may turn to alcohol consumption, violence and extramarital sexual activity as a way of demonstrating their manhood (Silberschmidt 2001).

While the data relates specifically to Karnataka state, this matrix of risk, comprising social inequity, alienation of a large proportion of citizens in the society, burgeoning hazardous alcohol use, and violence and other harmful consequences, is the proverbial sting in the tail of the Indian "economic miracle", which is being replicated in other parts of the country. This is certainly a theme that is also playing out in other societies, worldwide, undergoing rapid socioeconomic transition.

Implications for intervention

The harms from others' use of alcohol are strongly influenced by heavy use of alcohol. The WHO Global Strategy to Reduce the Harmful Use of Alcohol (World Health Organization 2010) lays out the template for alcohol - control policies worldwide. As is apparent from the data from India, however, harms from alcohol, and indeed from heavy alcohol use, are also importantly mediated by social strain, especially in societies undergoing rapid socioeconomic transition. The Global Strategy does mention that focusing on equity within societies is an important challenge for alcohol control, but the strategies for ensuring equity are nebulous, and difficult to achieve.

Presently, across India, there is widespread unease about the negative impact of the rapidly rising availability of beverage alcohol, especially in urban areas. Frequent media reports on the association between alcohol and violence towards women (and children) have contributed to this apprehension, and there have been fresh demands for total prohibition in several Indian states (Nayar & Ittiype 2014). Unfortunately, these all-or-none approaches are quickly abandoned as fiscal pressures mount (consequent on the loss of the second largest source of most Indian states' revenues). And in a classic case of throwing the baby out with the bathwater, the turnaround involves abandonment of the pursuit of all levels of alcohol control for extended periods.

This data prompts us to call for a serious re-examination of the functioning of current alcohol controls in India, as well as the development of a country-wide alcohol policy to reduce alcohol harms. The data also alert us to the fact that a large proportion of alcohol-related harm accrues to those other than the drinker. Interventions will thus have to be broadened from the traditional focus on early detection and intervention oriented to averting harms to the drinker. This involves instituting screening for alcohol-related harms to self and from others, brief interventions for known drinkers, and referral to treatment in a wide variety of settings: women's and child health and development programmes; social and economic empowerment programmes (including microfinance programmes); programmes involving social welfare payment schemes like the popular National Employment Guarantee Scheme;

workplace health and welfare programmes; community psychiatry interventions under district mental-health programmes; and other windows where victims of alcohol's harms may present – such as police, emergency rooms, hospitals, child welfare organizations and so forth. Further studies are also needed to understand how changing socioeconomic situations in populations in transition in India are influencing the growth of alcohol consumption, with adverse effects on psychological well-being, violence and high-risk behaviours.

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Chapter 9

Chapter 9

The financial burden and out-of-pocket expenses from others' drinking in Thailand

Orratai Waleewong, Jintana Jankhotkaew and Thaksaphon Thamarangsi

Alcohol in Thailand

Recent survey results on alcohol and tobacco consumption from the National Statistical Office have shown that 31.5% of the Thai adult population are current drinkers, with 53.4% of males and 10.9% of females being drinkers. The average adult per capita consumption was estimated at 7.1 L of pure alcohol consumed per person aged 15 years or older per year. Among drinkers, 44.2% were regular drinkers and 35.3% were binge drinkers (Thamarangsi et al. 2013). Compared with higher income countries, Thailand has a lower prevalence of current drinkers, but a higher volume is consumed on average per drinking occasion (World Health Organization 2014). In terms of alcohol-related problems, alcohol dependence was the most common cause of death and disability in the Thai male population in 2012, contributing 22.6% of Years of Life Lost due to Disability (YLDs) and 8.7% of Disability Adjusted Life Years (DALYS) (International Health Policy Program 2012). The estimated economic cost of alcohol consumption in 2006 was 156 105 million Baht (US$ 9627 million PPP[5]), equivalent to 1.99% of the GDP. The largest costs were due to

[5] Purchasing Power Parity. The Implied PPP conversion rate is 1 US$ PPP = 17.756 Baht (International Monetary Fund 2012).

productivity losses because of premature mortality, followed by costs due to reduced productivity, healthcare costs, costs of property damage as a result of road traffic accidents, and costs of law enforcement (Thavorncharoensap et al. 2010).

In addition, 13.5% of the population have experienced the following adverse events at least once: being injured or involved in alcohol-related accidents, including traffic accidents; experiencing domestic violence or family problems due to drinking; having a problem in their working life due to drinking; drink driving, or drinking during pregnancy or the breastfeeding period (Sornphaisarn 2010). Alcohol-related problems were also noted in the reports of a range of government and non-government agencies responsible for the protection, health, well-being and welfare of the Thai people. For example, alcohol-related injuries and deaths from traffic accidents were reported by the Royal Thai Police. Alcohol-related mortality and morbidity were reported by the Ministry of Public Health. Alcohol-related domestic violence and sexual abuse data were documented in non-governmental organizations (NGO) records such as the Friends of Women Foundation and the Women's and Men's Progressive Movement Foundation. However, most of these reports have focused on how respondents' drinking has caused problems for themselves, and there has been no comprehensive report on the magnitude of alcohol's harm to others in Thailand so far (Waleewong, Thamarangsi & Jankhotkaew 2014).

This chapter focuses on the financial burden of others' drinking upon individuals other than the drinker, and considers both direct and indirect negative impacts – for example, when a person's property is destroyed by someone else who is drunk, or when a pedestrian or passenger injured in a traffic accident caused by a drunk driver uses the emergency department and pays for medical costs, or when a person needs to take time off from work to look after drinkers who are family members and need care as a result of their drinking. To date, few studies have measured the financial impacts of others' drinking from the affected other's perspective, particularly in terms of

out-of-pocket expenses (Laslett et al. 2010). This study attempts to estimate expenses related to several specific negative events caused by others' drinking by using self-reported burdens from a population survey. The aims of this study are to measure the adverse financial effects of others' alcohol drinking among the Thai population and estimate out-of-pocket expenses incurred by those affected. We also examine the extent to which these impacts are associated with respondents' demographics, drinking behaviours and having heavy drinkers in the household, as well as with respondents' perceptions of harm to others as "strongly negative".

Methods

Data collection and measures

This study uses the Thai cross-sectional harm to others household survey conducted between September 2012 and March 2013, described in Chapter 3 (Callinan et al, 2016). A multistage sampling technique was employed. Five provinces were selected to represent each of the four geographical regions and Thailand's capital city: Chonburi from the central region, Chiang Mai from the north, Khonkaen from the north-east, Suratthani from the south, and Bangkok. Within each selected province, a district where the provincial capital is located and two other randomly chosen districts were used. In each selected district, two randomly chosen subdistricts were included, then in each of these, four villages/blocks were chosen. Fifteen households were selected from each village/block. The selection method within the household involved listing all household members aged between 18 and 70 before selecting one at random for face-to-face interview. Altogether, 1695 respondents were interviewed and the response rate was 94%. This study was approved by the Research Ethics Board of the Institute for Development of Human Research Projects, Thailand. The survey instrument was translated from the full version questionnaire of the master protocol, *A WHO/ThaiHealth international collaborative research project on the harm to others from drinking.* Sociodemographic data on respondents included gender, age, occupation, marital status, urban/rural residence and

household income. Data on the respondent's own drinking behaviour and on having a heavy drinker or drinkers in the house were also collected. The respondent's experiences with adverse effects or events linked to others' drinking in the last 12 months were measured by asking a series of questions about the specific negative effects of and events that occurred because of others' drinking, including their economic impacts. Respondents were also asked to assess the overall effects of others' drinking on a five-point scale (positive, fairly positive, neutral, negative and strongly negative).

Financial impacts from others' drinking and cost calculation

Questions on six adverse events related to the financial consequences of others' drinking were included: 1. personal financial trouble; 2. traffic accidents; 3. damaged property; 4. ruined personal belongings; 5. financial stress in the household; and 6. stolen money or other valuables. While items 1–4 were due to drinking by any drinker – both known and unknown – items 5–6 asked about respondents' family members or friends' drinking. The questions asked directly whether respondents had experienced these financial losses due to someone else's drinking in the last 12 months, with the exact wording as translated in the following: "Has someone who had been drinking ruined your clothes or other belongings?"; "Was someone who had been drinking responsible for a traffic accident you were involved in?"; "Was your house, car or property damaged because of someone else's drinking?"; "Have you had financial trouble because of someone else's drinking?"; "Did a family member or friend take money or valuables that were yours because of their drinking?"; "Was there less money for household expenses because of someone in the household's drinking?"

Next, those with positive responses were asked to estimate their total out-of-pocket expenses related to these events (and also time spent responding to these incidents, although this is not included in the analysis in this chapter). The total financial cost of adverse events for affected respondents was calculated by adding the individual costs across the six adverse events experienced by the entire sample.

Analysis

Data analyses were conducted using Stata version 14 using sample weights based on gender and number in the household eligible to be a respondent to improve the sample's representation of the adult population. Descriptive statistics were used to present distributions of harm by sociodemographic data, respondents' drinking patterns and having a heavy drinker or drinkers in the household. Multivariate logistic regression analyses were employed to predict seven outcomes. Adjustments for demographic factors, data on the respondent's own drinking behaviour and having a heavy drinker in the house were also included in the models. Additionally, multivariate logistic regression analyses of respondents were used to predict which groups reported being affected by at least one item of harm from others' drinking and which groups perceived that the overall impact of the harm they experienced was "strongly negative". Model I included experiencing at least one financial harm whereas Model II was a series of tests of the relationship to each of the six adverse financial events. Both models controlled for gender, age, occupation, marital status, household income and urban or rural residence. Differences and associations were tested for statistical significance using p-values of $p<.05$, $p<.01$ and $p<.001$.

Results

Prevalence of adverse financial effects and costs from others' drinking

A total of 22.4% of respondents reported that they had experienced financial impacts from someone else's drinking in the last 12 months, with average annual out-of-pocket expenses for those affected of 8467 Baht (US$ 476.85 PPP) per affected person, equivalent to 1897 Baht (US$ 106.84 PPP) per capita in the Thai adult population (Table 9.1). Because of someone else's drinking, 11.4% reported having had financial trouble; 5.4% had costs associated with traffic accidents they were involved in; 5.3% paid for repairing a damaged house, car or property; 4.3% had their clothes or belongings ruined; 3.9% reported difficulty paying for household expenses; and 2.2% had their money or other valuables stolen.

Table 9.1 Prevalence of reporting financial impacts and costs from others' drinking

Financial negative events due to someone else's drinking	%	95%CI	Total cost to affected persons (Baht**/year)		
			X(SE)	Min	Max
By drinking of family/friend/strangers					
Paid for traffic accident costs	5.4	4.3-6.8	12 218 (4479)*	200	160 000
Damaged property (e.g. house, car)	5.3	4.2-6.8	13 002 (4,119)*	100	200 000
Ruined clothes or other belongings	4.3	3.3-5.7	2830 (626)*	60	11 000
By drinking of family/friends					
Experienced financial trouble	11.4	9.8-13.2	3695 (647)	20	90 000
Stolen money or other valuables	2.2	1.5-3.1	10 784 (7,100)	60	200 000
Not enough money for household expenses	3.9	3.0-5.2	n/a	n/a	n/a
1+ experiencing financial impacts	22.4	20.2-24.7	8467 (1794)	20	400 000

* More than 10% of cases were missing data (not including those cases that answered they were unable to estimate the costs).

** The Implied PPP conversion rate 1 US$ PPP = 17.756 Baht.

N=1,695.

Characteristics of those who reported being harmed economically

Overall, younger male wage-earners, who themselves were regular drinkers, as well as people who had heavy drinkers in their household, reported a higher prevalence of experiencing at least one type of financial harm (Table 9.2, column 1). However, patterns varied between the different types of harm. People aged 18–23 (15.8%) and employees (8.3%) reported significantly higher rates of having paid for costs associated with traffic accidents caused by others' drinking than other age groups and occupations. Those married or living with a partner (4.8%) and women (5.4%) had relatively higher rates than others of not having enough money for household expenses. Drinkers stealing money or other valuables was less commonly reported by abstainers (1.2%). Respondents who had at least one heavy drinker in the household suffered badly, with high rates in all categories of financial harm from others' drinking, especially household money shortages (18.2%).

Table 9.2 Financial impacts from another's drinking, by demographic data

	1+ Financial impacts	Clothes or other belongings were ruined	Been responsible for a traffic accident	House, car or property were damaged	Had financial trouble	Stolen money or other valuables	Had not enough money for household expenses
	%	%	%	%	%	%	%
Gender	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**
Female	21.1	5.0	4.7	5.0	11.9	2.1	5.4
Male	24.2	3.5	6.5	5.9	11.1	2.3	1.9
Age group (years)	**	**NS**	**	**NS**	**NS**	**NS**	**NS**
18-23	35.1	6.6	15.8	7.5	15.5	2.8	3.1
24-29	29.6	8.6	5.4	9.3	16.3	0.5	5.0
30-39	23.6	4.6	5.9	5.0	12.5	2.3	3.4
40-49	23.4	3.6	4.9	7.2	11.7	1.5	5.2
50-70	17.8	3.4	4.3	3.3	9.4	2.9	3.5
Living area	**NS**	**NS**	**NS**	**NS**	*	**NS**	**NS**
Rural	22.4	3.6	6.1	4.6	13.8	2.6	5.2
Non-rural	22.4	4.8	5.0	5.8	10.0	1.9	3.2
Occupations	**	**NS**	**	**NS**	***	**NS**	**NS**
Unemployed/students	17.5	3.4	5.2	4.5	9.2	1.3	4.9
Wage earner	29.8	5.6	6.8	6.4	19.8	3.4	7.0
Farmer	17.3	2.3	4.3	3.5	9.3	2.0	3.0
Self-employed	23.5	6.3	3.8	7.1	9.2	2.4	2.5
Public/private employee	22.7	2.8	8.3	4.2	9.9	1.5	2.6
Marital status	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	*
Single (& widowed)	24.7	5.8	5.6	5.9	12.3	3.6	2.1
Marriage/de-facto	21.8	4.0	5.5	5.2	10.9	1.8	4.8
Divorced/separated	20.5	3.3	3.8	5.3	13.6	1.7	1.0
Annual household income (Baht)	**NS**	**	**NS**	**NS**	*	**NS**	**NS**
Q1 (≤8000)	21.5	2.9	5.1	2.7	12.9	2.0	6.9
Q2 (8100-15 000)	26.5	7.8	5.0	7.5	14.2	3.2	5.3
Q3 (15 600-20 500)	22.2	3.3	5.2	4.6	13.4	3.2	2.5
Q4 (20 600-35 000)	22.6	1.8	7.3	7.0	11.5	0.3	3.4
Q5 (≥36 000)	25.4	6.6	5.7	5.4	12.1	2.8	2.6
Respondents' drinking pattern	***	**NS**	*	**NS**	***	*	**NS**
Abstainer	17.3	3.8	4.0	4.6	8.1	1.2	3.6
Occasional drinking (< once per week)	26.0	4.7	6.9	6.3	14.4	2.6	4.2
Regular drinking (≥ once per week)	33.3	5.7	7.7	6.4	17.6	4.7	4.7
Heavy drinker(s) in household	***	***	***	***	***	***	***
No	16.2	2.8	4.3	4.0	8.3	1.4	0.2
Yes, 1+ drinker(s)	45.7	10.3	9.8	10.6	23.1	5.0	18.2

Levels of statistical significance of Chi-square test: *p<.05, **p<.01,***p<.001.

N=1,695. NS: Not signifirant.

Association between demographics, drinking behaviour, living with a heavy drinker and experiencing financial consequences: multivariate regressions

Using multivariate logistic regressions, Table 9.3 depicts the association of demographics, respondents' drinking patterns, and having heavy drinkers in the household with experiencing at least one financial consequence and each of the six adverse financial outcomes. The youngest group (aged 18–23) was more likely to report at least one financial consequence (OR 2.3, $p<.05$) and more likely to report costs from involvement in a traffic accident due to another's drinking (OR 4.2, $p<0.01$) than the oldest respondents (aged 50–70). Regular drinkers, who were drinking at least once a week, were more likely (about 1.9, 1.8 and 4.6 times) than abstainers to report experiencing some financial impact, having had financial trouble from another's drinking and having had their money or other valuables stolen. Having a heavy drinker in the household was significantly associated with reporting all types of financial harm (OR 4.5, $p<.001$), reporting financial trouble (OR 3.2, $p<.001$) and reporting money or other valuables stolen (OR 3.6, $p<.001$). Understandably, there was a particularly strong relationship between having a heavy drinker in the household and the respondent not having enough money for household expenses. Regarding occupations of respondents, wage-earners were more likely to report financial trouble (OR 2.1, $p<.05$), whereas self-employed people were more likely than other occupational groups to report their clothes or other belongings being ruined (OR 2.9, $p<.05$).

Table 9.3 Predictors of experiencing financial-related consequences, having financial trouble, and stolen money or other valuables because of someone else's drinking: multiple logistic regressions with demographics, drinking behaviour and living with a heavy drinker

	1+ Financial impacts	Clothes or other belongings were ruined	Been responsible for a traffic accident	House, car or property were damaged	Financial trouble	Stolen money or other valuables	Had not enough money for household expenses
Gender: male vs female (Ref)	1.19	0.64	1.43	1.33	1.04	0.64	0.52
Age group (years)							
18-23	2.34*	2.05	4.16**	1.84	1.52	0.75	0.52
24-29	1.42	2.06	1.00	2.33	1.46	0.08*	1.43
30-39	1.16	1.22	1.06	1.35	1.24	0.58	0.78
40-49	1.24	1.00	0.99	2.04	1.15	0.42	1.67
50-70	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Living in a municipal area vs not (Ref)	1.02	0.86	1.23	0.86	1.49*	1.57	1.91
Occupation							
Unemployed/student	0.63	1.01	0.52	1.25	1.04	0.39	1.44
Wage-earner	1.23	2.01	0.76	1.41	2.10*	1.72	1.58
Farmer	0.68	0.64	0.45	1.00	0.78	1.48	0.58
Self-employed	1.17	2.87*	0.48	1.91	1.13	1.69	0.97
Public/private employee	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Marital status							
Single (& widowed)	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Marriage/de facto	0.78	0.54	1.40	0.83	0.80	0.28*	1.44
Divorced/separated	0.90	0.52	1.05	0.99	1.29	0.29	0.28
Annual household income (Baht)							
Q1 (≤8000)	0.93	0.57	0.93	0.63	1.07	0.30	2.85
Q2 (81 00-15 000)	1.00	1.09	0.73	1.61	1.03	0.84	1.30
Q3 (15 600-21 200)	0.79	0.45	0.77	0.85	0.98	0.87	0.71
Q4 (21 500-38 000)	0.82	0.23**	1.12	1.41	0.87	0.07*	0.93
Q5 (≥38 200)	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Respondents' drinking pattern							
Abstainer	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Occasional drinking (<once per week)	1.30	0.93	1.31	1.11	1.45	2.14	1.01
Regular drinking (≥once per week)	1.89**	1.74	1.43	1.1	1.77***	4.56**	1.43
Heavy drinker(s) in household vs not (Ref)	4.52***	4.29***	2.22**	2.9***	3.18***	3.63***	113.8***

Levels of statistical significance: *p<.05, **p<.01,***p<.001.
Ref: reference category.

