

Harm from others' drinking: how problematic do people with and without experience of harm perceive it to be?

Ingunn Olea Lund^{a,1}, Inger Synnøve Moan^a & Elisabet E. Storvoll^a

^a Affiliation: Norwegian Institute of Public Health

Running head: Perceptions of harm from others' drinking

¹ Correspondence concerning this article should be addressed to: Ingunn Olea Lund, Department of Drug Policy, Norwegian Institute of Public Health, PO Box 4404, Nydalen, N-0403 Oslo, Norway, E-mail: IngunnOlea.Lund@fhi.no

Abstract

Background: The aims were 1) to map how problematic people perceive it to be that a person experiences different types of harm from others' drinking, 2) to describe how problematic victims of harm from others' drinking perceive the experience to be, and 3) to investigate how perceptions of harm from others' drinking vary according to demographic characteristics, own drinking and experience of harm.

Methods: 2182 persons in Norway aged 18-69 years participated in a panel web survey in 2013. They responded to questions about six types of harm from others' drinking.

Results: Both people with and without experience of harm from others' drinking perceived it as problematic that someone experiences such harm. Moreover, persons with experience of harm perceived their own experience of harm as less problematic than they perceived it that someone else should experience harm. While people with and without experience of harm from others' drinking perceive the same types of harm from others' drinking as least problematic, they differed with regards to which types of harms they perceived as most problematic. Perceptions of harm varied according to demographic characteristics, own drinking and experienced harm.

Discussion/conclusion: The fact that people both with and without experience of harm from others' drinking perceived it as problematic that someone experiences such harm may be used as an argument for implementing and/or retaining effective alcohol policy measures. The contrast in perception of experienced harm and how problematic it is that someone else experiences harm suggest that the questions used within this survey tradition may be too general to provide meaningful information about prevalence and severity of experienced harm from others' drinking. Future research should address this further.

Keywords: harm from others' drinking, tolerance of harm, demographics, alcohol use

Background

Alcohol contributes to a range of negative outcomes both for those who drink, and for people in their surroundings (Bellis et al., 2015; Casswell, Harding, You, & Huckle, 2011; Laslett et al., 2011; Moan et al., 2015; Nutt, King, & Phillips, 2010; Rehm et al., 2010; Rehm et al., 2009). The majority of research on harm from alcohol has focused on harm to drinkers, but there has been increased interest also in alcohol's harm to others. It is now well-documented that many experience harm from others' drinking (Moan et al., 2015), but knowledge about how problematic such harm is perceived to be, by people with and without experience of harm, is lacking. From a public health perspective, knowledge about this is important; if people perceive such harms as highly problematic; this may be used as an additional argument for introducing and/or retaining the alcohol policies and interventions that are most effective in preventing such harms.

Harm from others' drinking is widespread. In a recent study reporting prevalence of harm from others' drinking during the past 12 months in the Nordic countries and Scotland, 25-53% had experienced one or more types of harm (Moan et al., 2015). In an Australian study, 70% were negatively affected by strangers' drinking and 30% by the drinking of someone close to them (Laslett et al., 2011). Moreover, in a study that included respondents from 21 countries, more than 40% had suffered at least one aggressive harm (physical, verbal or sexual assault), and nearly 60% had experienced some type of harm caused by someone drunk (Bellis et al., 2015).

Harm from others' drinking has been studied using different approaches, including surveys. While some surveys are dedicated to measuring harm from others' drinking (Bellis et al., 2015; Casswell et al., 2011; Laslett et al., 2011; Ramstedt et al., 2016), most include only a few questions on this topic as part of a larger survey that includes a wide range of questions on alcohol or substance use in general (Giesbrecht & West, 1997; Greenfield et al., 2009; Mäkelä et al., 1999). The current study is based on a combination of the two traditions. It covers the same types of harm typically covered in surveys with only a few questions on harm from others' drinking: being kept awake at night, receiving unwanted sexual attention, being afraid of, and being verbally or physically abused by, persons who have been drinking (Moan et al., 2015; Storvoll, Moan, & Lund, 2016). The current study adds to previous research by asking how problematic people with and without experience of harm perceive it that someone else may experience harm from others' drinking; and by asking respondents with experience of harm how problematic the experience was. The questions on harm to others used within this survey tradition are quite general (Rossow, 2015). Therefore, respondents may have different understandings of the harm in question when responding to how problematic they find it that someone else experiences such harm, and for those with experience of harm, how problematic the experience was. While it is outside the scope of the present study to examine people's understanding of the questions used within this survey tradition, responses from people both with and without experience may provide an indication of whether people with and without experience of harm understand the

questions differently. For instance, while people without experience of harm may think of very severe examples such as drunken beatings, when responding to how problematic they find it that someone experiences physical harm, respondents with experience of physical harm may think of their own experiences, which may range from a small bruise after being pushed to more serious types of harm.

