

The 2021 Alcohol's Harm to Others Survey: Methodological approach

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Abstract

Background: The 2021 Alcohol's Harm to Others (AHTO) survey is a comprehensive tool measuring the prevalence of different harms due to another's drinking of alcohol in the Australian population.

Aims: The current paper aims to specify the technical approach of the AHTO survey to inform survey research on AHTO in Australia and elsewhere. We describe the details of the 2021 Australian AHTO survey, including the development of its measures (since the 2008 prototype), our procedures for sampling, data collection, weighting and response rate calculation, and the results from a mode analysis.

Methodology: The 2021 AHTO measures are contrasted with and developed from the 2008 AHTO survey measures. In 2021, 1,000 participants were recruited through Random Digit Dial (RDD) and 1,574 through the Life in Australia™ panel (LinA). Weights were applied to the data and adjusted using generalised regression to match key respondent demographics to the Australian population and between the two samples. These demographics included age group cross-classified with level of education, country of birth, gender, geographic location, telephone status and total number of adults in the household. Multivariable logistic regression models using the weighted data probed whether sample source (Random Digit Dial [RDD]; LinA) was associated with eight key outcomes related to respondents' own drinking and the impacts of others' drinking.

Results: The response rate of the 2021 AHTO survey was 6.1%. Multiple regression analyses found that sample source (mode) had a statistically significant association with responses on three of eight outcomes, with sample source contributing one to eight percent of the model variance.

Conclusions: The current paper outlines improved AHTO survey measures, explicates declining response rates and measures mode effects, informing future national and international AHTO surveys.

Introduction

In recent decades, increased attention has been drawn to the harm alcohol consumption poses to people other than the drinker (Laslett et al., 2019). Alcohol consumption can cause different types of harm, ranging from nuisance created by intoxicated strangers to more severe consequences including property damage, interpersonal violence, and traffic accidents (Laslett et al., 2023; Devries et al., 2014, World Health Organisation, 2018). To gauge the extent of Alcohol's Harm to Others (AHTO), Laslett and colleagues

(2010; 2011) devised a survey to probe the type and extent of AHTO experienced by the Australian population. First developed and used in 2008, the intention was to use substantial portions of the survey to periodically track shifts in patterns of AHTO across Australian society over time (Wilkinson, et al., 2014). At present, only two iterations of the AHTO survey have been undertaken in Australia, in 2008 and in 2021. Globally, the survey has been undertaken in five continents, including in Thailand, Nigeria, Sweden, the United States of America, Chile and New Zealand (Callinan et al., 2016; Laslett et al., 2019). The current technical paper details the 2021 AHTO survey methodology,

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including changes made to the survey since 2008, making it an important reference point for future analyses of AHTO survey data and to ensure the survey's replicability.

Changes in the 2021 AHTO survey since 2008 partly reflect the substantial shift in methodology for population survey research which mimic changes in communication in daily life (Sturgis & Luff, 2021; Kennedy & Hartig, 2019). For example, in 2008, it was still possible to gather a statistically representative sample of the household population given that the majority of those approached for a phone interview would answer the phone and agree to be interviewed, e.g. by a Random Digit Dial (RDD) methodology. Indeed, the cooperation rate for the 2008 AHTO survey was 49.7% and the response rate 35.2% (Laslett et al., 2011). However, by 2021 the disappearance of landline phones and the overwhelming use of mobile phone calls for marketing purposes meant the RDD methodology, while still used, requires much more labour and statistical adjustment to claim a sample as representing the population. In place of such methodology, survey research agencies have often turned to multimodal data collection to reduce costs and enhance sample representativeness.

Considering the shifting landscape of survey research, a key development to the 2021 AHTO survey was the use of two data collection methods. One method was computer-assisted telephone interviews (CATI) using Mobile RDD sampling. The other method was using the probability-based Life in Australia™ (LinA) panel, who primarily completed computer-assisted web surveys. Discrepancies in survey responses may arise between these two data collection modalities due to differences in who participates in the different modalities (i.e., selection effects), and how people respond to questions in the different modalities (i.e., measurement effects; Olson et al., 2020). In the current paper, we refer to these selection and measurement effects as mode effects.

Further developments to the 2021 AHTO survey reflect the growth internationally of data and analyses on AHTO. The 2008 Australian data have been used in international comparisons with data collected elsewhere – for instance in the seven countries of the WHO-Thai Health AHTO project (Laslett et al., 2019). Partly based on experience analysing the 2008 survey, changes were made to the WHO-Thai Health questionnaire from the 2008 Australian survey, and some of these changes were carried into the Australian 2021 questionnaire.

Finally, the advent of COVID and the policy responses to it in Australia from March 2020 onward affected changes to the 2021 AHTO survey and responses therein. Thus, responses to the 2021 survey are not only influenced by changes in Australian drinking behaviour over the past decade (including a general decline in the level of alcohol consumption; Livingston et al., 2018), but also the effects of COVID-era restrictions in limiting public and on-site drinking, often replaced by more drinking at home (Caluzzi et al., 2022b).

The current technical paper aims to provide a detailed account of the 2021 AHTO survey. In light of developments

in survey research, the first important function of the current paper is to track the changes made to the survey since 2008. Specifically, this paper describes the development of the AHTO measures, and the procedures for sampling, data collection, weighting and response rate calculation. Finally, the paper also explores whether mode effects between the mobile RDD and LinA panel sample are present on any key outcomes related to respondents' own drinking and the impacts of others' drinking.