Association between perceived harms from others' drinking as "strongly negative" and experiencing financial harms

Those who reported being adversely affected by any of the types of harms from others' drinking asked about in the survey (82.4% of total respondents) were asked about the overall effects of others' drinking on them, and 12.4% of those adversely affected answered that the effects on them were strongly negative. Table 9.4 uses multiple regression analyses to measure how much more likely those experiencing adverse financial impacts were to answer that the effects were "strongly negative", while controlling for the demographic and drinking variables noted in footnote (a) of the table. For Model I, respondents who experienced at least one item of financial harm from others' drinking were about 2.8 times more likely to perceive that they had been strongly negatively affected compared with those who did not experience any financial harm. In Model II, a series of such regressions were run, one for each of the specific financial harms. Ruined clothes or other belongings, damaged property, household money shortages, financial trouble, and stolen money or other valuables were significant predictors of harm being experienced as strongly negative by respondents, when adjusted for gender, age, occupation, marital status, household income and urban or rural residence.

Table 9.4 Predicting "strongly negative" adverse effects of others' drinking among affected respondents: the predictive power of specific harms, with demographics and drinking controlled

	Respondents who perceived HTO as "strongly negative"
	Adjusted OR[a]
Model I:	
1+ experiencing financial impacts	2.82***
Model II: for each of the specific 6 financial harms	
Clothes/other belongings ruined	6.19***
House/car/property damaged	4.04***
Not enough money for household expenses	4.97***
Stolen money/other valuables	3.24*
Financial trouble	2.31***
Paid for traffic accident	1.62

[a]Adjusted for gender, age, occupation, marital status, household income and urban/rural residence.
Levels of statistical significance: *p<.05, **p<.01,***p<.001.

Discussion

This research measures the financial burden from others' drinking at the individual level incurred in terms of out-of-pocket expenses as a result of several specific adverse events. The overall prevalence of negative financial impacts from someone else's drinking was about 22% in this survey. The rates were of course lower for each specific financial event. While 12% responded positively to the more general item about experiencing financial trouble because of others' drinking, less than 6% reported being involved in each of five more specific adverse occurrences in the past year due to another's drinking: traffic accidents, damaged property, stolen money, ruined clothes and household money shortage. The prevalence of property damage due to others' drinking, such as effects on cars and houses, is not very common in Thailand (5.3%). It is about 2.5 times higher than reported property damage due to drinking by strangers in New Zealand (2%) (Casswell et al. 2011), but much less than the rate reported in Berkeley, California (42%) (Fillmore 1985) and Australia (9.9% by unknown drinkers) (Laslett et al. 2011). The prevalence of ruined clothes or belongings in Thailand (4.3%) is less than the prevalence in Australia (5.6% by unknown drinkers) (Laslett et al. 2011) and in Norway (4.8%) (harm in this study was defined in terms of the components of property damage) (Rossow & Hauge 2004). The prevalence of financial trouble in Thailand (11.4%) is much higher than in USA (1.0%) (Greenfield et al. 2009), presumably reflecting in part the huge disparity in household financial resources. Also, the prevalence of being in traffic accidents because of someone else's drinking, 5.4% in Thailand, is much higher than in the USA (1.8%) and Australia (1.1%) (Laslett et al. 2011). Whereas 15% of New Zealanders (Casswell et al. 2011) and 18.3% of Indians (Esser et al. 2016) reported that they did not have enough money for things they needed due to others' drinking, only 3.9% of Thais reported this, which is similar to the Australian situation (2.7%) (Laslett et al. 2011).

Limitations

There were several limitations in this analysis. Firstly, recall bias could have affected estimation of money spent in the previous 12 months. Secondly, personal perceptions about being affected economically by others' drinking can be influenced by a range of individual factors, and may create different thresholds for reporting being affected or not. For example, rich respondents may be less likely to report financial trouble than poor respondents, as they are more able to cope with financial problems. Thus the amount of money (or relative value to the respondent) estimated from these items may be underestimated. Additionally, any monetary amount lost is likely to matter more to poorer people as it constitutes a higher percentage of their income. Lastly, there was quite a high proportion of missing data for cost estimations. The proportion of missing data was 22% for the traffic accident question, 17% regarding ruined belongings and 13% for costs incurred due to damaged property. As these proportions of missing data are over 10% of data, the estimates of the average costs in this study are likely to be biased (Bennett 2001). It is also questionable whether the reported costs are an overestimation or underestimation, as the missing data in this study included the cases that answered "unable to estimate the cost" (about 38% of respondents for the traffic accident question and 22% for ruined belongings). Thus, while the expenses reported in this study are the only data we have on the economic costs that alcohol use causes to others in Thailand, the monetary variables should be interpreted with caution. Additionally, this analysis did not include cost calculations for service use and loss of income due to others' drinking. However, despite its limitations, the findings from this study make an important contribution, providing an important first estimate of the out-of-pocket costs to those affected by alcohol-related harms from others' drinking in a lower income country.

Conclusion

Having one or more heavy drinkers in the household was a significant predictor of reporting all types of financial impacts due to others' drinking in Thailand. This is consistent with the results of a 2012 Australian study that found that the severity of impact of harm from others' drinking was significantly associated with whether the respondent lived with or away from the drinker. About half of the respondents who were affected "a lot" by a problematic drinker lived with the problematic drinker (Berends, Ferris & Laslett 2012). Furthermore, drinking behaviours of respondents were also significantly associated with reporting financial impacts. In particular, those who were regular drinkers were, respectively, about 1.9 times, 1.8 times and 4.6 times more likely than abstainers to experience "financial-related consequences", "have financial troubles" or report stolen money or other valuables.

There is substantial evidence about the relationship between socioeconomic factors and being affected negatively by one's own drinking, both worldwide and for Thailand (Jankhotkaew et al. 2015; Na-ranong 2014; Chokevivat et al. 2007). The present study provides additional information about those from lower socioeconomic groups, including in the lowest income class, unemployed people and unskilled workers. In particular, these groups are more likely to report higher rates than other socioeconomic groups of household money shortages that are due to someone else's drinking. In addition, Thai wage-earners are more likely to report having had financial trouble due to others' drinking than those generally better paid respondents working as public or private employees.

Lastly, the finding in this study that the financial burden from others' drinking was perceived as extremely negative indicates the tangible nature and perceived severity of the impact that respondents experienced in this domain of harm. Those who experienced at least one financial consequence were about 2.8 times more likely to perceive alcohol's harm to others as strongly negative than those who did not experience such harm. Those who reported their clothes or other belongings ruined due to others' drinking were 6.2 times more likely

to have strong negative perceptions about the effects of others' alcohol drinking than those who did not.

All in all, this study's results suggest that the financial burden, including the out-of-pocket expenses from others' drinking, is one of the most significant socially negative consequences of alcohol consumption in Thailand.

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Chapter 10

Chapter 10

Alcohol's harm to others: its effects on personal well-being and health in Chile

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Introduction

Chile is a South American country with reliable institutions and a stable economy that has undergone important changes in social policy in recent decades. The total population reached 17.6 million inhabitants in 2013 (89% of whom live in urban areas), and the GDP per capita (at purchasing power parity) was US$21 030 in 2013 (World Bank 2015).

This good economic and institutional performance has resulted in a systematic drop in poverty levels. While the poverty rate was 38.6% at the beginning of the 2000s, in 2013 it had fallen to 7.8% (CEPAL 2014). Universal primary school enrolment was achieved in the 2000s, resulting in a 98.6% literacy rate of the population aged above 15 in 2009. The economic and social policies implemented since the early 1990s have dramatically changed the way Chileans interact with the state and market, resulting in a profound social transformation. At present, nationally representative social surveys (Centro de Estudios Públicos 2015; Adimark Gfk 2015) show that the population is primarily concerned about health, education, employment rates and public safety issues.

In terms of household composition, since the mid 2000s, Chilean households have been the third largest among the Organisation for Economic Co–operation and Development (OECD) countries, surpassed only by Turkey and Mexico (on average, Chilean household size was 3.72 persons, while the OECD average was 2.63 persons). In 2012, total fertility rates of 1.8 children per woman were only slightly higher than the OECD average of 1.7 (OECD 2015). Approximately 79% of the Chilean population is aged 15 and over (CASEN 2011).

According to the World Health Organization (WHO) *Global status report on alcohol and health* (World Health Organization 2014), in comparison to other countries, Chile has an intermediate level of alcohol consumption per capita: 9.6 L of pure alcohol per year per inhabitant over 15 years old, compared with the 9.2 L per capita in the United States, 12.2 L per capita in Australia or 10.9 L per capita in New Zealand. Qualitative evidence (Pyne, Claeson & Correia 2002) suggests that the drinking culture in Chile – like South America generally – is different from English-speaking or northern and eastern European countries. For example, in Chile, individuals usually drink to engage in social activities and create ties within social groups. In other places, the drinking culture is quite different, for example, in the Australian context, where there is a more intoxication-oriented drinking pattern.

Chilean alcohol consumption patterns differ according to the gender of the drinker. WHO (World Health Organization 2014) reports that, while Chilean males drink 13.9 L of pure alcohol per capita annually, females only drink 5.5 L. Accordingly, the fraction of road traffic accidents attributable to alcohol consumption is higher for males (over 9%) than for females (3%).

Alcohol-related issues have been part of the legislative agenda of the Chilean government in recent years. A National Action Plan concerning alcohol use and abuse was adopted in 2010 and revised in 2011. In addition, some Chilean studies have focused on alcohol-related problems (Videla & Valenzuela 2002). Almost all of the Chilean research, with some exceptions (Florenzano, Guzmán et al. 2014; Florenzano 1988; Hernández et al. 2013; Dussaillant & Fernández, 2015), has been concerned primarily with the effects

of alcohol consumption on the drinker's health, leaving the effects on third parties (friends, family, acquaintances or the general population) aside.

In the ranking of happiness provided in the *World happiness report 2015* (Helliwell, Layard & Sachs 2015), which was constructed using the Gallup Survey, Chile ranks 27th out of 158 countries. The ranking was calculated using average responses to the Cantril ladder question, which asks people to evaluate the quality of their lives on a 0–10 scale. This ranking places Chile below Brazil, Costa Rica, Mexico and several OECD countries (such as Switzerland, Australia, the Nordic countries and the United States), but above France, Spain, Italy and Poland, among others. Chile was one of the top ten countries to have gained in well-being in the period 2005–07 to 2012–14. The average gain in life evaluation exceeded what would have been expected from Chile in this period (Helliwell, Layard & Sachs 2015).

The aim of this chapter is to analyse the consequences of drinking for the general, and health-related, well-being of people who encounter heavy drinkers inside or outside the household, and the harm perceived as due to others' drinking. After a brief presentation of the international literature on this issue, a specific statistical analysis of the Chilean evidence is presented. After examining the broader results, a more detailed analysis seeks to disentangle how associations apply to women and men in different ways. The chapter closes with a discussion of the findings, some policy implications and guidelines for future research.

Alcohol consumption and others' well-being and health

Sufficient evidence supports the relationship between a person's own alcohol consumption and self-reported health problems (Schmidt & Popham 1975; Renaud & Lanzmann-Petithory 2004). According to the WHO report on alcohol and health (World Health Organization 2014), there are more than 200 physical health conditions that are related to alcohol consumption. In addition, there is robust evidence that supports a relationship between heavy drinking and mental health problems (Weitzman 2004; Jane-Llopis & Matytsina 2006).

For example, according to Weitzman (2004), students with poor mental health are more likely to engage in alcohol abuse than their peers. The same relationship has been studied in Chile (Florenzano 1988).

However, alcohol not only affects the drinker. It is also problematic for those in the drinker's social and personal surroundings, affecting others' health and well-being. Illustrations of this can be given from various research studies conducted primarily in Anglo-Saxon cultures (USA: Greenfield et al. 2009; United Kingdom: Bromley & Nelson 2002; Australia: Laslett, Catalano & Chikritzhs 2010; and New Zealand: Connor, You & Casswell 2009).

For instance, Livingston and colleagues (2010) conducted research into the effects of others' drinking on subjective well-being and the self-reported health of Australians. The results showed that heavy drinking can have substantial effects on people who interact with drinkers. The authors also reported that there were significant effects regardless of whether the heavy drinker was or was not part of the respondent's household, and that the consequences for personal well-being due to exposure to heavy drinkers outside the household had the greatest effect size for all the factors studied.

The association of alcohol consumption with others' health and well-being is now a widely documented phenomenon and a key factor in understanding the real magnitude of the harm that heavy and problematic alcohol consumption has on society and on individuals.

Gender differences in alcohol-related issues

The literature aiming to understand gender differences related to alcohol consumption is vast. It is also diverse in its results. One of the few generalities one can make across studies is that men tend to consume more alcohol than women (Wilsnack et al. 2000). The patterns of men's and women's drinking are also significantly different.

Researchers have documented how men's and women's different drinking patterns are, to a significant extent, the result of cultural factors in particular countries. But this view is facing some new challenges. Theoretically,

cultural differences in alcohol consumption should smooth out as women become more integrated in the public and private spheres (Wilsnack et al. 2000). Indeed, research into this issue concludes that the difference in men's and women's alcohol consumption has decreased in recent decades (Schulenberg et al. 1994; Neve et al. 1996). Nevertheless, there is also some evidence of non-convergence, and profound dissimilarities between men and women are still in evidence when the amount of alcohol they consume is measured (Wilsnack et al. 2000).

There is substantial scientific confirmation that drinking affects each gender differently, both when measuring the effect of alcohol consumption on the drinker, and the effect of it on others. Overall, there is evidence to indicate that women carry a higher burden of problems related to others' drinking. Devries, Child and Bacchus (2013) indicate a clear relationship between alcohol consumption and intimate-partner physical violence experienced by women. Huhtanen and Tigerstedt (2012) point out that women tend to report more cases of harassment by drunken people than males do. Also, women are more likely to report alcohol abuse by their relatives. But males are not immune to others' problematic drinking. As Connor, You and Casswell (2009) report, men are more likely than women to be victims of physical assault from other (male) drinkers.

Material and methods

A representative survey of areas of Chile with large populations was conducted between May and July 2013. Through face-to-face interviewing, data on the impact of drinking on people other than the drinker was collected. Information on personal well-being and other quality-of-life measures was also gathered. The questionnaire was applied to individuals aged 18 and over. It was prepared by the WHO/ThaiHealth International Collaborative Research Project on the Harm to Others from Drinking and translated into Spanish. As the WHO translation protocols require, the Spanish questionnaire was back-translated to check meaning.

The instrument was applied to a representative sample (drawn using a probabilistic method) of a total population of 12 291 000 inhabitants of 14 regions of Chile (CASEN 2011). The response rate was 71.8%, resulting in the collection of 1500 complete interviews. As noted below in discussion of this study's limitations, the completed sample departed in some respects from representativeness.

The questionnaire took, on average, 45 minutes to administer. An external survey organization, in collaboration with the Universidad del Desarrollo, administered the fieldwork. The interviewers received formal training and were supervised by an experienced fieldwork director and the Chilean co-investigators of the project according to the guidelines of the WHO/ThaiHealth protocol (Rekve et al. 2016).

Measures

Two different measures of subjective well-being (SWB) are the outcome variables studied in this chapter. The EuroQol five dimensions questionnaire (EQ-5D) form (EuroQoL Group 1990) was used to summarize respondents' subjective health-related quality of life (HRQoL). The EQ-5D is a standardized measure that assesses the severity of respondents' problems in five different domains of health: mobility, self-care, usual activities, pain/discomfort and anxiety/depression (Rabin & Charro 2001). Estimates from the European EQ-5D value set (EuroQoL Group 2015) were applied to the Chilean data, which allowed a variable for HRQoL to be constructed. HRQoL was measured on a 0-1 scale, where 1 means full health and 0 means death. As is recommended when using the EQ-5D scale (Krabble & Weijmen 2003), respondents were coded "missing" for HRQoL if there were missing data for any of the five questions used to derive EQ-5D.

The second outcome measure is a general index of subjective well-being: the Personal Wellbeing Index (PWI). The PWI measures overall subjective well-being on a scale from 0 (complete dissatisfaction) to 10 (complete satisfaction). PWI is calculated as a respondent's mean level of satisfaction across

eight domains of life (each represented by one question). Where responses were missing for at least four of the eight PWI questions, the respondent was coded as missing for PWI. For instances where less than eight questions were answered, PWI was calculated as the mean across all answered questions. More details on the construction of the index can be found in the PWI manual (International Wellbeing Group 2013).

Categorical versions of PWI and HRQoL were also generated for analysis. PWI was divided into three approximate tertiles, which represented low, middle and high personal well-being. Given the majority of respondents reported an EQ-5D score of 1 (perfect health), respondents who reported an EQ-5D of 1 were classified as one group, whilst the remaining participants were split into two by the median EQ-5D score. These groups represented low, middle and high HRQoL.

Numerous variables were included to control for sociodemographics, namely, gender, age group, employment status, education level and household composition. The drinking pattern of the respondent was included as an explanatory variable. Following similar research (Livingston 2009), respondents' own drinking patterns were classified into five groups: non-drinkers (abstainers); low-risk drinkers (never drink more than five standard drinks – 60 g alcohol – in a session); drinkers who drink more than five standard drinks in a session less than weekly; drinkers who drink more than five drinks in a session at least weekly; and drinkers whose frequency of drinking more than five standard drinks was unknown. The final group was included due to a large number of participants having missing data for the primary drinking variable.

In addition to respondents' own drinking patterns, three main explanatory variables were generated. The first two represent the exposure of the respondent to heavy drinkers inside and outside the household. Each respondent was asked to identify people (by relationship type, not by name) in their life in the past 12 months whom they considered "to be problematic drinkers or people who sometimes drink a lot of alcohol". For each relationship type, respondents reported whether they lived with that heavy drinker, and

whether they had been negatively affected by them. Respondents were asked these questions once for each relationship type. Thus, exposure to heavy drinkers measures the number of different relationship types the respondent was affected by inside and outside the household, rather than the total number of known heavy drinkers.

The third main explanatory variable measures the "intensity of harm", as reported by the respondent, due to others' drinking. An intensity of harm index was constructed by adding the responses in which individuals reported being the victim of negative events caused by drinkers. Specifically, respondents were asked, "in the last 12 months has someone who has been drinking…": 1. "insulted you or called you names?"; 2. "pushed you?"; 3. "physically harmed you?"; 4. "ruined your clothing or other belongings?"; 5. "damaged your home, vehicle or personal property?"; and 6. "been responsible for a transport accident in which you were involved?" Intensity of harm from others' drinking was quantified as the number of harm items experienced due to others' drinking. As six items were considered, intensity of harm ranged from 0 (least harm) to a possible 6 (most harm).

Analysis

All data analysis was conducted with Stata version 14 (StataCorp 2015). All counts presented are raw numbers. All other presented statistics are weighted according to the inverse of the respondent's probability of selection based on the number of eligible persons in the household, and to adjust for a slight overrepresentation of females (54%) and underrepresentation of males (46%) in the sample compared to the estimated distribution of gender in Chile. Ninety-five percent confidence intervals (CI) were provided for all effect estimates in this chapter.

Descriptive statistics were used to describe the sample's sociodemographic characteristics, drinking patterns, exposure to heavy drinkers, level of harm from others' drinking, and personal health and well-being, both overall and separately for female and male respondents.

Multivariate linear regression models were used to examine the association between the main explanatory variables (respondent's own drinking, exposure to heavy drinkers inside and outside the household, and harm from others' drinking) and PWI and HRQoL. Regression estimates were adjusted for the respondent's gender, age, employment status, education level and household-type composition. Multivariate linear regressions were also fitted for men and women separately.

Results

In the sample of 1500 respondents, 51% were women, more than 40% were aged 18–34, less than 20% were equal to or more than 50 years old, approximately half (51%) worked, and almost 42% had at least some higher education (Table 10.1). Twenty-one percent of the sample lived with a partner and children only. With regard to alcohol consumption, as reported in Table 10.1, 13% of the sample drank more than 60 g at least weekly. Almost 30% reported being abstemious, while 32% stated they never drank more than 60 g of alcohol, or did so less than weekly. Most respondents who identified problematic heavy drinking in their environment reported that it took place outside the household.