To our knowledge, no previous studies have addressed how problematic harms from others' drinking are perceived to be, or, in other words, how high or low tolerance people have for collateral damage from others' drinking. Accordingly, we also lack knowledge on how tolerance varies according to other factors. However, it seems plausible that factors associated with risk of experiencing such harm, e.g. age, gender, education, partner status and own drinking (Huhtanen & Tigerstedt, 2012; Moan et al., 2015; Rossow & Hauge, 2004; Storvoll et al., 2016), are also associated with tolerance for collateral damage from others' drinking.

It has been suggested that women experience a greater burden of the harm from others' drinking (Huhtanen & Tigerstedt, 2012; Ramstedt et al., 2016), and that women and men typically experience different types of harm from others' drinking (Bellis et al., 2015). Furthermore, younger persons are at greater risk of experiencing harm from others' drinking than older persons (Bellis et al., 2015; Laslett et al., 2011), and persons not living with a partner are at greater risk of experiencing harm than those who do live with a partner (Moan et al., 2015; Storvoll et al., 2016). With regard to education, findings are ambiguous; while some studies suggest that persons with lower education are at increased risk of experiencing harm from others' drinking (Storvoll et al., 2016), other studies report the opposite pattern: that persons with higher education are at increased risk (Rossow & Hauge, 2004). Frequent drinking, particularly drinking to intoxication, is also associated with increased risk of experiencing harm from others' drinking (Bellis et al., 2015; Rehm, Gmel, Room, & Frick, 2001; Rehm, Monteiro, et al., 2001).

In the 2014 Global status report on alcohol and health, the WHO identifies harm to others from drinking as an important area of research (WHO, 2014). Knowledge about how problematic various harms from others' drinking are perceived to be will provide insight that can be used to prioritize which areas to focus on when designing harm-reduction interventions. Moreover, the study can provide insight into how suitable the general questions used within this survey tradition are with regards to studying the prevalence and severity of harm from others' drinking.

Aims

The aims of this study were to: 1) map how problematic people in general perceive it to be that a person experiences different types of harm from others' drinking, 2) describe how problematic victims of harm from others' drinking perceive the experience to be, and 3) investigate if these perceptions vary according to demographic characteristics, own drinking and experienced harm.

Methods

Procedure and participants

A web-survey was conducted in Norway in 2013 by TNS Gallup on behalf of the Norwegian Institute for Alcohol and Drug Research (SIRUS). A sample of 4000 18-69 year olds was drawn from an online panel comprising about 55000 citizens. The sample was stratified according to figures from Statistics Norway on gender, age (4 groups), education (2 groups) and geographic region (4 groups). 2182 (55%) participated. For a more detailed description of the web-survey, see Rise & Halkjelsvik, 2015.

Of the study participants, 48.8% were women and the mean age was 43.3 years. For the majority (62.4%), high school was the highest level of completed education. The highest levels of completed education of the rest of the sample were university/college (29.8%) and primary school (7.8%).

Measures

Demographic variables

The demographic variables included were gender, age, education and partner status. Education was coded (1) low education, comprising primary school or high school, and (2) high education comprising college or university education. Partner status was coded (1) living with a partner, comprising respondents who were married or living with a partner, and (2) not living with a partner, comprising persons who were not living with their boyfriend/girlfriend, or were single.

Own drinking

Respondents reported drinking frequency and frequency of drinking to intoxication in the past 12 months. For this study, drinking frequency was coded: have not consumed alcohol in the past 12 months (1), on a few days (2), monthly (3), weekly (4) and more than twice per week (5). Frequency of drinking to intoxication was coded: have not been drunk in the past 12 months (1), on a few days (2), monthly (3) and several times per month (4).

How problematic is it that someone experiences harm from others' drinking?