Females and males reported significantly different levels of health-related quality of life (HRQoL via EQ-5D), drinking patterns, and number of harm items experienced because of others' drinking. However, no statistical differences were found between men and women for personal well-being or in their reports regarding exposure to heavy drinkers either inside or outside the household.

Table 10.1 Sociodemographic and drinking characteristics, exposure to heavy drinkers, number of harms experienced because of others' drinking in the last 12 months and the subjective health and well-being of men, women and the total sample

	Men	Women	Total
	N=697	N=803	N=1,500
	% (CI)	% (CI)	% (CI)
Age group, % (N = 1,461)			
18-29 years	43.8 (39.6, 48.1)	40.6 (36.8, 44.5)	41.9 (39.1, 44.7)
30-49 years	40.0 (35.9, 44.2)	37.6 (33.9, 41.5)	38.8 (36.1, 41.6)
≥50 years	16.2 (13.2, 19.7)	21.7 (18.7, 25.2)	19.3 (17.1, 21.6)
Employment status, % (N = 1,486) Unemployed/not working	59.9 (55.7, 64.0)	42.1 (38.3, 46.0)	50.7 (47.9, 53.5)
Highest level of education, % (N = 1,476)			
Less than high school certificate	14.2 (11.4, 17.5)	15.8 (13.2, 18.9)	15.0 (13.1, 17.2)
Completed high school	40.9 (36.7, 45.1)	44.9 (41.0, 48.8)	43.1 (40.3, 45.9)
Some higher education	44.9 (40.8, 49.2)	39.3 (35.6, 43.1)	41.9 (39.2, 44.7)
Household composition, % (N = 1,433)			
Live with children only	3.4 (2.3, 4.9)	8.4 (6.7, 10.4)	5.9 (4.8, 7.1)
Live with partner and children only	20.2 (17.0, 23.8)	20.5 (17.6, 23.8)	20.5 (18.3, 22.9)
Live with partner, children and other adults	12.8 (9.8, 16.5)	12.6 (10.0, 15.8)	12.6 (10.6, 14.9)
Live with children and other adults (no partner)	30.5 (26.4, 34.9)	31.4 (27.8, 35.2)	30.9 (28.2, 33.8)
Other (no children)	33.2 (29.5, 37.1)	27.1 (24.0, 30.4)	30.1 (27.7, 32.6)
Respondents' frequency of drinking 60 g alcohol on a single day, % (N = 1,436)			
Abstainer	22.1 (18.8, 25.8)	36.3 (32.6, 40.1)	29.4 (26.9, 32.1)
Drinks, but never ≥60g alcohol	3.7 (2.3, 5.9)	4.8 (3.4, 6.8)	4.1 (3.1, 5.5)
Drinks, including ≥60g alcohol <weekly	34.6 (30.6, 38.9)	22.8 (19.7, 26.3)	28.4 (25.9, 31.1)
Drinks, including ≥60g alcohol ≥weekly	18.7 (15.6, 22.3)	7.1 (5.3, 9.3)	12.9 (11.1, 14.9)
Drinks, but frequency of ≥60g alcohol unknown	20.9 (17.6, 24.6)	29.0 (25.5, 32.8)	25.2 (22.7, 27.7)
Live with heavy drinker, % (N = 1,500)	13.5 (10.8, 16.8)	13.5 (11.0, 16.4)	13.3 (11.5, 15.4)
Know heavy drinker outside household, % (N = 1,500)	27.0 (23.4, 30.9)	23.1 (19.9, 26.6)	24.7 (22.4, 27.2)
Number of harm items* experienced because of others' drinking, mean (N = 1,500)	0.79 (0.69, 0.89)	0.53 (0.46, 0.61)	0.66 (0.60, 0.73)
Personal wellbeing index (PWI) mean (N = 1,489)	7.8 (7.6, 7.9)	7.8 (7.7, 7.9)	7.8 (7.7, 7.9)
Health-related quality of life, mean (N = 1,456)			
Quality of life index (EQ-5D)	0.91 (0.90, 0.93)	0.86 (0.84, 0.87)	0.88 (0.87, 0.89)

*Out of a total of six items measuring harm from others' drinking in the last 12 months: (1) insulted you or called you names, (2) pushed you, (3) physically harmed you, (4) ruined your clothing or other belongings, (5) damaged your home, vehicle or personal property, (6) been responsible for a transport accident in which you were involved.

Table 10.2 shows that respondents with lower scores on both PWI and HRQoL were significantly more likely to live with a heavy drinker. But they did not report exposure to others' heavy drinking outside the household significantly more often. Low well-being was strongly and significantly related to experiencing at least one type of harm from others' drinking, and the percentage experiencing such harm was also significantly higher among those with low health-related quality of life. In contrast, there was no significant difference by either PWI or HRQoL in relation to the respondent's own drinking pattern.

Table 10.2 Respondents' drinking status, exposure to heavy drinkers inside and outside the household, and experience of any harm from others' drinking, by well-being tertiles and subjective health

	Well-being [PWI – tertiles]			Health-related quality of life [EQ5D – categorical]		
	Low [≤ 7.25]	Middle [7.26-8.70]	High [≥ 8.71]	Low [≤ 0.75]	Middle [0.76-0.99]	High [=1]
	N=528	N=471	N=490	N=299	N=282	N=875
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
Respondents' frequency of drinking 60 g alcohol on a single day (N = 1,436)						
Abstainer	29.7 (25.5, 34.2)	27.0 (22.7, 31.7)	31.9 (27.5, 36.7)	33.4 (27.6, 39.8)	25.9 (20.5, 32.2)	29.6 (26.4, 33.0)
Drinks, but never ≥60 g alcohol	4.2 (2.6, 6.9)	4.9 (3.1, 7.7)	3.1 (1.8, 5.4)	7.6 (4.7, 12.1)	4.0 (2.2, 7.2)	3.2 (2.1, 5.0)
Drinks, incl. ≥60 g alcohol <weekly	25.8 (21.6, 30.4)	35.4 (30.6, 40.4)	25.4 (21.3, 30.0)	22.0 (16.9, 28.1)	25.6 (20.2, 31.9)	31.7 (28.3, 35.3)
Drinks, incl. ≥60 g alcohol ≥weekly	16.1 (12.8, 20.0)	11.5 (8.6, 15.3)	10.4 (7.8, 13.8)	11.2 (7.7, 16.1)	14.6 (10.6, 19.7)	12.6 (10.3, 15.4)
Drinks, but frequency of ≥60 g alcohol unknown	24.3 (20.4, 28.7)	21.2 (17.3, 25.7)	29.2 (24.9, 33.9)	25.7 (20.4, 31.9)	29.9 (24.0, 36.6)	22.9 (19.9, 26.1)
Live with heavy drinker (N = 1,500)	20.3 (16.5, 24.6)	10.5 (7.7, 14.1)	9.1 (6.7, 12.4)	17.9 (13.4, 23.6)	20.1 (15.0, 26.2)	9.7 (7.7, 12.1)
Know heavy drinker outside household (N = 1,500)	26.9 (22.7, 31.4)	27.1 (22.9, 31.8)	20.5 (16.9, 24.7)	28.5 (23.0, 34.8)	29.5 (23.8, 35.9)	21.2 (18.4, 24.4)
Experienced at least one of six items measuring harm from others' drinking* (N = 1,500)	46.2 (41.5, 51.0)	38.3 (33.5, 43.3)	23.0 (19.2, 27.3)	43.0 (36.8, 49.4)	41.6 (35.3, 48.3)	31.5 (28.2, 35.1)

*(1) insulted you or called you names, (2) pushed you, (3) physically harmed you, (4) ruined your clothing or other belongings, (5) damaged your home, vehicle or personal property, (6) been responsible for a transport accident in which you were involved.

Table 10.3 extends this analysis by examining the relationship of well-being and health-related quality of life scores to the number of heavy drinkers in the respondent's life and the number of harms experienced from others' drinking. The table shows the mean scores on the PWI and EQ-5D (HRQoL) indexes according to respondents' own drinking, the extent of exposure to heavy drinkers inside and outside the household, and the experience of harm from others' drinking.

Those who themselves drank 60 g or more alcohol at least once a week in the one sitting showed a significantly lower well-being score than those who abstained from alcohol, but there were otherwise no clear trends in well-being or quality of life associated with the respondent's own drinking. For all three measures of others' drinking and the experience of harm from it, there was a tendency towards lower well-being and lower health-related quality of life for those with more heavy drinkers in their life and according to the number of harms experienced. Respondents with two or more heavy drinkers in their household were significantly more likely to report lower well - being than those with no heavy drinkers in their household. The strongest relation was between the number of harms experienced and the measure of well-being. On the other hand, neither PWI nor HRQoL displayed significant differences when respondents were grouped according to the number of heavy drinkers they reported in their lives outside the household.

Table 10.3 Subjective health and well-being , according to respondents' own drinking status, number of heavy drinkers inside and outside the household, and number of harms experienced because of others' drinking in the last 12 months

	N	Well-being (PWI)	Health-related quality of life (EQ5D)
		Mean (CI)	Mean (CI)
Respondents' frequency of drinking 60 g alcohol on a single day			
Abstainer	438	7.8 (7.7, 8.0)	0.86 (0.84, 0.89)
Drinks, but never ≥60 g alcohol	59	7.6 (7.3, 8.0)	0.84 (0.80, 0.89)
Drinks, including ≥60 g alcohol <weekly	386	7.8 (7.6, 7.9)	0.91 (0.90, 0.93)
Drinks, including ≥60 g alcohol ≥weekly	194	7.4 (7.1, 7.7)	0.89 (0.87, 0.92)
Drinks, but frequency of ≥60 g alcohol unknown	359	8.0 (7.8, 8.1)	0.88 (0.86, 0.90)
Number of heavy drinkers in household			
0	1,321	7.9 (7.8, 8.0)	0.89 (0.88, 0.90)
1	141	7.2 (6.9, 7.5)	0.83 (0.80, 0.86)
≥2	38	6.8 (6.1, 7.7)	0.83 (0.77, 0.89)
Number of heavy drinkers outside household			
0	1,143	7.8 (7.7, 7.9)	0.89 (0.88, 0.90)
1	259	7.7 (7.5, 7.9)	0.86 (0.84, 0.89)
2	62	7.6 (7.1, 8.0)	0.87 (0.83, 0.92)
≥3	36	7.5 (6.9, 8.1)	0.86 (0.80, 0.90)
Number of harm items* experienced because of others' drinking			
0	976	8.0 (7.9, 8.1)	0.90 (0.88, 0.91)
1	268	7.5 (7.3, 7.8)	0.87 (0.85, 0.90)
2	143	7.3 (7.0, 7.6)	0.85 (0.81, 0.88)
≥3	113	6.9 (6.6, 7.2)	0.86 (0.83, 0.89)

*Out of a total of six items measuring harm from others' drinking in the last 12 months: (1) insulted you or called you names, (2) pushed you, (3) physically harmed you, (4) ruined your clothing or other belongings, (5) damaged your home, vehicle or personal property, (6) been responsible for a transport accident in which you were involved.

Two models describing the correlates of health and well-being are presented in Table 10.4 – one for PWI, and one for EQ-5D as the dependent variable. In both models, exposure to heavy drinkers inside the household is negatively associated with the quality of life and the well-being of respondents, but the negative effect is stronger for PWI. The effect was slightly different for exposure to heavy drinkers outside the household, which was associated with decreased subjective health but not associated with a change to subjective well-being (PWI). Experience of harm from others' drinking was strongly associated with decreased PWI and HRQoL; those respondents who were affected by others' drinking psychologically, physically or in relation to property were thus more likely to report lower subjective health and well-being. These two variables, exposure to heavy drinkers inside the household and the experience of harm from others' drinking, are thus the only ones that display a consistent association with health and well-being.

Regarding respondents' own drinking patterns, no significant associations with PWI were found. Despite finding a significant decrease ($p \leq 0.05$) in the self-reported health status (HQRoL) of drinkers who consumed 60 g of alcohol less than weekly compared to the non-drinker subgroup, respondents' drinking was not strongly associated with a change in subjective health and well-being.

Table 10.4 Multivariate linear regression models predicting level of subjective well-being and health by respondents' own drinking, exposure to a heavy drinker inside and outside the household and experience of harm from others' drinking

	Well-being (PWI)	Health-related quality of life (EQ5D)
	N=1,312	N=1,288
	β# (CI)	β# (CI)
Respondents' frequency of drinking 60g alcohol on a single day		
Drinks, but never ≥60 g alcohol (vs abstainer)	-0.22 (-0.67, 0.23)	-0.03 (-0.07, 0.02)
Drinks, including ≥60 g alcohol <weekly (vs abstainer)	-0.03 (-0.26, 0.19)	0.03* (0.00, 0.05)
Drinks, including ≥60 g alcohol ≥weekly (vs abstainer)	-0.21 (-0.52, 0.10)	0.01 (-0.01, 0.04)
Drinks, but frequency of ≥60 g alcohol unknown (vs abstainer)	0.05 (-0.21, 0.30)	-0.01 (-0.03, 0.02)
Live with heavy drinker		
Yes (vs no)	-0.66*** (-1.00, -0.33)	-0.04** (-0.07, -0.01)
Know heavy drinker outside household		
Yes (vs no)	-0.04 (-0.24, 0.17)	-0.03* (-0.05, -0.01)
Experienced at least one of six items^ measuring harm from others' drinking		
Yes (vs no)	-0.51*** (-0.71, -0.30)	-0.04*** (-0.06, -0.02)

^ (1) insulted you or called you names, (2) pushed you, (3) physically harmed you, (4) ruined your clothing or other belongings, (5) damaged your home, vehicle or personal property, (6) been responsible for a transport accident in which you were involved.

Estimates for both models are adjusted for gender, age, employment status, level of education and household composition.

β-co-efficients are non-standardised measures of the relative effects of each explanatory variable on the outcome variable (described by the number of units of change in the outcome variable according to a one unit change in the explanatory variable).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 10.5 presents the variables associated with personal well-being for men and women separately. Again, only the coefficients associated with a respondent's own drinking, exposure to heavy drinkers and exposure to harm from others' drinking are presented, but estimations are controlled for the same variables as in the whole sample models in Table 10.4.

Among female respondents, living with a heavy drinker was associated with decreased subjective quality of life and well-being, and knowing a heavy drinker who lived outside of their household was associated with lower subjective quality of life but not well-being. The effects were slightly different for men: living with a heavy drinker was associated with decreased personal well-being but not associated with subjective health-related quality of life.

Further, knowing a heavy drinker who lived outside one's household was mildly associated with a decrease in health-related quality of life for men. On the other hand, experience of harm due to others' drinking was significantly associated with a decrease in both the health-related quality of life and well-being of both men and women. Finally, the results did not show a consistent association between respondents' own drinking patterns and subjective well-being measures for either men or women.

Table 10.5 Multivariate linear regression models predicting level of subjective well-being and health by respondents' drinking, exposure to a heavy drinker inside and outside the household and experience of harm from others' drinking, according to gender

	Men		Women	
	Well-being (PWI)	Health-related quality of life (EQ5D)	Well-being (PWI)	Health-related quality of life (EQ5D)
	β# (CI)	β# (CI)	β# (CI)	β# (CI)
	N=598	N=593	N=714	N=705
Respondents' frequency of drinking 60 g alcohol on a single day				
Drinks, but never ≥60 g alcohol (vs abstainer)	-0.53 (-1.29, 0.33)	-0.02 (-0.09, 0.05)	-0.02 (-0.51, 0.47)	-0.05 (-0.10, 0.01)
Drinks, including ≥60 g alcohol <weekly (vs abstainer)	-0.23 (-0.53, 0.16)	-0.01 (-0.04, 0.02)	0.12 (-0.16, 0.41)	0.04* (0.01, 0.07)
Drinks, including ≥60 g alcohol ≥weekly (vs abstainer)	-0.35 (-0.66, 0.14)	0.00 (-0.04, 0.03)	-0.12 (-0.67, 0.43)	-0.03 (-0.08, 0.02)
Drinks, but frequency of ≥60 g alcohol unknown (vs abstainer)	0.00 (-0.40, 0.43)	-0.03 (-0.07, 0.00)	0.05 (-0.27, 0.37)	0.00 (-0.03, 0.04)
Live with heavy drinker				
Yes (vs no)	-0.81** (-1.26, -0.21)	-0.03 (-0.07, 0.01)	-0.48* (-0.88, -0.07)	-0.06* (-0.10, -0.01)
Know heavy drinker outside household				
Yes (vs no)	-0.07 (-0.31, 0.27)	-0.03* (-0.06, 0.00)	0.01 (-0.26, 0.28)	-0.03* (-0.06, -0.00)
Experienced at least one of six items measuring harm from others' drinking				
Yes (vs no)	-0.41** (-0.87, 0.28)	-0.03** (-0.06, -0.01)	-0.60*** (-0.88, -0.31)	-0.05** (-0.07, -0.00)

* p < 0.05, ** p < 0.01, *** p < 0.001.

^ Model estimates for each gender are adjusted for age, employment status, level of education and household composition.

β-co-efficients are non-standardised measures of the relative effects of each explanatory variable on the outcome variable (described by the number of units of change in the outcome variable according to a one unit change in the explanatory variable).

Discussion

The sample focused on households in cities of over 50 000 inhabitants. Young adult students in tertiary education were overrepresented. This explains why there were few households with children and more single respondents. As such, the sample was not representative of the population of the country, although it did include near-equal proportions of males and females, as well as respondents from a wide variety of sociodemographic backgrounds.

The results from the analysis of this Chilean sample support the hypothesis that heavy drinkers inside the household affect the subjective health-related well-being and general well-being of others in the household. The strength of this association is not equal across genders: women are exposed to greater harm than men due to others' drinking patterns, although men, too, reported diminished subjective well-being (but not health-related quality of life) if they lived with a heavy drinker. These results are consistent with many studies, accumulating evidence to confirm that, across cultures, it is women who suffer the most from the heavy drinking of others in a household (Laslett, Catalano & Chikritzhs 2010; Seid, Grittner et al. 2015). However, exposure to heavy drinkers outside the household does not seem to be consistently associated with well-being in the Chilean case. Neither women nor men reported differences in well-being connected to knowing heavy drinkers outside the household, while both women and men who reported knowing heavy drinkers outside the household were slightly, though significantly, more likely to report lower levels of subjective health-related quality of life.

Harm due to others' drinking, as reported by survey respondents, was significantly and consistently negatively associated with health-related quality of life and general well-being. The association is strong for both men and women, and no significant differences between the genders were found.

Subjective well-being measures were not strongly associated with individuals' own drinking patterns. Difficulty in isolating such effects in this study may have been due to the relatively low number of heavy drinkers in the sample, and biased reports regarding one's own drinking patterns.

Therefore, the study's results do not provide strong evidence of the effects of one's own alcohol consumption on health-related quality of life.

These results can be used to inform public policy in several respects if we consider subjective well-being as a policy objective. Effective policy should focus its efforts on bettering the dynamics of households where problematic drinkers live. The effects of others' drinking on the well-being and health-related quality of life of individuals should be taken into account when assessing the relevance of alcohol abuse in public health. Policy-makers and public-health institutions should focus at least part of their efforts on increasing public awareness of these issues, and should consider services and strategies that support family members living with heavy drinkers.

The findings in this chapter have much to say about drinkers' effects on household dynamics. This should be studied in depth, giving special emphasis to understanding how women are harmed and suffer, and what policy-makers could do to prevent this gendered phenomenon. Moreover, since the survey included only the adult population, we do not know how such household dynamics affect children, and this is another important question to be asked in future research.

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Chapter 11

Chapter 11

Increased use of police and health-related services among those with heavy drinkers in their lives in New Zealand[6]

Taisia Huckle, Khoon Wong, Karl Parker, Sally Casswell

The New Zealand context

New Zealand is a high income country with over 4.5 million residents. In 2008 it had a per capita alcohol consumption, for those 15 years of age and over, of 9.5 litres of absolute alcohol (Statistics New Zealand 2015). Analysis has suggested that in New Zealand, as elsewhere, alcohol is one of the most important risk factors for avoidable injury and mortality in early and middle adulthood and contributes substantially to them across the life course (Connor et al. 2013). The contribution of alcohol to the burden on health services in New Zealand such as hospital emergency departments is high (Humphrey et al. 2003). In 2008, it was estimated that alcohol cost New Zealand between 3.6 and 4.5 billion dollars (New Zealand Law Commission 2010).

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Consumption differs by age and socioeconomic status and contributes to the inequalities found in New Zealand society (Huckle et al. 2010; Huckle et al. 2011). The impacts of heavy alcohol use go beyond the drinker to others in the drinker's environment; the health and well-being of New Zealanders is lower in those most exposed to heavy drinkers compared to those who are not exposed (Casswell et al. 2011).

Alcohol's harm to others

The importance of measuring the effects of alcohol's harm to others has received increased attention in the research literature, not only because it is an important way in which the health and well-being of individuals may be affected, but because measuring alcohol's harm to others is likely to be important for informing Global Burden of Disease and Injury estimates. Currently, alcohol-attributable fractions measure harm caused to the drinker while harm to others is excluded. This means that these statistics underestimate the total impact of alcohol. A first step to rectifying this situation is to begin to quantify alcohol's harm to others – effects otherwise described as the "collateral damage", "second-hand effects" or "negative externalities" of drinking (Connor & Casswell 2012).

A number of studies have now been conducted assessing alcohol's harm to others. Studies from New Zealand and Australia report that people who have a heavy drinker in their lives experience reduced health and well-being (Casswell et al. 2011; Livingston et al. 2010). In the European Union (EU), very conservative estimates of harm to others (based mainly on drink-driving, homicides and fetal alcohol syndrome) suggest that between 3% and 4% of the overall alcohol-attributable deaths in the EU are due to others' drinking (Anderson et al. 2012). In six European countries – Denmark, Finland, Iceland, Norway, Sweden and Scotland - the proportion of survey respondents experiencing physical harm by an intoxicated person ranged from 2.6% in Denmark to 5.7% in Finland (Moan et al. 2015).

Service use by those with heavy drinkers in their lives

While some of the impacts of alcohol on others are known, there are other areas less well investigated, including the burden placed on services. Where studies are available they have mainly assessed the use of services by those affected by people dependent on alcohol or other drugs (e.g. Raitasalo et al. 2014; Svenson et al. 1995) – and have generally found that family members of people dependent on alcohol or other drugs use health practitioners more frequently or are more frequently hospitalized compared to families without a dependent substance user. A meta-analysis of 24 emergency department studies across 14 countries reported that, of assaults presenting to emergency departments, perpetrators had probably been drinking in 52.5% of cases and 23% had definitely been drinking (Cherpitel et al. 2012). A study in New Zealand by Connor et al. (2009) showed that every year more than 62 000 physical assaults and 10 000 sexual assaults occur that involve a perpetrator who has been drinking. Of these, 10 500 incidents required medical attention and 17 000 involved police.

In New Zealand, approximately 30% of police work is alcohol-related (New Zealand Police 2016). The proportion is similar for those treated for injuries in urban hospital emergency departments (Humphrey et al. 2003). How much of the burden placed on such services is related to another's drinking has not been reported. There are data on those who seek help from health providers to reduce their alcohol use, with primary healthcare physicians – general practitioners and counsellors – the most commonly approached (Ministry of Health 2015). But just how many people affected by others' drinking seek help from such sources in New Zealand is not known.

An Australian study assessed service use by those with a heavy drinker in their life in a general population survey sample. It calculated the proportions accessing help and the demographic factors and level of harm from others' drinking that predicted the seeking of help in the general population. Thirteen per cent of respondents had called the police because of someone else's drinking and 4.5% had used a health-related service in the previous 12 months.

Key factors that predicted service use were the level of harm experienced from a drinker (as reported by the respondent), not having a partner, and place of residence (Mugavin et al. 2014).

Several factors may play a part in whether people seek help because of someone else's drinking and how often they do so, such as how many heavy drinkers there are in the person's life and whether they cohabit with a heavy drinker. Given this, this study will predict the use of services related to someone else's drinking among the general population based on an exposure-to-heavy-drinkers index. This index has been used previously in work by Casswell et al. (2011). It was created to examine the impact of exposure to heavy drinking and is based on an overall measure of numbers of heavy drinkers in respondents' lives or households. This index does appear to capture factors relevant to respondents' lives (Casswell et al. 2011). Its value for the current study is that it allows for the cumulative effects of exposure to heavy drinkers in a respondent's life, if any, to be estimated. Other factors that may affect service use due to other drinkers may be related to particular characteristics of the person affected, for example, a demographic characteristic or their own consumption of alcohol.

This present study, then, provides population estimates for New Zealand of service use because of someone else's drinking; examines demographic predictors of such service use; and investigates whether greater exposure to heavy drinkers relates to greater service use.

Methods

Data were collected using an in-house Computer Assisted Telephone Interviewing (CATI) system during 2008/2009. Landline phone numbers were randomly generated for the whole country and sampled in proportion to the usually resident population 12–80 years in the number's area. Telephone coverage in 2008 in New Zealand was fairly high: approximately 92% of households had landline telephones. Certain sectors of the population are underrepresented among those having access to landline telephones: Maori

(the Indigenous people of New Zealand), Pasifika peoples (people from the Pacific islands and their descendents) and single-parent households (Statistics New Zealand 2004; Wyllie et al. 1994).

All eligible people in the household were enumerated and one respondent was randomly selected by computer. Once a phone line was recognized as a residential line, at least ten calls were made at different times of the day and on different days of the week to attempt to reach a respondent. A high level of quality control was ensured by means of interviewer training, ongoing quality checks and supervision to ensure consistency of data collection (for further details on methodology see Casswell et al. 2002).

The sample size was 3068 and response rate 64%. This response rate was calculated using the formula: number of eligible responding/(the number of eligible responding + number of eligible non-responding + estimated numbers of eligible from the unknowns) x 100. Respondents were eligible if they were aged 12–80 and had lived in the country for at least 12 months.

The unweighted sample was reasonably representative of New Zealand's population aged 12–80 (Census 2006; see, for example, Statistics New Zealand 2007a, 2007b, 2007c). Weighting was applied to correct for respondent selection probabilities; to weight down one of our survey area strata; and to match the survey weights to New Zealand 2006 Census population distributions using Rim Weighting for groups based on gender, age and ethnicity. Lastly, standardization was undertaken to match the weighted sample size back to the initial survey size. Mean weight was 0.99, with a standard deviation of 0.56.

Full ethical approval for this project was given by the Massey University Human Ethics Committee.

Measures

All questions related to the previous 12 months.

Heavy drinking associates

Respondents were asked: "Are there any people in your life whom you consider to be a fairly heavy drinker or someone who drinks a lot?" If they said "yes", they were asked to think about the first "heavy drinker" in their life and to state their relationship to that person and how much of the last 12 months they had lived in the same household as that person. Respondents were then asked to think about any other heavy drinkers in their lives. Respondents could report up to ten heavy drinkers.

Service use because of someone else's drinking

Respondents were asked about their use of services as a result of someone else's drinking. This included calling the police and using health services – specifically medical treatment at a general practitioner (GP) or an after-hours doctor, a hospital or hospital emergency department – or requiring counselling/professional advice. Respondents were asked how many times they used these services. Response options ranged from never to daily.

Demographic variables

The demographic variables were: age (quadratic age, reflecting the non-linear relationship found); gender; ethnicity (European origin, Maori, Pacific, Asian); marital status (married/partner, divorced, single); employment status (full time, part time, student, unemployed/sick, retired, parenting); educational achievement (university degree, postgraduate degree, professional certificate, diploma, trade/technical certificate, secondary certificate, non-secondary certificate; and income (no income, less than NZ$15 000, $15 000–30 000, $30 000–50 000, $50 000–70 000, $70 000 plus).

Respondent's own drinking

This was assessed using a within-location beverage-specific measure that achieves a high coverage of population-level consumption (Casswell et al. 2002). This obtains frequency and typical quantities consumed in a number of mutually exclusive locations.

Analysis

All statistical analysis was undertaken using SAS (Version 9.2) and significance was declared at $p<0.05$.

Index of exposure to heavy drinkers

An index of respondents' exposure to heavy drinkers was derived to account for the cumulative effect of exposure where respondents had multiple drinkers in their lives. If relevant, the period of time the heavy drinker had lived in the household was also taken into account, as previous research has found that heavier drinkers can have greater impacts on others when they live in the same household (Johansson et al. 2006). Weights were used only to categorize respondents, not in the model itself. For each heavy drinker, weights were assigned as follows: 1: not/occasionally living in the same household; 1.5: sometimes living in the same household; 3: half of the time living in the same household; 4.5: most of the time living in the same household; 6: living all of the time in the same household. Weights were summed across all heavy drinkers reported by the respondent and scores were categorized into three groups for analysis. Testing revealed that the weights showed consistency. Level 0 = no heavy drinkers in life (n = 2173); Level 1 (weight 1) (n=500); Level 2 = (weight 1.1 - 3) (n= 237); Level 3 = (weight 3.1+) (n=158). Due to lower numbers in Level 3, levels 2 and 3 were combined for analysis.

Analyses of service use

Descriptive analysis was undertaken to determine the proportion of respondents who reported using each of the designated services at least once in the past 12 months. Additionally, the three health services asked about were combined to give an overall proportion of respondents using any of these (at least once). Logistic regression was conducted to predict respondent demographics against any service use in the past 12 months because of another's drinking (yes/no). The respondent's own consumption was also included (typical quantity in a drinking occasion and frequency). Using respondents' reports of frequency of service use, a proportional-odds model for a univariate ordinal response was used to predict the relationship of exposure to heavy drinkers. Each model was controlled for demographic factors and the respondent's own consumption (covariates) (Gameroff 2005; Stokes, Davis & Koch 2000).

Results

Proportion of New Zealand population using types of services

Ten per cent of New Zealanders reported having called the police at least once in the past 12 months because of someone else's drinking, corresponding to 378 843 New Zealanders making at least one call in that time to police (when converted to a proportion of the total population aged 12–80). Almost 7% of the sample, representing 257 613 New Zealanders, reported requiring health services at least once for the same reason. Specifically, around 2% required medical treatment from a general practitioner or after-hours doctor; around 2% went to a hospital/emergency department; and 2.6% received counselling/professional advice because of someone else's drinking (Table 11.1 column 1).

Table 11.1 Prevalence of service use because of others' drinking, and its prediction by index of exposure to heavy drinkers^

Services	%	Exposure to heavy drinker (Level 1) OR (CI)	Exposure to heavy drinker (Level 2) OR (CI)	Linear contrast p-value
Called police	10.0	1.4 (1.0, 1.9)*	2.9 (2.1, 3.9)*	<0.0001
Received medical treatment at GP or after hours doctor	1.8	1.4 (0.6, 2.8)	3.8 (2.0, 6.8)*	<0.0001
Attended hospital/emergency department	2.4	1.9 (1.0, 3.8)*	3.7 (2.1, 6.7)*	<0.0001
Received counselling/professional advice	2.6	2.1 (0.9, 4.6)	8.5 (4.6, 15.6)*	<0.0001

^ Odds ratios (ORs) shown are compared to no exposure to a heavy drinker, based on regressions controlling for the respondent's own consumption and all demographic factors included in Table 11.2.

Index of exposure to heavy drinkers

The estimates in Table 11.1 (columns 2–4) show that, while controlling for a range of demographic factors and respondents' own consumption, lower exposure to heavy drinkers was not related to getting "medical treatment at a general practitioner or after hours doctor" or getting "counselling/professional advice", but significant relationships were found for calling the police and going to a hospital/emergency department. Those with lower exposure were 1.4 times more likely to call the police and 1.9 times more likely to go to a hospital/emergency department than those with no heavy drinkers in their life, because of someone else's drinking.

Significant relationships were found for people with higher exposure to heavy drinkers for all variables investigated. Those with higher exposure to heavy drinkers were 2.9 times more likely to have called the police; 3.8 times more likely to have received treatment at a GP or after-hours doctor; 3.7 times more likely to have gone to a hospital or emergency department; and 8.5 times more likely to have received counselling or professional advice because of someone else's drinking compared to those with no heavy drinkers in their life.

Table 11.2 Logistic regression: respondents' own demographic characteristics and consumption predicting service use

Parameter	Odds Ratios	LCI	UCI	P-value[§]
Age	1.06	1.01	1.12	0.020
Age in quadratic	0.99	0.998	1.00	0.003
Gender: male vs female (Ref)	0.92	0.72	1.17	0.494
Ethnicity vs European (Ref)				
Asian	0.78	0.51	1.21	0.270
Maori	1.50	1.11	2.04	0.009
Pasifika	1.98	1.34	2.91	0.001
Marital status vs partner (married/de facto) (Ref)				
Single	0.94	0.70	1.27	0.690
Widowed/divorced/separated	1.29	0.85	1.95	0.230
Current employment status vs Full-time employee (Ref)				
Part-time employee	0.99	0.66	1.47	0.954
Student	1.01	0.60	1.69	0.981
Unemployment or sick/on invalid benefit	1.51	0.85	2.66	0.157
Retired	0.99	0.48	2.05	0.980
Parenting	1.19	0.72	1.95	0.495
Education level vs university degree (Ref)				
Did not complete secondary school	0.94	0.59	1.48	0.775
Completed secondary school	1.10	0.75	1.61	0.626
Trade or technical certificate	1.17	0.76	1.79	0.473
Diploma	1.20	0.75	1.92	0.441
Professional qualification	0.69	0.32	1.48	0.338
Postgraduate degree	1.44	0.92	2.24	0.111
Personal income vs $70 001+ (Ref)				
No income	1.26	0.65	2.44	0.495
<$15 001	1.50	0.82	2.72	0.185
$15 001-$30 000	2.11	1.29	3.44	0.003
$30 001-$50 000	1.61	1.02	2.53	0.039
$50 001–$70 000	1.54	0.98	2.43	0.061
Own drinking				
Log of occasion quantity (ml)	1.04	0.88	1.23	0.631
Log of annual frequency	1.04	0.95	1.13	0.417
Respondent drank in last 12 months vs no (Ref)	0.93	0.45	1.90	0.833

Ref.: reference category LCI: confidence interval – lower limit; UCI: confidence interval – upper limit.

[§] P-value at less than 5% level is significant.

Respondents' own characteristics predicting service use

Table 11.2 shows how respondents' own characteristics predicted whether or not they had used any service (yes/no) because of someone else's drinking in the past 12 months. The findings show that being older or being Maori or Pasifika predicted use of service as a result of someone else's drinking (p-value<0.05). With regard to income, being in the middle income groups, relatively speaking, predicted service use. Respondents' own drinking – including whether they consumed alcohol in the past 12 months – did not predict ever using a service because of someone else's drinking. Living with a partner also did not predict ever using a service because of someone else's drinking.

Discussion

This study is the first to show the extent of service use because of others' drinking in New Zealand. In 2008, an estimated 378 843 (or 10%) of New Zealanders made at least one call to the police, and 257 613 (or 6.8%) required a health-related service because of someone else's drinking. The population estimates found in this study are in line with those for Australia, which is New Zealand's nearest neighbour and which had a similar level of per capita consumption in 2008 (10.32 litres of absolute alcohol in Australia and 9.5 litres in New Zealand (Australian Bureau of Statistics 2010; Statistics New Zealand 2015). In Australia in 2008, 13% of the population called the police at least once in a 12-month period, and 4.5% used a health-related service because of someone else's drinking (Mugavin et al. 2014).

The index created to examine the impact of exposure to heavy drinking provided an overall measure of the number of heavy drinkers and cohabitation and appeared to capture factors relevant to respondents' lives. This was evidenced by the relationships found in the data, which generally showed that the extent of exposure to heavy drinkers in respondents' lives was related to increased likelihood of services being used as a result of someone else's drinking.

In this study, those with greater exposure to heavy drinkers, including through cohabitation, had consistently higher odds of using all of the services more frequently. In some cases the odds were relatively high, including for "had to get medical treatment at a general practitioner or after hours doctor" and "a hospital/emergency department". Respondents were almost four times more likely to have done so compared to those with no exposure to heavy drinkers in their lives, while those exposed to heavy drinkers were over eight times more likely to have received counselling/professional advice. These findings are consistent with the wider literature showing that cohabitation with a heavy drinker is associated with greater impact (Casswell et al. 2011; Johansson et al. 2006).

With respect to respondents' demographic characteristics: being older, being Maori or Pasifika, and having a higher income were predictors of use for each of the services. Living with a partner did not predict use of a service because of someone else's drinking, even though those most exposed to heavy drinkers, as measured by the exposure index (which included cohabitation as one factor), had increased odds of service use. This could mean that exposure to a greater number of heavy drinkers was more important than cohabitation. Another possibility is that those harmed by another drinker where that drinker is their partner may be less likely to report such harm (Mugavin et al. 2014).

There is little provision of services directly for family members of those affected by heavy drinkers in New Zealand. Some specialized treatment and harm-reduction services are family inclusive, but there is generally a lack of assessment services or intervention for those affected by drinkers (Adams 2008). Further, since most heavy drinkers do not receive treatment, only a small proportion of family members and significant others who are affected are likely to be reached through specialized treatment services. There are 12-step fellowships for those affected by the heavy drinking of others, for example, Al-Anon and the helplines Alcohol Drug Helpline and Youthline. Respondents were not, however, asked about these services in the current study.

Exposure to heavy drinkers is related to increased service use by those affected, and this contributes to the cost of both police and health services (which dominate public spending in New Zealand) (Connor & Casswell 2012). The cost of services related to alcohol's harm to others remains largely hidden, however, as these data are not routinely collected or, if they are, to the best of our knowledge they have not been used to estimate the costs to services in New Zealand. Keeping routine data documenting the number of people seeking or receiving help from services as a result of others' drinking, and data on the type of service provided, would allow costings of dollars spent in this area. Such information would contribute to the policy debate.

The study has several limitations. The survey design was cross-sectional, which limits conclusions about causality. The measure of heavy drinkers was limited to respondents' self-reports. Not all factors known to be associated with service use could be controlled for. Survey data usually suffer from under-representation of the members of the community most affected due to non-response biases (Kypri et al. 2011).

Conclusion

A considerable number of New Zealanders require intervention from police and health services as a result of someone else's drinking. Heavy drinkers place an increased burden on police and health-related services in New Zealand, not only because of consequences for the drinker but because drinkers have impacts on others. Routine recording of the number of people seeking or receiving help from services because of harm caused by another's drinking, and of the type of service provided, would provide useful data for future policy debate.

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Chapter 12

Chapter 12

A first look across the nine societies: patterns of harm from others' drinking

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Introduction

This chapter offers a first view of how the incidence of alcohol-related harm to others varies across nine study countries. The data presented here give a picture of the extent and distribution in the general adult population of harm at the interpersonal and interactional level. The chapter therefore includes consideration of the harms from drinkers who are known – whether they share a household, are in a person's family, or are a friend or acquaintance (these categories together are termed here "known people"). Also considered are harms to children from parents' and other adults' drinking, harms from drinking where the drinker is a co-worker, as well as where the drinker is not known ("stranger"). Harms may occur in a variety of contexts: for instance, at home; in a traffic crash; in an attack by one group of drinkers on another in a bar or outside on the street; or as damage to the respondent's property from a noisy group of drinkers outside on the street at night.