The respondents were asked to specify to what extent they thought that the situation described below was problematic or unproblematic: being kept awake at night by noise in the neighbourhood or in the street a few times (1) yearly, (2) monthly or (3) weekly. Further, (4) being exposed to unwanted sexual attention, (5) having their clothes or other belongings of value damaged, (6) being shouted at or insulted, (7) being in a situation where they have been afraid that someone would hurt them, and (8) being physically hurt. The response options were: (1) completely unproblematic, (2) quite unproblematic, (3) quite problematic and (4) very problematic. For details on the exact wording of the questions, please see Table 1.

How problematic was the experience of harm from others' drinking?

The respondents reported whether they had experienced the following harms from others' drinking during the past 12 months: (1) been kept awake at night by noise in the neighbourhood or in the street, (2) been exposed to unwanted sexual attention, (3) had their clothes or other belongings of value damaged, (4) been shouted at or insulted, (5) been in a situation where they had been afraid that someone would hurt them and (6) been physically hurt. For the exact wording of the questions, please see Table 2.

The respondents reported if they had experienced these (1) never, (2) 1-2 times and (3) three times or more during the past 12 months. Since relatively few experience some types of harms from others' drinking, dividing respondents into smaller groups according to frequency of experienced harm would result in groups too small for analysis. In the current study, experienced harm is therefore presented as a dichotomous yes/no variable.

Those who had experienced harm reported how problematic it had been. The response options were: (1) completely unproblematic, (2) quite unproblematic, (3) quite problematic and (4) very problematic.

Data analyses

Descriptive statistics were used to describe how problematic people perceived it that someone experiences different types of harm, how many had experienced harm in the past 12 months, and how problematic this had been (Tables 1 and 2, and Figure 1).

Independent t-tests (for dichotomous independent variables) and ANOVA were used to investigate the association between how problematic different types of harm were perceived to be and respondents' demographics, drinking habits and experienced harm (Table 3). Some group differences in tolerance of harm may reflect different levels of the other independent variables. Multivariate linear regression analysis was therefore used to examine which correlates remained statistically significant after controlling for the effect of all other correlates (Table 4).

Prior to the regression analyses, we used principal component analysis with varimax rotation to examine whether the six harms reflect one or more underlying factors. Apart from being kept awake at night, all harms were grouped into one factor with Cronbach's alpha .74, which can be considered satisfactory (Nunnally, Bernstein, & Berge, 1967). Thus, the correlates of tolerance were studied in two regression models, one with being kept awake at night as the outcome variable and one with an index of the five remaining harms as the outcome variable.

For the descriptive analyses, the sample was weighted on gender, age and education to be representative of the Norwegian population between 18-69 years on these demographic variables. Unweighted data was used for the t-tests, ANOVA and the hierarchical multivariate regression analyses. IBM SPSS version 22 was used to conduct all statistical analyses.

Results

Table 1 shows how respondents perceived different types of harm from others' drinking. Being physically hurt by someone (mean 3.96) and having clothes or other belongings damaged by someone (mean 3.83) were perceived as most problematic, and being kept awake at night by noise from drunken people in the neighbourhood or street a few times each year (mean 2.20) or monthly (mean 3.12) were perceived as least problematic.

Insert Table 1 about here

The prevalence of experience of harm from others' drinking during the past 12 months is reported in Table 2, along with information on how problematic this had been for those who experienced it. Being kept awake at night by noise from drunken people was most common (34%), followed by being exposed to unwanted sexual attention (13.3%). Being physically hurt (2.2%) and having their clothes or other belongings damaged (4.5%) were least common. Having been in a situation where they were afraid of being harmed was perceived as most problematic (mean 2.98), and being kept awake at night as least problematic (mean 2.23).

Insert Table 2 about here

Compared with respondents with experience of harm from others' drinking, respondents without this experience perceived it as more problematic that someone else experiences such harm (Figure 1). With the exception of being kept awake at night, those with experience of harm perceived this experience as less problematic than they perceived it to be that someone else experiences the same type of harm.

Insert Figure 1 about here

Figure 1. How problematic do respondents with and without experience of harm from others' drinking during the past 12 months perceive it to be that someone experiences such harm; and for those with experience of harm, how problematic was the experience? Scale from 1 to 4, where 1 is completely unproblematic and 4 is very problematic. Weighted data.

Table 3 shows differences in respondents' perception of different types of harm, by demographics, own drinking and if they themselves had experienced such harm. Apart from being kept awake at night, which women perceived as less problematic than did men, women perceived all other harms as more problematic. Respondents in older age groups perceived most types of harm as more problematic than did younger respondents. The only exception was for being afraid of being hurt by someone who had been drinking, for which there was no significant difference. Respondents with higher education perceived most types of harm as significantly more problematic than those with lower education, and persons living with a partner perceived all types of harm as more problematic than those not living with a partner. With regard to drinking, less frequent drinkers perceived most harms as more problematic than more frequent drinkers. For intoxication frequency, this pattern applied to all harms. Finally, with the exception of being afraid of being hurt, respondents with experience of harm from others' drinking perceived it as less problematic than someone experiences harm from others' drinking than did respondents without such experience.

Insert Table 3 about here

Results from the multivariate regression analyses showed that many, but not all, correlates remained significant when controlling for the other correlates (Table 4). The finding that women perceived being kept awake at night as less problematic and other harms as more problematic than men remained significant. The finding that respondents in older age groups were less tolerant of harm from others' drinking also remained significant after controlling for the other correlates. The pattern for education also remained unchanged: persons with high education were less tolerant of harm from others' drinking, but not of being kept awake at night.

Whereas living with a partner remained significantly associated with lower tolerance of other harms, this was not the case for being kept awake at night. While drinking frequency was no longer significantly associated with tolerance of being kept awake at night or other harms after controlling for the other correlates, respondents' intoxication frequency remained significantly associated both with being kept awake at night and other harms. Experience of harm remained significantly associated with being kept awake at night, but not other harms.

Insert Table 4 about here

Discussion

The current study describes how problematic people with and without experience of harm from others' drinking perceive it that a person experiences harm from others' drinking, and how problematic the

harm from others' drinking was for those who experienced it. The study also examined whether these perceptions varied according to demographic characteristics, own drinking and experienced harm. Results showed that respondents with and without experience of harm found it problematic that someone experiences such harm. Moreover, respondents with and without experience of harm perceived the same type of harm as least problematic, but differed with regard to which harm they perceived as most problematic. Persons with experience of harm perceived their own experience as less problematic compared to how problematic they perceived it that someone else should experience this. Finally, the results showed that the tolerance of harm from others' drinking also varies according to experience of harm from others' drinking, demographic characteristics and one's own drinking.

Both persons with and without experience of harm from others' drinking perceived it as somewhere between quite and very problematic that others experience such harm. The only exception was being kept awake at night, which both groups perceived as quite unproblematic. The overall low tolerance for collateral damage from others' drinking suggests that people are likely to support interventions aimed at reducing the prevalence of such third-party harm. Restrictive alcohol policies, e.g. price and availability, are typically the most effective ones, and strong arguments, such as limiting collateral damage from alcohol, are important for gaining public support for implementing and/or retaining such policy measures (Storvoll, Rossow, & Rise, 2013).

While respondents with experience of harm also seem to have relatively low tolerance for harm from others' drinking, in general they perceived such harm as less problematic than others did, and in particular when asked how problematic their own experience was. Moreover, those with experience of harm from others' drinking perceived being afraid of being harmed by a drunk person as most problematic, more than being physically harmed, which respondents without experience of harm perceived as most problematic. A possible explanation for this difference in perceptions may be that respondents have different understandings of the harm in question because the questions used within this survey tradition are quite general (Rossow, 2015). For example, for persons with experience of physical harm, their personal experience is salient; physical harm may range from a bruise after being pushed in a bar to having suffered serious injuries from a drunken beating. It is likely that they think of particular incidents when reporting how problematic their experience was. With regard to physical harm, getting a bruise from being pushed is probably more prevalent than hospitalizations from drunken beatings. This may explain why experience of harm is rated on average as somewhere between quite unproblematic and quite problematic; no harms come even close to being rated as very problematic.

In contrast, given that highly undesirable outcomes come to mind more easily than less dramatic outcomes, persons without experience of harm more likely think of the worst possible scenarios (Tversky & Kahneman, 1973). For example, while being pushed in a bar is more common than a drunken beating, respondents without experience of harm are more likely to think of the latter when reporting how problematic they perceive it that someone experiences physical harm from others'

drinking. Media coverage may strengthen this skewed picture; while less dramatic events, such as someone getting a bruise after being pushed, occur more frequently than dramatic events, such as drunken beating resulting in someone being hospitalized, the latter is more likely to get news coverage (Kristiansen, 1983; Slovic, 2000). But how much less problematic did persons with experience of harm perceive it that someone else experiences such harm? As illustrated in Figure 1, the difference between respondents with and without such experience is not that large. This suggests that persons who have experienced harm also consider worst-case scenarios when considering how problematic it is that others are harmed, rather than basing their response only on their own personal experience of harm. Taken together, these findings suggest that the questions used in this survey tradition may be too imprecise to map the prevalence and severity of experienced harm in a reliable way. Future studies should look into how people understand these questions, and adopt new and more specific questions when studying the prevalence and perceived severity of different harms from others' drinking. .