To recap the information provided in Chapter 2, respondents were asked about whether they had experienced a range of specific harms, outlined in Figure 12.1.[7] These harms could be attributed to the drinking of a friend,

[7] As the Australian and New Zealand surveys were undertaken in 2008, prior to the WHO/ThaiHealth surveys, the sequence and composition of questions in each of them differs slightly from the other surveys. A key difference is that respondents were asked about harm from "known drinkers" in relation to harms from a single known person whose drinking most negatively affected them in the past year. Rates of harm from this single drinker may be lower than what would have been answered for harms from the collectivity of a respondent's known drinkers.

a family member or an acquaintance of the respondent (a known drinker) or to a stranger, or both. It should be noted that the questions on which the present analysis is based were asked fairly concretely - about specific events or circumstances. This was intended to minimize, as far as possible, any cultural differences in respondents' evaluation of whether an event or circumstance qualified as a harm (it is quite likely that some respondents may have had a higher or lower threshold for what would have to occur before they would consider themselves "negatively affected"). Also, in answers to the questions, the connection between an adverse event or negative effect and another's drinking was made by the respondent. There are variations in different historical periods (Levine 1983) and across cultures (Room & Bullock 2002) in the extent to which the co-occurrence of intoxication and such an event or effect will be interpreted as causally connected. It should be kept in mind, in interpreting the different patterns of responses in the various societies represented in this chapter, that these differences may in part reflect cultural differences in the propensity to notice such events or circumstances and to make an attribution of the problem to drinking.

Methods

A detailed description of the methodology of the overarching study, and of each of the nine individual country studies, including the fieldwork and sampling, is provided in Chapter 2, and in a previously published description of the nine-country dataset (Callinan et al. 2016).

In this chapter, as participation in the survey conducted in Lao People's Democratic Republic was limited to those under 65, and as participation in seven of the nine country-level studies was limited to adults (those 18 and over), respondents under 18, respondents 65 and over, and respondents whose age was not recorded, were excluded from this analysis to maintain comparability between the samples of the various countries.[8]

8 The numbers of participants from the various countries, whose age at the time of the survey was outside of this range, and who were subsequently excluded from this chapter's analysis, are as follows: 460 from Australia, 106 from Chile, 175 from India, 45 from Laos PDR, 659 from New Zealand, 54 from Nigeria, 212 from Sri Lanka, 124 from Thailand and 63 from Viet Nam.

Measures

To estimate and compare the prevalence of alcohol's harm to others in nine countries, dichotomous variables were created for experience of harm to others from four domains: 1. any harm to respondents from the drinking of people known to them (for example, intimate partners, family members, friends, colleagues or acquaintances); 2. any harm to respondents from the drinking of strangers (that is, people not known to them); 3. any harm to respondents from the drinking of co-workers (that is, harms experienced in the workplace); and 4. any harm to respondents' children from the drinking of others (that is, any adults' drinking, including the respondents' own). A summary of all questionnaire items used in the construction of the outcome variables in this analysis is provided in Figure 12.1.

Respondents were coded as "yes" to experiencing any harm: 1. from known people's drinking if they answered yes to experiencing any of ten types of harm from known people's drinking; 2. from strangers' drinking if they answered yes to experiencing any of seven types of harm from strangers' drinking; 3. from co-workers' drinking if they answered yes to experiencing any of a possible five types of harm from co-workers' drinking (except for the Australian and New Zealand samples, for which data on three and four types of harms from co-workers were available, respectively); and 4. to their children if they answered yes to experiencing any of four types of harm to children for whom they had responsibility.[9] From these items a subset of items, which pertain to the more tangible types of harm from others' drinking, was extracted for subsequent analysis (Figure 12.1, column 2). Respondents were coded yes to experiencing any tangible harm from others' drinking within each of the four domains if they answered yes to experiencing any of the more tangible harm items for the corresponding domain.

[9] Respondents who were missing data for more than one quarter of the items included in the derivation of the outcome variables regardless of whether they had answered "yes" to any of the other included items, were coded as "missing" for that variable.

Figure 12.1 Survey items used in the derivation of variables to describe the experience of any harm and tangible harm to respondents themselves and to respondents' children because of others' drinking

Harm to respondent from known people's drinking		
In the last 12 months, have you … because of a known person's drinking?	*Any harm*	*Tangible harm*
… felt threatened or afraid at home or in some other private setting	✔	✔
… been forced or pressured into sex or something sexual	✔	✔
… had to leave home to stay somewhere else	✔	✔
… been a passenger with a driver who had too much to drink	✔	
… been emotionally hurt or neglected	✔	
… stopped seeing any of these people who drink	✔	
… had someone fail to do something they were being counted on to do	✔	
… had less money for household expenses	✔	
… been harmed physically	✔	✔
… had your house, car or property damaged	✔	✔
Harm to respondent from strangers' drinking		
In the last 12 months, have you … because of a stranger's drinking?	*Any harm*	*Tangible harm*
… been made to feel afraid when you encountered them on the street	✔	✔
… been kept awake at night by drunken noise	✔	
… felt unsafe in a public place	✔	
… been called names or insulted	✔	
… been harmed physically	✔	✔
… been involved in a traffic accident	✔	✔
… had your house, car or property damaged	✔	✔
Harm to respondent from co-workers' drinking		
In the last 12 months, have you … because of a co-worker's drinking?	*Any harm*	*Tangible harm*
… had to cover for a co-worker	✔	
… had your productivity at work reduced	✔	
… had your ability to do your job negatively affected	✔	
… been involved in an accident or a close call at work	✔	✔
… had to work extra hours	✔	
Harm to respondents' children		
In the last 12 months, has one or more of the children who you are responsible for … because of someone's drinking?	*Any harm*	*Tangible harm*
… been left in an unsupervised or unsafe situation	✔	
… been yelled at, criticized or otherwise verbally abused	✔	
… been physically hurt	✔	✔
… witnessed serious violence in the home	✔	✔

The data presented here, including on harm from co-workers' drinking and on harm to respondents' children, use the whole sample as the denominator, whether or not the respondent had a job or had children. This provides an indication of the relative prevalence in the whole population of these harms compared to other forms of harm.[10]

To estimate and compare the overall prevalence of alcohol's harm to others, a dichotomous variable was created for experience of any harm to respondents from others' drinking. Respondents were coded as "yes" to experiencing any harm from others' drinking if they answered yes to any type of harm from known people's drinking, strangers' drinking or co-workers' drinking. As this variable is concerned with harms occurring to respondents themselves, it does not include harms to respondents' children. As noted in Figure 12.1, the "any harm" to the respondent variable was derived from 20 items for the Australian sample, 21 items for the New Zealand sample and 22 items for the samples of the remaining seven countries.[11] A similar variable was created for "tangible harm", which codes whether the respondent answered yes to experiencing any of ten more tangible types of harm from others' drinking (see Figure 12.1).

[10] Only respondents currently employed or working as volunteers were asked the series of questions related to harm from co-workers' drinking. Additionally, the Australian sample was only asked these questions after answering a prior question about having had problems from a co-worker or boss in the previous 12 months, whereas for the New Zealand sample they were only asked if respondents reported having had a co-worker or boss who was a fairly heavy drinker or sometimes drank a lot. Given that a proportion of those who had co-workers may not have been asked the co-worker harm questions, as some of those who noted "student" as their primary occupation may also have been working, percentages of those who experienced ham from co-workers' drinking harm may be slightly underestimated. The series of questions about harms to respondents' children were asked of those who reported having parental or guardianship responsibility for one or more children under 18 years who may or may not have been living with them - except in the New Zealand sample, where the questions were only asked of those who reported living with a child under 18 during the previous 12 months (which is likely to have resulted in an underestimation of harm to respondents' children in New Zealand); and in the Indian sample, where the questions were asked of those who reported having parental or guardianship responsibility for children that did not live with them. Parents in the Indian sample were not all asked about harms to children, so child data items from India were subsequently dropped from all analyses.

[11] The co-worker harm items for which all Australian and New Zealand respondents were missing were not dropped from the analysis because to do so would underestimate the percentage of respondents who experienced harm from co-workers' drinking by between 0.6% and 8.8%, and would underestimate the percentage of respondents who experienced harm from any drinker by a relatively small 0.1% to 1.3%, in the remaining seven countries. Therefore, the estimated percentage of respondents who experience any co-worker harm is likely to be underestimated for Australia and New Zealand, but the percentage who experience any harm from others' drinking is probably a very minor underestimation.

Sociodemographic characteristics and respondents' own drinking patterns were also included in analyses for explanatory and comparative purposes. Respondents' highest level of education was included as a dichotomized variable. Respondents who had not completed any formal schooling, or who had primary school education, or who had begun but had not completed high school were classified as having less than a high school education. This group was compared to respondents who had at least completed high school or upper secondary school ("≥ high school"). Residential location was also dichotomized: respondents who resided in open country, on a farm, on a large estate, in a village, or in town with a population of less than 50 000 inhabitants, were classified as residing in a rural location, as compared to "non-rural" respondents living in more urban locations. There was one exception to this categorization: Indian respondents who resided in a town (size not specified) were classified as non-rural because many of these towns, while not necessarily urban areas, have been established due to rapid industrialization and thus contain a population different to that of typical rural locations. For a detailed explanation of Indian towns in transition, please refer to Chapter 8.

Finally, respondents were categorized, on the basis of their own drinking pattern, into one of three categories: 1. "abstainers" - respondents who had not consumed any alcohol in the past 12 months or longer; 2. "low risk drinkers" - respondents who consumed alcohol, but only approximately 60 g or more of alcohol on an occasion in a day less frequently than monthly; and 3. "risky drinkers" - respondents who consumed approximately 60 g or more of alcohol on an occasion in a day at least monthly.[12]

[12] Given that a large proportion of the Chilean sample (22.5% of the men and 31.5% of the women) were known to drink but their frequency of drinking 60 g or more alcohol on an occasion in a day was not able to be calculated, these respondents were categorized into a fourth group to prevent a large proportion of the Chilean sample being coded as missing for the drinking pattern variable.

Analysis

All data analysis was conducted with Stata version 14. All counts presented are raw numbers, while all percentages were computed on the weighted sample, adjusted to the gender proportions among adults in the country and to the inverse of the number of adults in the respondent's household, reflecting the likelihood of being invited to participate in the survey. Gender weights were also applied to reflect population estimates of gender splits per country (Department of Economic and Social Affairs 2013). Further detail on the weighting methodology is available in Chapter 2.

Descriptive statistics were used to present and compare the nine national studies' rates of experience of harm to respondents themselves, and to their children, as a result of others' drinking - both for the full samples and in relation to demographic and drinking-pattern categorizations. Ninety-five percent confidence intervals of the effect estimates (Table 12.2), and p-values derived from between-groups tests for significance of difference between proportion estimates compared to the baseline group (Table 12.3), are provided to indicate the significance of differences in proportions between countries and between sociodemographic and drinking-pattern groups. In all tables, countries are arranged in descending order of per capita alcohol consumption, according to the estimates in the World Health Organization's (WHO) *Global status report on alcohol and health 2014* (World Health Organization 2014).

The findings: identifying differences and similarities between countries

Sample characteristics

Table 12.1 uses the country-level survey data and presents an overview of the sociodemographic characteristics and drinking patterns identified for each country. Once the data are weighted as described above, there is an almost equal distribution of males and females in the sample. The mean age is similar in most countries, although lower in Chile, India and Sri Lanka. There is a large

variance in most of the other sociodemographic variables, with the low and middle income countries (LMICs) reporting lower levels than the high income countries (HICs) for high school completion, and a much greater proportion of the population living in rural areas than the HICs. Household composition also varies between countries, and between 58% and 85% of respondents reported living with or being responsible for children.

Abstention vs drinking at all and heavy episodic drinking by gender

Table 12.1 also presents drinking patterns for each gender in each country, as measured in the nine surveys. As noted in Chapter 1, abstainers are least common in the three most affluent countries (Australia, New Zealand and Chile), and are more commonly women in all countries. Male abstention is most common in India and Nigeria, while around a third of men in Sri Lanka and Thailand also abstain. Male abstention is rare in the three HICs but also uncommon in Viet Nam and Lao People's Democratic Republic. Women are more likely to be abstainers in the six LMICs, though less so in Lao People's Democratic Republic. Over three quarters of the female population abstain in Nigeria, India and Sri Lanka. The majority of males drink in all countries, except India.

The findings from this study about abstinence across countries suggest that current drinking of alcohol at any level is much less likely in LMICs overall than in HICs (combining men and women's figures - results not shown). However, in terms of risky drinking (drinking more than six drinks monthly or more often) there are similarities. Although, again, risky drinking patterns are more common among men and women in the three most affluent societies, male risky-drinking patterns are relatively similar across countries. Around a quarter to a third of male citizens in each LMIC reported drinking in a risky fashion, with the lowest male risky-drinking rates apparent in Nigeria and Lao People's Democratic Republic. In all of the LMICs in this study, women were much less likely to drink in a risky fashion - less than 10% of female respondents in all of these countries. In the HICs 18–19% of women in New Zealand and Australia drank in a risky fashion, while 27.4% of women in Chile did so.

Table12.1 Sociodemographic characteristics and drinking pattern of the samples from each of the nine societies identified from the surveys

	Australia		New Zealand		Nigeria		Chile		Lao People's Democratic Republic		Thailand		Viet Nam		India		Sri Lanka	
N	**2,189**		**2,409**		**2,216**		**1,394**		**1,212**		**1,571**		**1,438**		**3,228**		**2,263**	
Sociodemographic characteristics																		
% Female (vs male)	51.3		53.2		49.8		50.1		49.7		51.2		50.8		49.2		52.1	
Mean age	41.1		40.8		40.5		34.3		40.5		43.6		42.1		37.3		38.0	
% ≥ high school education (vs < high school education)	80.5		72.9		41.8		86.5		35.7		39.5		35.0		35.4		28.2	
% Rural (vs non-rural)	13.9		24.6		67.0		13.5		42.9		37.9		67.7		26.8		70.8	
% Live with children (vs do not live with children)	56.5		N/A		73.5		58.0		82.0		62.3		85.1		80.8		67.3	
	Australia		**New Zealand**		**Nigeria**		**Chile**		**Lao People's Democratic Republic**		**Thailand**		**Viet Nam**		**India**		**Sri Lanka**	
	M	**F**	**M**	**F**	**M***	**F***	**M^**	**F^**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
N	**889**	**1,300**	**950**	**1,459**	**1,355**	**861**	**653**	**741**	**504**	**708**	**643**	**928**	**719**	**719**	**1,517**	**1,711**	**1,091**	**1,172**
Respondents' drinking pattern																		
% Abstainer	10.7	14.1	13.4	20.1	41.9	79.4	19.4	32.7	12.6	36.3	32.3	69.7	15.0	71.0	54.6	89.3	32.4	96.6
% Low risk	45.2	66.9	48.5	61.5	35.0	17.4	8.0	8.4	62.6	54.8	40.3	27.3	54.7	27.3	9.2	2.3	38.0	2.7
% Risky	44.1	19.0	38.1	18.4	23.1	3.2	50.1	27.4	24.8	8.9	27.4	3.0	30.3	1.7	36.2	8.4	29.6	0.7

M = male; F = female; N/A = not able to be derived.

* >5% missing data.

^ Those known to drink but whose frequency of drinking 60 g or more of alcohol on an occasion in a day was not able to be calculated were categorized into a fourth group to prevent a large proportion of the Chilean sample being coded as missing for the drinking pattern variable.

Low risk: drinks but >60 g alcohol less than monthly (including never).

Risky: >60 g alcohol monthly or more.

Rates of harm from others' drinking by category of relationship

Table 12.2 presents information for each country on the percentage of respondents who reported experiencing any harm and tangible harm from known drinkers (family, friends and neighbours);[13] from strangers; from co-workers; and to respondents' children.

In terms of the experience of any harm from a family member or friend, Thai, Indian and Sri Lankan respondents reported the highest rates of harm, with 61%, 59% and 48% of respondents, respectively, having experienced some harm due to the drinking of someone they knew. For tangible harms, again, higher percentages were reported in Sri Lanka and India. Thai respondents were thus more likely to report harm that was not classed as tangible. Although WHO statistics show New Zealand, Nigeria and Australia as having the highest per capita consumption of alcohol, respondents in these countries were the least likely to report any harm from the drinking of someone they knew.

Alcohol-related harm due to a stranger's drinking showed quite different patterns. Three of the four countries reporting the highest rates of any such harm were the HICs: Australia (62%), Chile (57%) and New Zealand (54%). Thailand (60%) and India (51%) also reported rates in this range. However, all countries aside from Nigeria reported that at least a quarter of the population had been affected by strangers' drinking in the past year. A substantial proportion of respondents from India, Thailand and Chile also reported tangible harm from strangers' drinking, with over a third of respondents reporting more tangible harms in India and Thailand. Australians were less likely to report more tangible harms. Viet Nam and Nigeria were the countries least likely to report any harm and tangible harm from strangers' drinking. Interestingly, while Sri Lankan respondents were more likely to report harms from known drinkers, they were less likely to report harms from strangers' drinking.

[13] Co-workers are also sometimes included here.

Table 12.2 Prevalence of harm, and tangible harm, to adults from the drinking of known people, strangers and co-workers and from any of these three domains, and prevalence of harm to respondents' children from others' drinking, among the full samples of the nine societies

		Known people		Strangers		Co-workers		Any harm to the respondent[a]		Harm to respondents' children[#]	
	N	% any harm (CI)	% tangible harm (CI)	% any harm (CI)	% tangible harm (CI)	% any harm (CI)	% tangible harm (CI)	% any harm (CI)	% tangible harm (CI)	% any harm (CI)	% tangible harm (CI)
Australia	2,189	26.7 (24.7, 28.8)	12.4 (10.9, 14.0)	61.9 (59.6, 64.2)	21.7 (19.7, 23.7)	3.9^ (3.0, 4.9)	0.5 (0.2, 0.9)	67.3^ (65.0, 69.5)	28.3 (26.2, 30.5)	5.9 (4.8, 7.1)	1.7 (1.2, 2.3)
New Zealand	2,409	19.4 (17.6, 21.3)	9.3 (8.1, 10.8)	53.9 (51.7, 56.1)	20.1 (18.3, 21.9)	0.9^ (0.6, 1.5)	0.0 (0.0, 0.2)	58.4^ (56.2, 60.6)	24.6 (22.7, 26.6)	2.2 (1.5, 3.0)	1.0 (0.6, 1.7)
Nigeria	2,216	22.7 (20.7, 24.7)	5.6 (4.6, 6.7)	18.7* (16.7, 20.9)	8.8* (7.4, 10.4)	1.9 (1.4, 2.7)	0.4 (0.2, 0.8)	33.7 (31.4, 36.2)	12.5 (11.0, 14.2)	4.4 (3.5, 5.6)	2.2 (1.6, 3.1)
Chile	1,394	37.0 (34.2, 39.9)	19.1 (16.8, 21.5)	56.9 (53.9, 59.8)	28.7* (26.1, 31.5)	11.9 (10.1, 13.9)	1.0 (0.6, 1.9)	67.0 (64.2, 69.7)	38.0 (35.2, 40.9)	2.5 (1.8, 3.6)	1.3 (0.8, 2.1)
Lao People's Democratic Republic	1,212	31.0 (28.1, 34.2)	11.1 (9.2, 13.3)	34.6 (31.6, 37.7)	20.7 (18.2, 23.4)	6.1 (4.7, 8.0)	1.8 (1.1, 2.8)	51.0 (47.8, 54.2)	27.7 (24.9, 30.7)	2.5 (1.7, 3.7)	0.8 (0.4, 1.6)
Thailand	1,571	61.3 (58.5, 64.1)	12.9 (11.1, 14.9)	59.8 (56.9, 62.6)	35.7 (33.0, 38.5)	16.3 (14.2, 18.6)	3.3 (2.4, 4.5)	78.0 (75.6, 80.3)	41.4 (38.6, 44.3)	8.4 (6.8, 10.2)	5.2 (4.1, 6.6)
Viet Nam	1,438	46.5 (43.6, 49.3)	15.4 (13.4, 17.5)	27.9 (25.4, 30.5)	8.2 (6.8, 9.9)	9.4 (7.9, 11.2)	1.8 (1.2, 2.8)	56.5 (53.6, 59.3)	21.3 (19.1, 23.7)	8.2 (6.8, 9.9)	4.1 (3.1, 5.4)
India	3,228	59.3* (57.4, 61.1)	30.8 (29.1, 32.6)	51.4 (49.5, 53.2)	41.6 (39.8, 43.4)	13.0 (11.8, 14.3)	7.3 (6.4, 8.3)	76.7 (75.1, 78.2)	49.7 (47.9, 51.6)	N/A	N/A
Sri Lanka	2,263	48.1* (45.7, 50.4)	22.2* (20.2, 24.2)	32.9 (30.8, 35.2)	16.4 (14.7, 18.3)	12.3 (10.8, 13.9)	2.7 (2.0, 3.6)	59.5* (57.2, 61.7)	30.5 (28.4, 32.7)	5.9 (4.8, 7.0)	1.8 (1.3, 2.5)

[a] Considers harms to the respondent from known people's, strangers' and co-workers' drinking (does not consider harms to respondents' children).