We also wanted to know if characteristics that are associated with risk of experiencing harm from others' drinking are associated with tolerance of such harm. Seen in the light of the literature on harm from others' drinking (Laslett et al., 2011; Moan et al., 2015; Rossow & Hauge, 2004; Storvoll et al., 2016), the findings add to previous research, showing that those most at risk of being harmed perceive harm from others' drinking as less problematic than those less at risk. For instance, persons not living with their partner and younger persons (Bellis et al., 2015; Laslett et al., 2011; Moan et al., 2015; Storvoll et al., 2016), but seem to be more tolerant of harm from others' drinking.

Similarly, own drinking is associated with experience of harm from others' drinking, with more frequent drinkers being at increased risk of experiencing harm than less frequent drinkers (Moan et al., 2015; Rossow & Hauge, 2004; Storvoll et al., 2016). In this study, those who drank to intoxication more frequently perceived it as less problematic that someone experiences being kept awake at night by drunken people. Those who drank to intoxication several times per month were also more tolerant of other harms. These findings are in line with risk perception research; consequences of risks that we choose to expose ourselves to, such as drinking alcohol, are perceived as less problematic than consequences of risks we are exposed to involuntarily (Slovic, 2000). It may be that persons who drink to intoxication frequently, and are at increased risk of experiencing harm from others' drinking (Storvoll et al., 2016), perceive these harms as less problematic because they also perceive the benefits associated with drinking as high (Slovic, 2000).

Respondents with experience of harm from others' drinking were more tolerant of people being kept awake at night when controlling for all other correlates in regression analyses, but not other types of harm. We do not know why this applies only to being kept awake, but one possible explanation is that, while being kept awake at night was perceived as relatively unproblematic, all other types of harm were perceived as quite or very problematic. An interpretation of this finding is that experience of harm increases the tolerance of harms that are perceived as negligible, but not harms

that are perceived as more problematic.

Methodological considerations

A major strength of this study is that it provides new knowledge that contributes to the literature on harm from others' drinking by addressing which types of harm are regarded as problematic and by whom. The findings also illustrate shortcomings with the questions on harm from others' drinking used in this survey tradition. The positivist research philosophy underpinning survey studies assumes a universal agreement on how to understand and rate the constructs (Rubin & Rubin, 2011). If this assumption is violated, so is the validity of the results accrued from the study. When mapping the prevalence of various harms and studying how problematic such harms are perceived to be, use of more specific questions will likely provide more valid results, since the general questions typically used within this survey tradition (e.g. physical harm) may be variably interpreted and understood.

Moreover, while people in general considered it relatively unproblematic that someone was kept awake at night a few times per year; they perceived it as quite problematic that someone was kept awake at night a few times per week. In fact, they perceived this as more problematic than someone receiving unwanted sexual attention or being shouted at/insulted. While frequency of the latter two harms was not specified, this illustrates that how often someone experiences harm is important for people's perception of how problematic the harm in question is. Thus, including frequency measures in future studies addressing harm from others' drinking may provide a more nuanced picture of what is perceived as harmful and what is not.

Some other limitations of the study should also be considered. First, the data was obtained from a web survey and may not be entirely representative of the Norwegian population in the relevant age group, even though the sample was weighted to be representative of the Norwegian population between 18 and 69 years old with regard to gender, age and education in the descriptive analyses. The study measured only a few types of harm from others' drinking and we do not know if the findings can be generalized to tolerance of other types of harm from others' drinking. Only harm experienced during the past 12 months was included. It may be argued that this provides a limited impression of the extent of harm from others' drinking, but we believe that the limited timeframe contributes to increased specificity and validity of responses and a lower recall bias than if using a longer time period (Room et al., 2010).