^ Any harm from co-workers was derived from three items for the Australian sample and four items for the New Zealand sample (compared to five items used for each of the remaining seven countries), and any harm to the respondent was derived from 20 items for the Australian sample and 21 items for the New Zealand sample (compared to 22 items used for each of the remaining seven countries).

[#] Children are <18 years and the respondent's children or in a minority of cases are living with the respondent but not their biological children, e.g., grandchildren and children with other guardians.

N/A = denominator is not comparable to other countries.

CI: 95% confidence interval.

* >5% missing data.

For harms from co-workers' drinking, higher percentages tended to be reported by countries that reported higher levels of known drinker harms. Over 10% of respondents in Thailand, India, Sri Lanka and Chile reported some form of harm from co-workers' drinking. Nigeria and Viet Nam were least likely to report any harm from co-workers. The prevalence of tangible harm (having been in an accident or having a close call at work due to a co-worker's drinking) was low in all countries.

Respondents could be harmed by the drinking of persons from any of three categories: known people, strangers or co-workers. A mix of LMICs and HICs reported the highest percentages of both any harm and tangible harm. Thailand and India reported the highest levels of any harm and tangible harm. Chile, too, reported relatively high levels of both harm of any type and tangible harm, while Australia reported high levels of harm in general but more moderate levels of tangible harm. Except for Nigeria, at least half of the population in each country reported at least one type of harm from others' drinking in the past 12 months. A similar pattern is apparent for tangible harm, with a fifth to a half of all countries except Nigeria reporting tangible harm from others' drinking in the last year.

The final two columns of Table 12.2 present information on the proportions of respondents that reported they have children who had been harmed by adults' drinking. A slightly different pattern of harm emerges here, with respondents in Viet Nam, Thailand, Sri Lanka and Australia reporting higher rates of any harm to children from others' drinking. Tangible harms to children were also more commonly reported in Thailand and Viet Nam than elsewhere.

Looking across the several ways in which harms from known drinkers' and strangers' drinking are measured in Table 12.2, some consistent patterns stand out. Respondents in Nigeria and Lao People's Democratic Republic were less likely to report harms from any person - known drinkers, strangers or co-workers - than respondents from the seven other societies.

Looking back at the demographics and drinking profiles in Table 12.1, the variable that stands out as being substantially lower for these two countries

is the prevalence of male risky drinking. In this table, there are no other differences that mark any distinction between these two and the other LMICs. However, we know additionally from the WHO data presented in Chapter 1 that, compared to the other LMICs in the study, Nigeria and Lao People's Democratic Republic have the highest population proportions of 0 - 15 year olds, the highest proportions of heavy episodic drinkers and the lowest education indices, and these conditions may influence alcohol-related harms from others' drinking.

India and Thailand stand out as experiencing high rates of any harm and tangible harm from the drinking of all types of drinkers, with India having consistently close to the highest rates of harm in all domains, with only any harm from strangers being slightly lower than for a number of the other countries. Respondents in Thailand also reported particularly high rates in each of the three domains, with a slightly lower rate for experiencing tangible harm from known drinkers.

The three most affluent societies - Australia, New Zealand and Chile – show relatively low rates of harm from known drinkers but high rates of harm from strangers. Although elsewhere a substantial portion of those experiencing harms from known drinkers reported tangible harms, in these three countries the proportions reporting tangible harms from strangers were considerably lower. In contrast, Sri Lanka reported a particularly high rate of harms from drinkers known to the respondent and co-workers. Chile also reported moderately high levels of harm from strangers and more tangible harms from known drinkers, culminating in one of the three highest rates of reported levels of tangible harm from any person.

Variations in rates of harms from others' drinking by the respondent's social location: gender, age group, education and rural vs non-rural residence

Using the measures of any harm and tangible harm reported from all classifications of drinkers, the top sections of Table 12.3 examine patterns of variation in the societies by gender, age group, educational level, and rural vs non-rural location. The table combines harms from known drinkers, co-workers

and strangers, whom we know to show slightly different patterns. For example, men may interact with or know more people that drink in their friendship and work groups, while women may interact with fewer drinkers in general, apart from the male drinkers they know in their families. Thus women may be relatively more likely to experience harms from known drinkers who are family members but men are more likely to experience harm from friends and co-workers (Stanesby et al. 2018), and combining these groups may mean some of these differences will be blurred.

The experience of any harm from others' drinking was more commonly reported by men than women in Sri Lanka and Lao People's Democratic Republic. In contrast, rates of tangible harm were higher for women in India, Thailand and Chile. In the remaining countries, no substantial differences were identified in the rates of any harm or tangible harm between men and women.

In terms of variations by age group, for harms from any person's drinking, younger people were consistently more likely to report higher rates of harm in all countries except Nigeria (where no difference between age groups is evident). Younger age is also associated with higher levels of tangible harm in all countries except Nigeria and India, where the older group was slightly more likely to report more tangible harm from others' drinking.

In comparing reported harms to others from drinking in each country for respondents who had and had not completed secondary schooling, a small number of findings stand out. Only in India was a respondent's lower level of education associated with higher levels of any harm and tangible harm. In four countries - Australia, Chile, Lao People's Democratic Republic and Thailand - for the measure of any harm but not for tangible harm, there was an apparent link between higher education and reporting of harm from the range of drinkers.

Concerning residential location, in Australia, New Zealand, Lao People's Democratic Republic and Sri Lanka, higher levels of harm from others' drinking were reported in non-rural areas. Only in Viet Nam was the reported level of harm from others' drinking higher in rural areas.

Table 12.3 Prevalence of alcohol-related harm, and tangible alcohol-related harm, to others by selected sociodemographic and drinking pattern variables among the nine societies

	Australia		New Zealand		Nigeria		Chile^		Lao People's Democratic Republic		Thailand		Viet Nam		India		Sri Lanka	
Characteristics	% any harm[a]	% tangible harm	% any harm[a]	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm	% any harm	% tangible harm
N	2,189		2,409		2,216		1,394		1,212		1,571		1,438		3,228		2,263	
Sex																		
Male	65.1	30.1	56.1	24.0	34.0	13.4	66.3	33.4	55.8	29.9	79.1	34.4	58.6	20.1	76.3	43.5	66.9~	30.9
Female	69.5	26.6	60.5	25.1	33.5	11.5	67.7	42.7**	46.1**	25.4	77.1	48.1***	54.4	22.5	77.1	56.2***	52.7~***	30.1
Age group																		
18-29 years	78.8	46.5	69.6	38.8	33.0	12.0	76.6	44.7	58.4	34.2	86.7	47.5	63.0	26.1	81.5	46.5	63.7~	38.5
30-49 years	70.4**	25.2***	59.5***	23.0**	34.4	11.3	60.3***	32.6***	50.8	27.3	81.1	43.8	56.8	21.9	75.7**	50.1	59.7~	28.5***
50-64 years	54.8***	19.3***	47.7***	15.8***	33.4	14.7	56.2***	32.3**	45.2**	22.8**	70.3***	35.7**	52.1*	17.5*	72.1***	53.5*	52.9~**	25.2***
Education																		
< High school	58.5	24.5	56.4	25.0	32.3	13.2	58.1	34.5	48.5	27.6	75.6	40.4	56.6	21.8	79.5	53.0	60.2~	31.6
≥ High school	69.4***	29.3	59.2	24.4	35.6	11.2	68.7*	38.9	55.5*	27.7	81.7**	42.9	56.3	20.4	71.5***	43.6***	57.7~	27.5
Residential location																		
Non-rural	68.3	28.8	61.4	26.2	33.4	9.8	67.8	38.5	57.4	30.0	78.7	41.5	46.2	17.8	75.6	50.5	66.6	38.1
Rural	61.3*	25.4	49.3***	19.7**	34.0	13.8*	64.9	36.7	42.7***	24.5	77.0	41.3	61.3***	23.0*	79.4*	47.7	56.4~***	27.3***
Respondents' drinking pattern																		
Abstainer	58.9	22.9	57.3	23.7	27.5	9.9	54.9	31.3	41.4	24.1	72.6	40.1	49.7	20.4	76.1	46.7	52.9~	27.8
Low risk	66.3*	24.7	55.3	18.7*	41.4***	10.3	77.7***	44.9*	51.8**	27.0	82.2***	43.5	59.9**	21.9	80.0	59.3**	63.8~***	23.8
Risky	72.6***	36.9***	65.3*	37.0***	41.5***	19.0***	78.3***	46.1***	62.5***	35.3*	87.5***	41.2	66.8***	21.9	79.0	57.4***	83.0***	51.4***
Total	67.3	28.3	58.4	24.6	33.7	12.5	67.0	38.0	51.0	27.7	78.0	41.4	56.5	21.3	76.7	49.7	59.5~	30.5

[a] Any harm to the respondent was derived from 20 items for the Australian sample and 21 items for the New Zealand sample (compared to 22 items used for each of the remaining seven countries).

^ To avoid excessive missing data, respondents who drank but for whom the frequency of drinking 60 g of alcohol in a day was unknown were grouped but the proportion is not presented.

Results from between-groups tests for significance of difference between proportion estimates compared to the baseline group (first listed category of each variable): * P < 0.05; ** P < 0.01; *** P < 0.001.

~ >5% missing data.

Variations in rates of harm from others' drinking by respondent's drinking pattern

In most of the countries studied, respondents who themselves had higher rates of risky drinking reported higher rates of any harm and of tangible harm from others' drinking. However, there appeared to be very little relation between the rate of any harm and drinking pattern in India, and little differentiation between risky drinkers and other drinkers for any harm in Nigeria, tangible harm in Viet Nam, and both any harm and tangible harm in Thailand. Risky drinking was especially strongly related to any harm and tangible harm from others' drinking in Sri Lanka and New Zealand.

Discussion

Some consistent patterns emerge from the various measures of alcohol's harm to others used in these analyses. Harm from strangers was considerably more commonly reported than harm from known drinkers in the three most affluent societies (Australia, New Zealand and Chile), but also in Thailand. More tangible harm was more common in Thailand and Chile, but noticeably also in India, where a greater proportion of the harm experienced overall was tangible. Thailand, Sri Lanka and India show the highest rates of any harm from known drinkers. For tangible harm from known drinkers, the highest rates are identified in India and Sri Lanka, with Chile reporting a slightly higher level of tangible harm than Thailand.

India, Thailand and Australia show high rates of harms from any person's drinking, whether known or unknown to the respondent. India, Thailand and Chile reported the highest rates of tangible harm. Younger age was the only demographic factor that was consistently associated with more harm to others from drinking across almost all of the countries studied. There were differences between societies in the gender, education level and geographic location of alcohol-related harm. In four countries, higher education was associated with more harm, and only in India was a lower level of education linked to harm. In four countries, people in non-rural regions experienced more harm, with the

opposite being true for Viet Nam, where harms to others from drinking were more common in rural areas. The former finding is not entirely surprising - in most countries, the majority of harms experienced were from strangers, and it seems intuitive that harm from strangers is more likely where the population density implies that more strangers will be encountered.

A common finding, though not universal, was that drinking and risky drinking by the respondent were associated with harm from others' drinking. This may reflect both the social ecology and the effects of drinking, which is to say that respondents who drink are more exposed to others' drinking and to drinking networks, and that respondents' own intoxication may render them vulnerable to increased victimization. Despite men tending to be heavier drinkers than women in all countries, in all countries, except Lao People's Democratic Republic and Sri Lanka, a similar or greater percentage of women than men experienced any harm, and any more tangible harm from others' drinking. Women in these countries are at greater risk of experiencing harm from others' drinking relative to their alcohol consumption. Future research trying to disentangle these complex relationships would be valuable for developing appropriate policy responses to this problem.

The three most affluent societies - Australia, New Zealand and Chile - reported the highest rates of risky drinking, and also reported - along with Thailand - the highest rates of harm from strangers' drinking - although the differences in rates were most apparent at the less serious (that is, less tangible) level of harm. It is worth noting that Australia, New Zealand and Chile have the highest levels of urbanization. On the other hand, the highest rates of harm from known drinkers were reported in Thailand, India and Sri Lanka, which are among the four lowest in per capita consumption, and in the proportion of adults who drank alcohol at all. In these societies, drinking appears to be a more contentious behaviour, with the harms from drinking often appearing in intimate and face-to-face relationships. It may be that when alcohol is less socially acceptable, the harms from consumption "come home"; that is, in "dryer" countries people will be more likely to drink around people they know.

Considering the results in Tables 12.1 and 12.2 together, the countries with higher levels of harm from others' drinking were those with higher rates of risky drinking, in particular, male risky drinking. This is a notable finding and should be investigated further using multilevel modelling and involving additional countries.

While there seem to be some consistent differences between the patterns in more affluent and less affluent societies, the differences between the less affluent societies' patterns of alcohol's harm to others do not have easily apparent explanations. Further analyses bringing other characteristics and correlates to bear will be needed to understand the differential rates and patterning of harm from others' drinking in this diverse assortment of societies. The one apparent constant is that in societies such as the nine in this study, in which at least a substantial minority of the population drinks heavily, there are substantial rates of harms from others' drinking.

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Chapter 13

Chapter 13

Concluding remarks and moving forward in research and policy on alcohol's harm to others

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The diverse dimensions in comprehending harm from others' drinking

This book has brought together the work of nine national research teams. Each team was asked, drawing on their national data, to prepare a chapter on a different aspect of alcohol's harm to others. Each of the nine chapters has thus gone into considerable detail about a specific facet of harm from others' drinking. Chapter 12 gives a comparative overview of rates and patterns of harms across the nine societies. This chapter highlights the findings from each country and the differences and similarities across the nine societies.

The overall picture: the broad reach of alcohol's harm to others in nine diverse societies

Over the course of a year, others' drinking adversely affects in some way a large proportion of adults in the societies studied in this book. Some of these harms are relatively minor, and sometimes what we have interpreted as a

negative effect (for instance, having to spend time taking care of an intoxicated family member) may not be interpreted that way by the respondent. Nevertheless, the surveys show that the reach of harmful effects across different segments of all of the societies is remarkable. As shown in each of the chapters, there are variations in rates of harm by gender, age, social class and geography (urban/rural), and the ubiquity of reported harms is as impressive as the demographic variations. Further, although most of the harms affect only a relatively small part of each demographic and social group, in terms of cumulative significance, these harms have substantial adverse effects on the life chances and quality of life of a large portion of the population.

Alcohol's harm to others and heavy drinking level

The Australian chapter turned attention away from those who are affected by others' drinking to an examination of how heavy the drinking is of the drinkers most responsible for harm to others. Men and younger people contribute more than others to such harm, although some women and older people are also seen as responsible for a range of adverse effects. Asked about the drinking patterns of the person who had most harmed them because of their drinking, most respondents reported that the person drank at least 11 drinks when drinking heavily, with a fifth drinking 20 or more drinks in the one session. The evidence in Australia thus suggests that it is a very heavy drinking group, and a group that drinks far more than the "average Australian", that is primarily responsible for alcohol's harm to others, as measured in the survey.

Alcohol and the social fabric of everyday life

The Nigerian chapter on the harm from drinking by people known to respondents (family, friends and neighbours) found that despite high abstention rates, particularly among women, a significant number of Nigerians (around a quarter) reported that they knew a heavy drinker. Given around one fifth of men and women in Nigeria reported being harmed by the drinking of someone they knew, the majority of people who reported knowing a heavy drinker thus reported that they had been harmed by them. Somewhat in contrast to the

findings from other countries - where women are more likely than men to report being adversely affected by the drinking of family members (Laslett et al. 2010; Ramstedt et al. 2015) - in Nigeria, men and women were equally likely to report being negatively affected by the drinking of household members, as well as by other drinkers they knew. Both in Nigeria and elsewhere, for instance in Australia (Laslett et al. 2010), men were slightly more likely to report being harmed by friends and co-workers.

The Lao People's Democratic Republic chapter draws attention to the harm to others from the drinking of co-workers and highlights that a substantial minority of workers experience harms, ranging from having to do extra work to fill in for a co-worker to being involved in an accident because of a co-worker's drinking. The finding that young, male and casual labourers were at much greater risk of experiencing harm from co-workers' drinking suggests that particular social groups and workplace settings should be targeted in policies and programmes. The significant proportion of co-workers affected suggests that the costs to Lao People's Democratic Republic associated with such problems are high. The harm to others from the alcohol-related degradation of work performance potentially affects not only individuals but also the work enterprise and economic development of the country overall.

Alcohol's harm to vulnerable populations

Harms to children from others' drinking are studied in the chapter from Viet Nam, drawing on respondents' reports concerning children for whom they were a parent or carer. Families with a heavy drinker reported more harms to children. Respondents from rural areas were more likely to report harms to children, and there were differences too by region, suggesting that local-level factors (perhaps drinking patterns or family practices and supports) may be in play and need attention. The estimated rate of harm to children from others' drinking in Viet Nam was slightly higher than that seen in Australia (Laslett et al. 2012), and one of the highest rates among the Asian countries in the WHO/ThaiHealth study (Laslett et al. 2017).

Harm from others' drinking in the community, by type of community

The focus of the Sri Lankan chapter is the effects of strangers' drinking and harms experienced as a result of their drinking, often in public places. The findings here are that although there is much greater abstinence among women than among men, women are about as likely as men to report harms from strangers' drinking. The factors associated with more harm from strangers' drinking in Sri Lanka are drinking pattern and geography, with respondents who reported drinking more heavily or who resided in cities and tea plantation estates being more likely to report harms from strangers' drinking. The discussion in this chapter turned to the types of social worlds in which heavy drinkers are located. It suggested both that exposure to harm is more probable in contexts where heavy drinkers interact and that some contexts in particular are more associated with the occurrence of harm. It should be kept in mind that this chapter deals with a small part of the survey findings, namely, harm to others from the drinking of strangers in public places. Overall, diverse segments of society, such as children, women, youth and the elderly, in different parts of the country, are adversely affected by others' drinking.