Conclusion

The study adds to previous work on alcohol's harm to others by providing new knowledge that is relevant both for the research community and policy makers. The fact that persons both with and without experience of harm from others' drinking perceived it as somewhere between quite and very problematic that someone experiences such harm may be used as an argument to introduce and/or retain effective alcohol policies and interventions to prevent such harms. The stark contrast between,

on the one hand, perception of experienced harm and, on the other, how problematic it is perceived that someone else experiences harm among persons with experience of harm suggests that the questions used within this survey tradition may not be specific enough to provide meaningful information about the prevalence and severity of experienced harm from others' drinking. Future research should address this further.

Acknowledgements

The Norwegian Institute for Alcohol and Drug Research (SIRUS), which became a part of the Norwegian Institute of Public Health January 2016, funded the research.

References

- Bellis, M. A., Quigg, Z., Hughes, K., Ashton, K., Ferris, J., & Winstock, A. (2015). Harms from other people's drinking: an international survey of their occurrence, impacts on feeling safe and legislation relating to their control. *BMJ open*, *5*(12), e010112. doi:10.1136/bmjopen-2015-010112
- Casswell, S., Harding, J. F., You, R. Q., & Huckle, T. (2011). Alcohol's harm to others: self-reports from a representative sample of New Zealanders. *New Zealand Medical Journal*, *124*(1336), 75-84.
- Giesbrecht, N., & West, P. (1997). Drinking patterns and drinking-related benefits, harm and victimization experiences: reports from community-based general population surveys. *Contemp. Drug Probs.*, *24*, 557-579.
- Greenfield, T. K., Ye, Y., Kerr, W., Bond, J., Rehm, J., & Giesbrecht, N. (2009). Externalities from alcohol consumption in the 2005 US National Alcohol Survey: implications for policy. *International journal of environmental research and public health*, *6*(12), 3205-3224.
- Huhtanen, P., & Tigerstedt, C. (2012). Women and young adults suffer most from other people's drinking. *Drug Alcohol Rev*, *31*(7), 841-846. doi:10.1111/j.1465-3362.2012.00480.x
- Kristiansen, C. M. (1983). Newspaper coverage of diseases and actual mortality statistics. *European Journal of Social Psychology*, *13*(2), 193-194.
- 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), 1603-1611. doi:10.1111/j.1360-0443.2011.03445.x
- Moan, I. S., Storvoll, E. E., Sundin, E., Lund, I. O., Bloomfield, K., Hope, A., Ramstedt, M., Huthanen, P. & Kristjansson, S. (2015). Experienced Harm from Other People's Drinking: A Comparison of Northern European Countries. *Subst Abuse*, *9*(Suppl 2), 45-57. doi:10.4137/SART.S23504
- Mäkelä, P., Fonager, K., Hibell, B., Nordlund, S., Sabroe, S., & Simpura, J. (1999). *Drinking habits in the Nordic countries*: National Institute for Alcohol and Drug Research.

- Nunnally, J. C., Bernstein, I. H., & Berge, J. M. t. (1967). *Psychometric theory* (Vol. 226): McGraw-Hill New York.
- Nutt, D. J., King, L. A., & Phillips, L. D. (2010). Drug harms in the UK: a multicriteria decision analysis. *The lancet*, 376(9752), 1558-1565.
- Ramstedt, M., Sundin, E., Moan, I. S., Storvoll, E. E., Lund, I. O., Bloomfield, K., Hope, A. Kristjansson, S. & Tigerstedt, C. (2016). Harm experienced from the heavy drinking of family and friends in the general population. *Substance abuse: research and treatment*.
- Rehm, J., Baliunas, D., Borges, G. L., Graham, K., Irving, H., Kehoe, T., Parry, C. D., Patra, J., Popova, S., Poznyak, V., Roerecke, M., Room, R., Samokhvalov, A. V. & Taylor, B. (2010). The relation between different dimensions of alcohol consumption and burden of disease: an overview. *Addiction*, 105(5), 817-843. doi:10.1111/j.1360-0443.2010.02899.x
- Rehm, J., Gmel, G., Room, R., & Frick, U. (2001). Average volume of alcohol consumption, drinking patterns and related burden of mortality in young people in established market economies of Europe. *European Addiction Research*, 7(3), 148-151. doi:50732
- Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The lancet*, 373(9682), 2223-2233.
- Rehm, J., Monteiro, M., Room, R., Jernigan, D., Frick, U., & Graham, K. (2001). Steps towards Constructing a Global Comparative Risk Analysis for Alcohol Consumption: Determining Indicators and Empirical Weights for Patterns of Drinking, Deciding about Theoretical Minimum, and Dealing with Different Consequences. *European Addiction Research*, 7, 138-137. doi:DOI:10.1159/000050731
- Rise, J., & Halkjelsvik, T. (2015). Does it matter how you ask? The forbid-allow asymmetry in the measurement of attitudes towards drug policies. *Int J Drug Policy*, 26(7), 632-635. doi:10.1016/j.drugpo.2015.01.016
- 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. *International journal of environmental research and public health*, 7(4), 1855-1871.
- Rossow, I. (2015). How Well Do Survey Studies Capture Alcohol's Harm to Others? *Subst Abuse*, 9(Suppl 2), 99-106. doi:10.4137/SART.S23503
- Rossow, I., & Hauge, R. (2004). Who pays for the drinking? Characteristics of the extent and distribution of social harms from others' drinking. *Addiction*, 99(9), 1094-1102. doi:10.1111/j.1360-0443.2004.00788.x
- Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*: Sage.
- Slovic, P. E. (2000). *The perception of risk*: Earthscan Publications.

- Storvoll, E. E., Moan, I. S., & Lund, I. O. (2016). Negative Consequences of Other People's Drinking: Prevalence, Perpetrators and Locations. *Drug and alcohol review*.
- Storvoll, E. E., Rossow, I., & Rise, J. (2013). Changes in attitudes towards restrictive alcohol policy measures: the mediating role of changes in beliefs. *Journal of Substance Use*(00), 1-6.
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5(2), 207-232.
- WHO. (2014). *Global status report on alcohol and health 2014*.

Table 1. How problematic (% , mean, SD) do people perceive different harms from others drinking to be (lowest N=2167). Weighted data.

	%				Mean ^a (SD)
	Completely unproblematic	Quite unproblematic	Quite problematic	Very problematic	
Being kept awake at night by noise from drunken people in the neighborhood or in the street a few times per year	23.0	44.1	23.1	9.7	2.20 (.90)
Being kept awake at night by noise from drunken people in the neighborhood or in the street a few times each month	2.3	16.6	48.0	33.1	3.12 (.76)
Being kept awake at night by noise from drunken people in the neighborhood or in the street a few times each week	0.3	1.9	17.6	80.3	3.78 (.47)
Being exposed to unwanted sexual attention by someone under the influence of alcohol	0.5	4.1	24.3	71.1	3.66 (.58)
Having clothes or other belongings of value damaged by someone influenced by alcohol	0.2	0.7	14.8	84.3	3.83 (.41)
Being shouted at or insulted by someone under the influence of alcohol	0.3	3	25.6	71.1	3.67 (.55)
Being in a situation where you have been afraid that someone influenced by alcohol would hurt you	0.2	1.5	14.4	83.9	3.82 (.44)
Being physically hurt by someone under the influence of alcohol	0.1	0.5	2.6	96.8	3.96 (.23)

^a On a scale from 1 to 4, where 1 is completely unproblematic and 4 is very problematic.

Table 2. How problematic (% or mean, SD) was the experience of harm from others drinking for those who experienced it? Weighted data.

			How problematic was this for you? %				Mean ^a (SD)
	%	N	Completely unproblematic	Quite unproblematic	Quite problematic	Very problematic	
Been kept awake at night by noise from drunken people in the neighborhood or in the street	34.0	739	20.2	46.0	24.6	9.2	2.23 (.88)
Been exposed to unwanted sexual attention by someone under the influence of alcohol	13.3	291	19.8	45.9	24.0	10.4	2.25 (.89)
Had clothes or other belongings of value damaged by someone influenced by alcohol	4.5	99	15.8	36.0	32.5	15.7	2.48 (.94)
Been shouted at or insulted by someone under the influence of alcohol	11.9	260	8.7	37.1	33.6	20.7	2.66 (.90)
Been in a situation where you have been afraid that someone influenced by alcohol would hurt you	12.9	282	0.4	27.4	45.6	26.6	2.98 (.75)
Been physically hurt by someone under the influence of alcohol	2.2	48	7.0	31.8	27.2	34.0	2.88 (.97)

^a On a scale from 1 to 4, where 1 is completely unproblematic and 4 is very problematic.