Examining more closely different forms of urbanization, the chapter from India highlights some of the profound differences in alcohol's harm to others that are manifested in different kinds of urban areas within the one country. To use an Australian urban-planning term, different urban areas vary considerably in community amenity, and problems associated with amenity seem biggest in the category of "transition towns". Respondents in transition towns experienced higher levels of harm from others' drinking and were more likely to report causing harm to others while intoxicated.

Financial burden due to others' drinking

The chapter from Thailand addresses both the general financial burden and a number of specific out-of-pocket costs incurred because of others' drinking. A fifth of respondents indicated that there had been at least one financial impact on their lives in the previous 12 months because of others'

drinking. Those who had been affected financially felt more severely affected than others. The figures generated provide only a partial estimate of cost but begin to document the extent of the problem in a middle income country and demonstrate an approach to tallying the extent of harm. If all costs were more comprehensively included, for instance response-system costs, much higher estimates would be obtained, as was found in analyses of the Australian situation (Laslett et al. 2010; Marsden Jacob Associates 2012).

Quality of life and others' drinking

The Chilean chapter uses broad measures of personal well-being and health-related quality of life to show that harm from others' drinking significantly affects the quality of life and personal well-being of those who experience such harms, particularly those living in the same household as the drinker. These findings are generally similar to those found in another high income country – Australia (Laslett et al. 2010; Livingston et al. 2010). In the Chilean chapter, there is an interesting contrast between the finding that living with someone else's heavy drinking is associated with lower quality of life and satisfaction (which was not found in Australia [Dussaillant & Fernandez 2015]), and the finding that heavy drinkers themselves do not have such a lower quality of life and satisfaction. In the aggregate, heavy drinking thus seems to impinge more negatively on those around the drinker than on the drinker him or herself.

Alcohol's harm to others and services and response systems

The use of services and response systems by those dealing with harms from others' drinking is described in the New Zealand chapter. Ten per cent of New Zealanders reported calling the police and 7% reported having to attend a health service, including general practitioners, emergency departments or counselling services, because of someone else's drinking. In general, greater exposure to heavy drinkers was connected to greater odds of using services, but not in all respects: older and higher income respondents were more likely to report using services because of others' drinking.

Comparing rates across countries

Chapter 12 brings the different surveys together, drawing on the alcohol's harm to others archive described in Chapter 2 to compare the extent and pattern of alcohol's harms to others across all nine countries. To measure the breadth of harms, and provide a broad indication of the nature and seriousness of those harms, Chapter 12 presents the prevalence of any type of harm, and the prevalence of more tangible types of harm, from the drinking of those known to the respondent (family, friends, co-workers and neighbours) and from the drinking of those unknown to the respondent (strangers).

In all of the countries except New Zealand and Nigeria, more than a quarter of the population reported experiencing harm in the previous 12 months from the drinking of someone they knew, with the largest prevalence of harm from known people's drinking being observed in Thailand, Vietnam, India and Sri Lanka. Indeed, approximately half of the Sri Lankan population reported harms from a known drinker. The prevalence of harm from others' drinking, including more tangible types of harm, appears consistently high: in all countries except Nigeria, over half of the population reported being harmed by either a stranger or someone they knew in the previous 12 months, and more than one in five reported experiencing tangible harm from another's drinking in the previous 12 months. Alongside the harm to respondents directly, the study found appreciable rates of specific harms to respondents' children in the previous 12 months, ranging between 2% and 8%.

Both the respondent's age and being a heavier drinker oneself were fairly consistently associated with higher levels of harm from others' drinking: in all countries apart from Nigeria, young people more commonly reported experiencing harm from others' drinking, and in all countries, heavier drinkers were more likely than abstainers and lighter drinkers to experience harm from others. Both of these characteristics seem to be indicative of increased exposure to heavier drinkers and situations where heavier drinking occurs, increasing the likelihood of experiencing harm from others' drinking.

Lastly, the drinking of alcohol appears gendered in all countries, but this does not carry over to rates of harms from others' drinking. Particularly in low and middle income countries, women have a higher abstention rate and a lower rate of risky drinking than men. But the percentage of women and men who were harmed by others' drinking was similar in all countries, except for Lao People's Democratic Republic and Sri Lanka, where a slightly lower percentage of women than men were harmed. In Sri Lanka, for instance, a very high rate of abstinence among women does not seem to act as a protective factor against harms from others' drinking. While men predominate among the heavy drinkers, harms from others' drinking in household and neighbourhood contexts affect both males and females almost equally.

Other windows and broader perspectives on alcohol's harm to others

There has been a groundswell of research on alcohol's harm to others, with studies in the United States focusing on street nuisances, disturbances and violence in public spaces (Fillmore 1985; Greenfield et al. 2009) as well as harms from car crashes (Weed 1993; Fell & Voas 2006). Work in the Nordic countries has emanated more often from concerns about the family (Holmila 1987, 1994, 1997; Huhtanen & Tigerstedt 2012; Ramstedt et al. 2015). When the focus is narrowed to more severe events, emergency room studies have highlighted that a significant component of attendances may be attributed to another's drinking (Cherpitel et al. 2012). In Australia, the extent of the impact of others' drinking on health, police, justice and child protection practice has been made clear. For example, a third or more of child protection cases in Australia were estimated to involve carer alcohol misuse, and in 70% of family violence incidents in some states alcohol was identified as a risk factor (Laslett et al. 2015). The WHO/ThaiHealth study's investigation of the recognition and handling of the role of others' drinking in the caseloads of health, social and policy agencies in six countries identified a spectrum of organizations, including orphanages, family violence response agencies and police departments that respond to problems associated with others' drinking (Laslett et al. 2016). However, the

dimension of others' drinking is clearly often missed by caseworkers, and there is rarely any provision for systematic recording and collation of information on this dimension. While institutions that are mandated to respond to instances of abuse most probably capture only a small fraction of actual cases, there is often staff interest in the topic and the potential to develop and implement instruments for recording this dimension for use in planning programmes and policy interventions. A second phase of the WHO/ThaiHealth project will pilot such data collection and recording in low and middle income countries.

Overarching themes are evident in this developing body of research, although they need further exploration and confirmation, particularly in low and middle income countries. Gender matters in the occurrence of harm from others' drinking in particular types of relationship in many high income countries, with women more likely to be affected by family members, and men more likely to be affected by men they know in friendship and work circles (Laslett et al. 2011; Huhtanen & Tigerstedt 2012). Social class may matter less, at least in high income countries; for instance, harms to children from others' drinking were evenly spread across income groups (Laslett et al. 2012), although child protection services, where they exist, tend to have caseloads mostly of children from poor and marginalised families (Laslett et al. 2013). We know from work on harms to drinkers that socially disadvantaged groups experience more harm per litre of alcohol consumption than those who are richer (Room et al. 2011), and this pattern seems to appear also in terms of harm to others: in the more severe cases of harms to children from others' drinking, disadvantaged groups appear to be more likely to be affected (Laslett et al. 2013).

Loose coalitions of researchers have formed to build this research area: the International Group for the Study of Alcohol's Harm to Others (IGSAHO) meets in conjunction with the annual meetings of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol. The Nordic Group for the Study of Alcohol's Harm to Others has developed three main research streams - qualitative, survey based and registry-data based.

Looking forward – research issues

From a public health policy perspective, cross-cultural comparison was never the main point of the WHO/ThaiHealth study. Doing parallel studies in different societies was undertaken primarily as an opportunity for national teams to be part of collective decisions around using agreed-on methods and to learn from each other's experience along the way. The primary object of each country's study was to develop data that would be useable in the national context for policy making and program refinement, and which would put alcohol's harm to others on national research and policy agendas.

The ability to make some cross-national comparisons is thus a bonus from the study. And, as Chapter 12 demonstrates, there are interesting and indeed provocative findings from such cross-national analyses. But the cross-national comparisons also remind us that studying harm from others' drinking brings us up against various dimensions that are influenced by cultural judgements and perceptions. Overall, we are reminded that many of the harms in question are not as objective and unarguable as the fact of a death or a broken leg; for most harms associated with alcohol, there are matters of definition that are subject to cultural influences. At the heart of the questionnaires in the survey studies in this book were questions on relatively concrete behaviours and occurrences, since we wished as far as possible to minimize variations in responses related to cultural and situational influences. Even so, the answers to these concrete questions were likely to be subject to cultural influences on at least two points. One is the cultural influence on the threshold beyond which a behaviour or event is defined as noticeable and harmful. Even for concretely phrased items this likely came into play. What counts as "a traffic accident"? A scrape or dent? Or does it have to be something more consequential? What counts as "having called you names or otherwise insulted you"? The threshold for answers to such questions is undoubtedly culturally influenced.

A second main cultural variation relates to the attribution of harm to drinking. The phrasing of the questions in the population survey put the

responsibility on the respondent to make the attribution. Early in the questionnaire the respondent was asked about relatives or friends "whose drinking had negatively affected you". The wording of the concrete items included a direct or strongly implied attribution of the behaviour or event to the effects of drinking: "due to someone else's drinking" or "who had been drinking", for instance. Answering "yes" to an item concerning something "due to their drinking" involves the implication, at a minimum, that drinking can influence the behaviour asked about, and that the behaviour would not have happened without the drinking. There are clear cultural differences in willingness to make such attributions (Room et al. 1996; Room & Bullock 2002; Room et al. 2016). Further exploration of these issues would be a substantial help in interpreting future cross-national comparisons of surveys of harm from others' drinking.

Future surveys should also explore what questions would be most helpful in developing data that could be used in adding harm from others' drinking to the calculations of alcohol as a risk factor for the Global Burden of Disease (GBD). Much of the harm considered in this study is social, and thus would not count in the GBD. But the harms also include physical and mental health harms, which could be counted in the computation of risks of harms from drinking in the same way that harms from second-hand smoking are already counted in GBD risk calculations.

As policy-making develops around alcohol's harm to others, countries that are committed to reducing the rates of such harm will need to undertake periodic surveys on the topic to provide the necessary material for analyses of trends and the impact of policy initiatives. As progress is made also on studies to develop and apply indicators of the involvement of others' drinking in social and health service data bases (see Phase 2 of the WHO/ThaiHealth project - Rekve et al. 2016) , there will be the opportunity to compare and begin to link up data and findings from the two "windows" on harms from others' drinking. Studies of when and under what circumstances cases in the general population become more marginalized and come into the caseloads of health, police and social agencies can point towards preventive interventions and policies.

Looking forward – policy issues

It is hoped that this publication will serve as a useful source for interested policy-makers from both the prevention and response service sectors for understanding the scope and complexity of the negative consequences of alcohol consumption. Harms to others from drinking are widespread across the community in many countries, both rich and poor. The extent and types of harms and the composition of victims revealed by these surveys in low and middle income countries, as well as in high income countries, provide evidence of the need for stronger alcohol policies at country *and* global levels.

This book also reveals the substantial rates of harm to vulnerable individuals, groups, communities and society at large experienced as a result of others' drinking. A considerable proportion of the harm caused by drinkers known by respondents or that occurs within the household is also documented. Many of these harms attributable to alcohol have been neglected and are important justifications for government actions to reduce the toll of alcohol's effects upon citizens. Evidence of this kind may transform how societies view these problems and inform debate on the regulation of the alcohol industry and intervention in alcohol markets. In the same way that evidence of the role of passive smoking has contributed to debate and development of healthier public policy on tobacco, alcohol's harm to others has considerable policy significance.

The knowledge in this book of the magnitude, patterns, distribution and predictors of each type of harm should inform a planned public health response to alcohol's harm to others, both in general and in specific areas. Like policy recommendations related to other social problems, we need policies and interventions at different levels that target different population groups and intervene using different mechanisms. Many effective alcohol policies exist at the societal level - related to taxation, availability control and advertising regulation - which can address alcohol-related problems and reduce rates of heavy drinking (Babor et al. 2010). Although there is only limited concrete evidence for the relation of these alcohol control measures to reductions in

rates of harms from others' drinking, what evidence there is (for instance, in the specific areas of drink-driving and domestic violence) suggests that controls on availability can substantially reduce rates of harms from others' drinking. Evidence of such harms is the basis of a further set of arguments for such measures.

Findings about alcohol's harm at the family level show that having heavy drinkers in the home is a significant predictor of experiencing harms from others' drinking, and results in lower quality of life, as reported in the Chile chapter, and has impacts on the family budget, as in the Thai chapter. Moreover, many children are negatively affected by family members' drinking, as reported in the Viet Nam chapter. Community initiatives will play an import role in these settings: examples might include early screening and identification of drinking problems; prioritized treatment access; and provision of social support and skilled help to individuals and families affected by family members' drinking. Crucially, improvement of response service systems to meet the needs of those affected is needed, especially in low and middle income countries, where existing services may be fragmented and less accessible. For this we need multidisciplinary actions, and probably national policies and legislation.

At the community level, findings on harm from the drinking of strangers or people in the community, as reported in the Sri Lanka chapter, and harm to people living in disadvantaged neighbourhoods, as in the India chapter, point to the need for policies to make communities safer. Healthy environments may be created where the availability of alcohol is more controlled. In some places, prohibition of drinking in public places has been suggested as a means for reducing rates of alcohol-related crime and disorder. Measures to increase public awareness of preventable alcohol problems should highlight the threat that alcohol poses to personal and social safety and to public order.

Concerning harm in one's work life, co-workers' drinking is related to other workers' lower productivity and work performance, as well as to safety issues. Workplace-based alcohol policies and programmes to reduce alcohol-related problems among employees should be introduced.

Deeper understanding of the consequences of others' drinking for specific harms is likely to point to specific harm-reduction measures for particular harms. The well-developed literature on drink-driving countermeasures provides a number of examples of such measures, including the adoption of blood alcohol content (BAC) limits for driving, and a diversity of measures for enforcing such limits. Similar sustained efforts to develop, test and implement countermeasures are needed for other leading harms caused by others' drinking.

The drink-driving field also provides substantial evidence that particular harms to others can be linked, given a considerable overlap in the drinkers responsible for each type of harm. The South Dakota 24/7 scheme, which used technological means to enforce substantial periods of abstinence on those convicted of drink-driving, unexpectedly resulted in a fall in rates of domestic violence (Kilmer et al. 2013). Further exploration of any overlap between harms may identify other cases where a bonus gain may occur from successful countermeasures against a particular harm.

An issue that deserves further discussion and careful positioning is the ethical dimension in harm from others' drinking. That harm occurs to one person because of the behaviour of another is not only the archetypal situation that John Stuart Mill argued justifies governmental action (Mill 1859). It is also potentially a source of considerable moral dispute. Issues arising from harms caused by others' drinking can easily lend themselves to moral crusades: in the US history on drink-driving, for instance, where the idea of the "killer drunk" gained some prominence. The tradition in the public health field has been to avoid such moral denunciations and stigmatization of individuals for health-threatening behaviour. Instead it has sought to encourage such individuals to make use of services and programmes, where harm-reduction measures can be offered. A strong focus on "free markets", "free will" and individual responsibility can also stigmatize the "morally weak" - those who are not able to manage a psychoactive substance with dependence-producing propensities. An overemphasis on individual responsibility can lead

governments to forgo the use of effective and cost-effective interventions that protect citizens from "accidents, violence and other negative consequences of alcohol consumption" (WHO Euro 1995). Evidence of alcohol's harm to others provides a strong rationale for systemic and situational measures to prevent or reduce harms from others' drinking. Both on ethical and practical grounds, there is good reason to apply ethically sound strategies where drinking puts others at risk.

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Appendices

Appendix I

WHO/ThaiHealth project publications

PEER REVIEW PUBLICATION (international and domestic journals)

2017	
Cross-national work	Laslett A-M, Rankin G, Waleewong O, Callinan S, Landberg J, Hanh TMH, Florenzano R, Hettige S, Obot I, Siengsounthone L, Ibanga A, Hope, A, Hanh TMV, Thamarangsi T, Rekve D, Room R (2017). A multi-country study of harms to children because of others' drinking, J Stud Alcohol Drugs.78(2):195 - 202.
Thailand	Jankhotkaew J, Chaiyasong S, Waleewong O, Siengsounthone L, Sengngam K, Douangvichit D, Thamarangsi T (2017). The impact of heavy drinkers on others' health and well-being: national surveys in Lao People's Democratic Republic and Thailand. J Subst Abuse. 22(6):617 - 623.
Thailand	Waleewong O, Jankhotkaew J, Thamarangsi T, Chaiyasong S (2017). Prevalence of harm from others' drinking and the relationships with demographics and the respondent's drinking behaviors in Thailand, J Subst Abuse. 22(6):605 - 511.
2016	
Cross-national work	Callinan S, Laslett A, Rekve D, Room R, Waleewong O, Benegal V, Casswell S, Florenzano R, Hanh H, Hanh V, Hettige S, Huckle T, Ibanga A, Obot I, Rao G, Siengsounthone L, Rankin G, Thamarangsi T (2016). Alcohol's harm to others: an international collaborative project. Int J Alcohol Drug Res. 5(2):25 – 32.
Cross-national work	Laslett A-M, Waleewong O, Obot I, Benegal V, Hettige S, Florenzano R, Hanh TMH, Hanh VTM, Rao G, Room R (2016). Scoping response system management of alcohol's harm to others in lower middle income countries, Nordic Stud Alcohol Drugs. 33(3–5):5 – 6.
Chile	Florenzano R, Echeverria A, Sieverson C, Barr M, Fernández MÁ (2015). Daño a niños y sus familias por el consumo de alcohol: resultados de una encuesta poblacional [Harm to children and their families due to alcohol abuse: results of a population survey in Chile]. Rev Chile Pediatría. 87(3):162–8.
Chile	Florenzano R, Huepe G, Barr M (2016). Harm to others from alcohol: the role of socio-cultural variables. Acta Bioethica. 22(1):71–9 (http://www.scielo.cl/pdf/abioeth/v22n1/art08.pdf).
India	Esser MB, Gururaj G, Rao GN, Jayarajan D, Sethu L, Murthy P, Jernigan DH, Benegal V and Collaborators Group on Epidemiological Study of Patterns and Consequences of Alcohol Misuse in India (2017). Harms from alcohol consumption by strangers in five Indian states and policy implications. Drug Alcohol Rev. 36(5):682 - 690.
India	Esser MB, Gururaj G, Rao GN, Jernigan DH, Murthy P, Jayarajan D, Lakshmanan S, Benegal V (2016). Harms to adults from others' heavy drinking in five Indian states. Alcohol Alcohol. 51(2):177 – 85.