Table 3. Tolerance of harm from others drinking (mean^a) by demographics, own drinking and experienced harm. Unweighted data.

	Kept awake	Shouted at or insulted	Unwanted sexual attention	Clothes/ belongings damaged	Afraid to be hurt	Physically hurt
Gender	*	***	***	**	***	**
Male (N =1100)	2.23	3.62	3.57	3.81	3.77	3.95
Female (N=1069)	2.16	3.72	3.76	3.86	3.86	3.97
Age	***	***	***	***		***
18-29 (N=577)	1.95	3.56	3.57	3.77	3.78	3.92
30-44 (N=518)	2.15	3.68	3.66	3.82	3.82	3.98
45-59 (N=648)	2.28	3.72	3.71	3.86	3.84	3.97
60+ (N=424)	2.44	3.75	3.71	3.90	3.84	3.97
Education		**	*		*	***
Low (N=1513)	2.19	3.65	3.64	3.83	3.81	3.95
High (N =654)	2.22	3.73	3.70	3.84	3.85	3.99
Partner status	***	***	***	***	***	**
Living with a partner (N=1405)	2.25	3.70	3.71	3.86	3.85	3.97
Not living with a partner (N=757)	2.09	3.61	3.57	3.78	3.76	3.94
Drinking frequency	***	***	***	**	*	
None (N = 152)	2.82	3.84	3.84	3.92	3.88	3.97
A few days (N =402)	2.31	3.74	3.74	3.87	3.87	3.97
Monthly (N =284)	2.19	3.62	3.69	3.81	3.81	3.95
Weekly (N =918)	2.04	3.62	3.61	3.82	3.80	3.95
2+ week (N =410)	2.20	3.69	3.60	3.82	3.78	3.97
Intoxication frequency	***	***	***	***	**	***
None (N = 501)	2.40	3.75	3.77	3.89	3.87	3.97
A few days (N =957)	2.16	3.67	3.66	3.83	3.81	3.97
Monthly (N = 268)	1.94	3.56	3.58	3.79	3.77	3.96
Monthly 2+ (N = 289)	1.89	3.54	3.47	3.74	3.77	3.91
Experienced harm^b	***	***	***	***		***
No	2.25	3.68	3.68	3.84	3.82	3.97
Yes	2.08	3.57	3.51	3.68	3.79	3.75

^a On a scale from 1-4 where 1 is completely unproblematic and 4 is very problematic.

^b N reported in table 2.

*P<.05 **P<.01 ***p<.001.

Table 4. Regression analyses with correlates of lower tolerance of harm from others drinking by demographics, own drinking and experienced harm. Separate analysis for each factor. Unweighted data.

	Kept awake at night			Other harms from others drinking		
	B	SE	β	B	SE	β
	Adjusted R ² = .07			Adjusted R ² = .06		
Constant	2,16	0,09		3,67	0,04	
Women ^a	-0,11	0,04	-0,06***	0,08	0,01	0,13***
Age groups ^b						
30-44	0,08	0,06	0,04	0,03	0,02	0,05
45-59	0,21	0,06	0,11***	0,07	0,02	0,10***
=>60	0,37	0,07	0,17***	0,07	0,03	0,09***
High education ^c	0,07	0,04	0,04	0,03	0,02	0,05*
Living with a partner	0,06	0,04	0,03	0,06	0,02	0,09***
Drinking frequency ^{e, f}						
A few times the past year	0,12	0,07	0,05	0,04	0,03	0,05
Monthly	0,06	0,07	0,02	0,00	0,03	0,00
2+ Week	-0,08	0,05	-0,04	0,00	0,02	0,00
Intoxication frequency ^g						
A few times the past 12 months	-0,14	0,05	-0,08**	-0,02	0,02	-0,04
Monthly	-0,26	0,07	-0,10***	-0,05	0,03	-0,05
Several times per month	-0,31	0,08	-0,13***	-0,07	0,03	-0,08**
Have not experienced harm ^h	-0,08	0,04	-0,05*	-0,02	0,02	-0,04

^a 0= men

^b 0= 18-29

^c 0= Junior high school or high school highest completed education

^d Not living with a partner =0

^e 0= No alcohol last 12 months

^f Drinking a few times per month were excluded from the analysis by SPSS

^g : 0=Have not been drunk the past 12 months

^h 0 = Have not experienced relevant harm from others drinking

*P<.05 **P<.01,***P<.001