India	Esser MB, Rao GN, Gururaj G, Murthy P, Jayarajan D, Lakshmanan S, Jernigan DH, Benegal V (2016). Physical abuse, psychological abuse, and neglect: evidence of alcohol-related harm to children in five states of India. Drug Alcohol Rev. 35(5):530–8.
2015	
Chile	Dussaillant F, Fernandez MA (2015). Alcohol's harm to others' wellbeing and health: a comparison between Chile and Australia. Alcohol Alcohol. 50(3):346–51
Chile	Florenzano R, Echeverría A, Pastorino S, Fuenzalida F, Barr M (2015). Percepción de hombres y mujeres frente al daño por consume de terceras personas por consume de alcohol en la Region Metropolitana de Chile [Perceptions of men and women affected by harms from others' drinking in the metropolitan regions of Chile]. Rev Argent Clinica Neuropsiquiatrica (ALCMEON). 24(2):99–108.
Chile	Florenzano R, Guzmán E, Sieverson C, Castillo-Carniglia Á, Fernández MÁ, Echeverría Á, Barr M (2015). Daño a terceros producido por el alcohol: resultados de un estudio poblacional en Chile [Damage to third parties produced by alcohol: results of a population study in Chile]. Rev Méd Chile. 143(10):1242–51.
India	Jaisoorya S, Been KV, Beena M, Ellangovan K, Jose DC, Thennarasu K, Benegal V (2015). Prevalence and correlates of alcohol use among school going adolescents in India. Drug Alcohol Rev. 35(5):523–9.
2014	
Australia	Berends L, Ferris J, Laslett A-M (2014). On the nature of harms reported by those identifying a problematic drinker in the family, an exploratory study. J Fam Viol. 29:197–204.
Australia	Callinan S (2014). Alcohol's harm to others: quantifying a little or a lot of harm. Int J Alcohol Drug Res. 3(2):127–33.
Australia	Jiang H, Callinan S, Laslett A-M, Room R (2014). Correlates of caring for the drinkers and others among those harmed by another's drinking. Drug Alcohol Rev. 34(2):162–9.
Australia	Laslett A-M, Room R, Dietze P (2014). Substance misuse, mental health problems and recurrent child maltreatment. Adv Dual Diagn. 7(1):15–23.
Australia	Laslett A-M, Wilkinson C, Room R, Livingston M, Ferris J, Mugavin J (2014). Alcohol's harm to others: an overview of Australian work and results so far. Australas Epidemiol. 21(2):10–11.
Australia	Manton E, MacLean S, Laslett A-M, Room R (2014). Alcohol's harm to others: using qualitative research to complement survey findings. Int J Alcohol Drug Res. 3(2):143–8.
Australia	Mugavin J, Livingston M, Laslett A-M (2014). Seeking help because of others' drinking. Drug Alcohol Rev. 33(2):161–8.
Australia	Wilkinson C, Laslett A-M, Ferris J, Livingston M, Mugavin J, Room R, Callinan S (2014). The range and magnitude of alcohol's harm to others: study methodology and measurement challenges. Australas Epidemiol. 21(2):12–16.

Nigeria	Obot IS, Nelson E, Umoh OO, Essien NF, Okediji EA, Udoh E, Effiong J (2014). "Your drinking is my problem": recording alcohol's harm to others in Nigeria. Afr J Drug Alcohol Stud. 13(2):79–86.
Thailand	Waleewong O, Thamarangsi T, Jankhotkaew J (2014). Alcohol's harm to others in Thailand: concept, situation and gaps in knowledge [in Thai]. J Health Sys Res. 8(2):11–19.
2013	
Australia	Laslett, A-M, Callinan S, Pennay A (2013). The increasing significance of alcohol's harm to others research. Drugs Alcohol Today. 13(3):1–10.
Lao People's Democratic Republic	Sengngam, K. (2013). Baseline survey on alcohol harm to others in Lao People's Democratic Republic, 2012–13. Pub Health Sci Bull. 15:16.
2012	
Australia	Berends L, Ferris J, Laslett A-M (2012). A problematic drinker in the family: variations in the level of negative impact experienced by sex, relationship and living status. Addict Res Theory. 20(4):300–06.
Australia	Laslett A-M, Ferris J, Room R, Dietze P (2012). Social demography of alcohol-related harm to children in Australia. Addiction. 107(6):1082–9.
New Zealand	Connor J, Casswell S (2012). Alcohol-related harm to others in New Zealand: evidence of the burden and gaps in knowledge. NZ Med J. 125(1360) (http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2012/vol-125-no-1360/article-connor).
2011	
Australia	Ferris J, Laslett A-M, Room R, Wilkinson C (2011). The impacts of others' drinking on mental health. Med J Aust. 195(3):S22–S26.
Australia	Laslett A-M, Room R, Ferris J, Wilkinson C, Livingston M, Mugavin J (2011). Surveying the range and magnitude of alcohol's harm to others in Australia. Addiction. 106(9):1603–11.
2010 and earlier	
Australia	Livingston M, Wilkinson C, Laslett A-M (2010). The impact of heavy drinkers on health and wellbeing. J Stud Alcohol Drugs. 71(5):778–85.
Australia	Room R, Ferris J, Laslett A-M, Livingston M, Mugavin J, Wilkinson C (2010). The drinker's effect on the social environment: a conceptual framework for studying alcohol's harm to others. Int J Environ Res Public Health, 7(4):1855–71.
Australia	Dale C, Livingston M (2010). The burden of alcohol drinking on co-workers in the Australian work place. Med J Aust.193(3):138 - 140.
New Zealand	Connor J, Casswell S, You R (2009). Alcohol-related harm to others: a survey of physical and sexual assault in New Zealand. NZ Med J. 122(1303) (http://www.nzma.org.nz/journal/122-1303/3793/).

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2015/6	
Australia	Laslett A-M, Callinan S, Mugavin J, Jiang H, Livingston M, Room R (2015). Beyond the drinker: longitudinal patterns in alcohol's harm to others. Canberra: Foundation for Alcohol Research and Education (http://fare.org.au/wp-content/uploads/research/02-BEYOND-THE-DRINKER-FULL-REPORT-web.pdf).
Australia	Laslett A-M, Mugavin J, Jiang H, Manton E, Callinan S, MacLean S, Room R (2015). The hidden harm: alcohol's impact on children and families. Canberra: Foundation for Alcohol Research and Education (http://www.fare.org.au/wp-content/uploads/OI-ALCOHOLS-IMPACT-ONCHIKDREN-AND-FAMILIES.web.pdf).
Chile	Florenzano R (2015). The harm to others from drinking – a WHO/ThaiHealth international collaborative research project: national report for Chile. Santiago: Facultad de Psicologia, Universidad del Desarrollo. (Contact authors for copy.)
Thailand	Waleewong O, Thamarangsi T, Chaiyasong S, Jankhotkaew J (2015). The harm to others from drinking – WHO/ThaiHealth international collaborative research project: national report for Thailand. Bangkok: Thai Health Promotion Foundation (https://goo.gl/f0f4B0).
Viet Nam	Hanh VTM, Hanh TMH (2015). The harm to others from drinking – a WHO/Thai Health international collaborative research project: national report for Vietnam Hanoi. Health Strategy and Policy Institute – Vietnam Ministry of Health. (Contact authors for copy.)
2014	
Australia	Laslett A-M (2014). Alcohol and child maltreatment in Australia through the windows of child protection and a national survey. PhD thesis. University of Melbourne, Faculty of Medicine, Dentistry and Health Sciences, Melbourne School of Population and Global Health.
India	Benegal V, Girish N, Gururaj G, Murthy P (2014). The harm to others from drinking – India – phase 1 report on alcohol's harm to others (AH2O) project – a WHO/ThaiHealth collaborative study: scoping and assessment study. Bangalore: National Institute of Mental Health and Neurosciences. (Contact authors for copy.)
Nigeria	Obot I (2014). Alcohol's harm to others in Nigeria: the scoping report. Uyo, Nigeria: Centre for Research and Information on substance Abuse. (Contact author for copy.)
Sri Lanka	Hettige S, de Silva H, Suganthika et al. (2014). The harm to others from drinking – a WHO/ThaiHealth international collaborative research project: national report for Sri Lanka. Colombo: Social Policy Analysis and Research Centre, University of Colombo. (Contact authors for copy.)

2011	
Australia	Room R, Chikritzhs T, Doran C, Ferris J, Hall W, Jainullabudeen T, Laslett A-M, Livingston M, Mugavin J, Wilkinson C (2011). A one-sided and often mistaken review: the authors of The Range and Magnitude of Alcohol's Harm to Others respond to an Access Economics critique commissioned by the National Alcohol Beverage Industries Council. Fitzroy, Victoria: AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre.
2010	
Australia	Laslett A-M, Catalano P, Chikritzhs T, Dale C, Doran C, Ferris J, Jainullabudeen T, Livingston M, Matthews S, Mugavin J, Room R, Schlotterlein M, Wilkinson C (2010). The range and magnitude of alcohol's harm to others. Canberra: Alcohol Education and Rehabilitation Foundation (http://www.fare.org.au/wp-content/uploads/2011/07/The-Range-and-Magnitude-of-Alcohol%E2%80%99s-Harm-to-Others-report.pdf).
2009	
Australia	Wilkinson C, Laslett, A-M, Ferris J, Livingston M, Mugavin J. Room R (2009). The range and magnitude of alcohol's harm to others: study design, data collection procedures and measurement. Fitzroy: AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre (http://doi.org/10.26781/5684ebd476944).

Appendix II

About the authors and editors

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Sarah Callinan is a research fellow at the Centre for Alcohol Policy Research at La Trobe University in Australia. She works on a number of internationally collaborative survey research projects including the WHO/ThaiHealth study of Alcohol's Harm to Others, Gender, Alcohol and Harm to Others (GENAHTO), and the International Alcohol Control (IAC) Study. She has worked in alcohol policy research since she graduated with a PhD in Educational Psychology in 2011. Her research interests include drinking contexts, trends in consumption over time, event level drinking and attitudes to alcohol policy.

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Sally Casswell is Professor of Social and Health Research and the Co-director of the SHORE and Whariki Research Centre, College of Health at Massey University, New Zealand. Her research interests are in social and public health policy, particularly in relation to alcohol. She has carried out research on the development and implementation of public policy at the international, national and community level. A focus for some years has been on commercial marketing of alcohol products. She is involved in international alcohol policy as a member of the WHO Expert Advisory Panel on Drug Dependence and Alcohol Problems and SHORE is a WHO Collaborating Centre. Professor Casswell also is actively involved with the NGO sector as Chair of GAPA (Global Alcohol Policy Alliance).

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Siri Hettige is currently affiliated with the South Asia Institute, Heidelberg University, Germany and holds the Sri Lanka Chair there. He is also Emeritus Professor of Sociology at the University of Colombo and an Adjunct Professor at RMIT University, Australia. He has a wide range of research interests including social research on alcohol and alcohol policy. His more recent work in the area of alcohol studies includes harm to others from alcohol. His work in alcohol studies has been presented at numerous international symposia, conferences and workshops in several countries such as Italy, Canada, Australia and Thailand. He is an active member of a number of international research groups such as the Kettil Bruun Society, the GENACIS collaboration and the WHO/ThaiHealth international study group on alcohol's harm to others.

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Taisia Huckle is a senior researcher at the SHORE and Whariki Research Centre, Massey University in Auckland, New Zealand. She has led numerous alcohol research projects; publishes widely in international journals on the effects of alcohol policy on drinking patterns and related harms; and presents at international conferences. She works with a number of alcohol stakeholders in New Zealand including the police and public health. She also has extensive experience in designing and overseeing surveys and analysis. Dr Huckle's PhD was on the effects of liberalized alcohol policy on young people.

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Akanidomo Ibanga is a psychologist with special interest in work centring around alcohol and other drugs. He has held positions in tertiary institutions (both as a senior lecturer and as a researcher), and several non-governmental organisations in three different countries. He is a pioneer member of the Addiction and the Family International Network (AFINET) and played a leading role in the development and evaluation of a web-based self-help resource for family members who were affected by someone else's drinking or drug use. His research focus and publications have been on the epidemiology of alcohol and other drug use, as well as the experience of affected others. He currently works as the National Project Officer (Drug Demand Reduction) at the Nigeria Programme office of the United National Office of Drugs and Crime.

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Jintana Jankhotkaew is a research fellow under the Capacity Building on Health Policy and System Research Program (HPSR), working at the Health Promotion Policy Research Center, International Health Policy Program, Thailand. Currently, she is a graduate student in Health and Society: Social Epidemiology at the Institute of Epidemiology and Public Health, University College London. She has a Bachelor's degree in European Public Health from the Faculty of Medicine and Life Sciences, Maastricht University, the Netherlands. Her interest is alcohol control policy research, especially the issue of alcohol-related harms and health inequity.

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Anne-Marie Laslett is a senior research fellow at the National Drug Research Institute (NDRI), Curtin University, Australia and directs the Range and Magnitude of Alcohol's Harm to Others project at the Centre for Alcohol Policy Research (CAPR), La Trobe University, Australia. Dr Laslett has 20 years' experience in public health and alcohol and other drug research and an international profile as an expert on alcohol's harm to others. She is a co-investigator and technical advisor to the WHO project on harm to others from drinking and has focused her research on alcohol's involvement in intimate partner harms and child abuse and neglect. In 2015 Anne-Marie was awarded a National Health and Medical Research Council (NHMRC) Fellowship to examine alcohol-related harms in national and state child protection, child injury and child mortality databases and surveys. She has published widely (81 publications, including

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Michael Livingston is an NHMRC-funded research fellow in the Centre for Alcohol Policy Research (CAPR) at La Trobe University, Australia. He has a strong track record of publishing internationally relevant research on the epidemiology of alcohol consumption and harm, on the effects of alcohol policy and on population trends related to alcohol. He has worked in the field for the past decade, with positions in Australia at Turning Point Alcohol and Drug Centre, the National Drug and Alcohol Research Centre and now at CAPR at La Trobe University. He received his PhD in 2012 from the University of Melbourne for a thesis that comprehensively examined the impact of liquor licensing laws on alcohol consumption and alcohol problems.

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Ediomo-Ubong Nelson is a sociologist and Associate Researcher with the Centre for Research and Information on Substance Abuse (CRISA), Nigeria, and Project Manager of CRISA*care*, an Addiction Drop-in Centre of CRISA. His areas of research interests are culture and drinking and alcohol and drug policy. He has published papers on substance abuse and related subjects and is active in research on alcohol and other drugs.

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Isidore Silas Obot is Professor of Psychology, Department of Psychology, University of Uyo, and Director, Centre for Research and Information on Substance Abuse (CRISA), Uyo, Nigeria. Prior to his appointment in Uyo he held several research and teaching positions in Nigeria and the USA, for example, Professor of Public Health and Chair, Department of Behavioral Sciences, Morgan State School of Public Health and Policy in Baltimore, MD; Scientist, Department of Mental Health and Substance Abuse, World Health Organization, Geneva; Research Fellow in drug dependence epidemiology and policy, Johns Hopkins University Bloomberg School of Public Health, Baltimore; and Senior Lecturer, Department of Psychology, University of Jos, Nigeria. As a researcher, Obot has published widely on different aspects of the drugs and alcohol field, including epidemiology of substance use, drug and alcohol policy, and the prevention and treatment of substance use disorders. He is the Editor-in-Chief of the African Journal of Drug and Alcohol Studies, assistant editor of Addiction, and a member of the editorial board of several other journals. In 2014 he was appointed a member of the Global Drug Policy Program of the Open Society Foundation and recently served on the Johns Hopkins University-Lancet Commission on Public Health and International Drug Policy, among many professional activities.

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Karl Parker is a statistician at the SHORE and Whariki Research Centre, Massey University in Auckland. He undertakes analysis of survey data, predominantly in the areas of drug and alcohol use.

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Girish N. Rao is an epidemiologist and is currently Professor of Epidemiology at the Centre for Public Health at the National Institute of Mental Health and Neuro Sciences, Bengaluru. He is a medical graduate with a background in Community Medicine and Public Health. His focus has been on health systems, taking a public health perspective and leading operational and translational research. He is the Co-Principal Investigator of the National Mental Health Survey of India. He has 60 research communications and research monographs, including 17 research papers related to substance use and 6 monographs and reports. His key research projects related to alcohol epidemiology include the socioeconomic impact of alcohol; control of alcohol - related harm – towards a comprehensive and integrated alcohol policy for India; assessing needs and developing a community-based methodology to reduce specific harm from alcohol; patterns and consequences of alcohol misuse in India; Bangalore injury/road traffic injury surveillance programme; and development of manualised training modules for health professionals in addressing behavioural/ psychological risk factors for non-communicable diseases in primary care.

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Dag Rekve is a Senior Technical Officer in the Department of Mental Health and Substance Abuse in WHO, Geneva. He is currently working on the implementation of the WHO Global Strategy to Reduce the Harmful Use of Alcohol and the WHO Global Action Plan for the Prevention and Control of NCDs 2013 - 2020. In addition to this research project, he is currently involved in an international randomized controlled trial on the effectiveness of a web-based self-help intervention to reduce alcohol use. He has more than 25 years of experience in policy development, research, prevention and treatment of substance use problems at local, national, regional and global levels. In addition to his own publications, he has participated as a civil servant in the development of strategies, action plans, programmes and status reports at all these levels. He holds a Master's degree in business and economics and has studied in psychology and addiction behaviour.

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Robin Room is a sociologist who is a Professor at the Centre for Alcohol Policy Research (CAPR), La Trobe University, Australia. His research focus has been on epidemiological, social, culture and policy studies, primarily of alcohol but also of other drugs and of gambling problems. Robin has directed research centres on alcohol and drugs in four countries, and has authored over 400 peer-viewed journal articles, along with 126 book chapters and 33 books. Among his publications are a conceptual paper on "Gender roles and interactions in drinking and drug use", a co-authored review paper on "The share of violence

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Latsamy Siengsounthone received her Doctor of Medicine degree at the University of Health Sciences in Lao People's Democratic Republic and Master in Public Health Methodology at the University Libre de Bruxelles, in Belgium (1999). She is Head of the Health Research Outcomes Management Division of the National Institute of Public Health. Her research interests are public health and health promotion, in particular alcohol policy. She worked on the Survey of National Adult Tobacco Use in Lao People's Democratic Republic and the Survey of Alcohol Consumption Behaviour and Harm to Others from Drinking in Lao People's Democratic Republic.

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Oliver Stanesby is a research officer at the Centre for Alcohol Policy Research (CAPR), La Trobe University, Australia. Oliver is an active member of the International Group for the Study of Alcohol's Harms to Others (IGSAHO), and is involved in compiling and analysing the international database of Gender and Alcohol's Harms to Others (GENAHTO). Oliver completed a Master of Science degree, specializing in epidemiology, at the University of Melbourne in 2015. Oliver has worked on a variety of Australian and international projects and with a range of data including the Swiss National Science Foundation "Dusk2 Dawn: Characterising youth night

life spaces, activities and drinks" project data, the Australia National Drug Strategy Household Survey (NDSHS) database, the Joint Action on Reducing Alcohol Related Harm (RARHA) database, the Melbourne Collaborative Cohort Study (MCCS) database, genetic simulation data, and cancer incidence and mortality data. Oliver's research interests include characterizing nightlife and drinking occasions, alcohol's harms to others, trends in alcohol consumption and alcohol cultures, gender and alcohol.

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Dr Thaksaphon (Mek) Thamarangsi is the Director of the Department of Non-Communicable Diseases and Environmental Health, World Health Organization Regional Office for South-East Asia Region. He received his Doctor of Medicine and Master of Public Health both from Mahidol University, Thailand and his PhD from Massey University, New Zealand. Previously, he was the Director of the International Health Policy Program-IHPP (2015), the Health Promotion Policy Research Center-HPR (2013-5) and the Center for Alcohol Studies-CAS (2009-13). He was also Manager for the Thai NCD Network (2013-5) and was a Thai delegate to global health governance forums.

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Okokon O. Umoh had his training in psychology and has worked for the past eight years as a Research Assistant at the Center for Research and Information on Substance Abuse (CRISA). He is also an academic staff menber of the

Department of Psychology, University of Uyo, Nigeria. Umoh is an alcohol and drug related researcher with an interest in interventions among vulnerable populations. He has published a number of scholarly papers in peer-reviewed journals.

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Orratai Waleewong is a researcher at the International Health Policy Program (IHPP), Ministry of Public Health, Thailand. Currently, she is a PhD student at the Melbourne School of Population and Global Health, University of Melbourne and a visiting fellow at the Centre for Alcohol Policy Research (CAPR), La Trobe University, Australia. The topic of her thesis is alcohol's harm to others in low- and middle-income countries. She is also the global coordinator of the WHO/ThaiHealth international research project "The Harm to Others from Drinking" running in seven countries, and is an active member of the International Group for the Study of Alcohol's Harm to Others (IGSAHO). Her background is in pharmacy and she received a Master of Science in Pharmacy Administration from Mahidol University in 2008. She has been working in the alcohol policy arena since 2009 and has been involved in the prevention and control of non-communicable diseases policy since 2012.

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