Methodology

AHTO Survey Design – Changes from 2008 to 2021

The AHTO survey was designed by the authors (Laslett et al., 2010; Laslett et al., 2023) to measure how different people's drinking potentially caused emotional, physical, sexual and/or financial harm to the respondents; its questionnaire is included in [Appendix 1](#). However, there were several key changes in the 2021 iteration of the AHTO survey compared to that of 2008. These include changes to the sampling process, changes to questions within the survey, and the addition of a qualitative component. These changes are summarised in Table A1 in [Appendix 2](#). The Social Research Centre (SRC), which is a reputable survey research company based at the Australian National University, was contracted to conduct both the 2008 and 2021 AHTO Australian surveys.

Sampling Process

The original 2008 AHTO survey was completed using a landline RDD sample. However, as mentioned in the introduction, the world of survey research is rapidly changing to be more web-based. In the new situation, and in order to future-proof the AHTO survey, a combination of two survey methods were carried out by SRC for the 2021 iteration:

1. The LinA panel is meticulously maintained by the SRC to be demographically representative of the Australian population (Social Research Centre, 2021). Panel members (respondents) largely complete surveys online, although the sample also includes offline members who do not have access to the internet and hence complete surveys via Computer Assisted Telephone Interviews (CATIs).
2. *A Mobile RDD* sample was obtained through dialling a large set of randomly generated mobile numbers. Prospective interviewees were contacted via SMS and phone call to complete the survey via CATIs. Some demographic information about the owners of mobile numbers was obtained by SRC. This information allowed targeted sampling of specific demographics to enhance the representativeness of the sample.

Changes to Questions.

As mentioned, changes were made to the 2021 AHTO survey questionnaire based on learnings from the 2008 survey and from our experience advising the design and analysis of international surveys (Callinan et al., 2016; Laslett et al., 2019). Additionally, consultations between Centre for Alcohol Policy Research (CAPR), SRC staff, and

an AHTO advisory group established for the project informed further adjustments to the 2021 survey. A pilot of 16 CATI interviews also informed refinements to the survey instrument prior to its full implementation. Key types of changes that were made in the 2021 survey include:

- Adding the Situational Drinking Norms battery and COVID-related questions (see [Appendix 1](#));
- Clarification of filters and routing to improve the survey's flow and reduce the survey's duration (e.g., the number of loops for respondents to nominate heavy drinkers they know was reduced due to finding that ~80% of respondents only nominated up to two drinkers in 2008);
- Inclusion of specific demographic variables to ensure RDD and LinA panel samples are comparable to each other;
- Improvements to wording in questions and response frames, including amendment of questions to increase comparability with international AHTO surveys (e.g., whereas the 2008 survey measured harms experienced from the most harmful drinker, the 2021 survey measures harms from all drinkers, which is comparable to international surveys);
- Inclusion of several additional conditional follow-up questions, for example, probing the dollar cost associated with harm caused by others' drinking;
- Removal of questions from the 2008 survey marginal to the AHTO agenda, such as questions probing the distance between the respondent and their nearest bar/alcohol shop;
- Addition of three questions to the 2021 questionnaire related to changes in drinking during the COVID era.

A summary of the different domains in the 2021 survey, as well as any changes made to the survey, can be viewed in Table A1, [Appendix 2](#).

Qualitative Component

Beyond the AHTO survey itself, there was for the first time solicitation (from a national random AHTO sample), follow-up qualitative interviews to provide rich data to contextualise the quantitative findings. Qualitative studies provide an opportunity to explore numerous contextual factors, such as drinking locations, the drinkers' moods, the social groups, and other characteristics that may influence AHTO. Thus, this component was intended to inform us more about the nuanced occurrences of AHTO in a general population.

The qualitative component involved a series of interviews with respondents from the RDD sample who indicated in the survey that they experienced AHTO and consented to be contacted about a follow-up interview. Narrative inquiry (Miller, 2003; Clandinin, 2006), including semi-structured interviews, with a pre-developed interview guide, was used to elicit and analyse detailed stories from participants. Interviews were conducted by telephone or Zoom and were audio recorded, then transcribed verbatim. Verbal consent to the interview was audio-recorded in a separate electronic file

to the interview recording. Depending on the aims of the particular sub-study, potential qualitative study respondents were selected from the AHTO qualitative sample according to specific demographics and/or AHTO harm types.

Survey Procedure

The 2021 AHTO survey sampling and fieldwork were undertaken by the SRC and is further described in two reports the SRC prepared for the Centre for Alcohol Policy Research (CAPR; Social Research Centre 2021; Social Research Centre 2022).

Mobile RDD Sample

A sample was generated through SamplePages, an analytics company which owns a large database of mobile numbers. All numbers were pre-tested to ensure they were live. Sample exclusions were anyone who was residing in an institution (e.g., prison, psychiatric hospital, rehab, etc.), anyone under 18 years, anyone unable to complete the interview in English, and anyone under the influence of drugs or alcohol.

To increase the response rate and perceived legitimacy of the survey, all numbers received a pre-notification text (see [Appendix 1](#)), to which 310 participants opted in for a follow-up call. Those who opted for a follow-up call, and those who did not respond to the pre-notification text, all received up to four call attempts to conduct the survey. Any queries about the study could be directed to a 1-800 hotline which the SRC set up for the duration of the study.

Surveys were completed via Computer Assisted Telephone Interviews (CATI) conducted by interviewers trained by the SRC. For training, all interviewers attended a briefing session which detailed the survey's content and context, interview procedures and techniques to improve interviewee cooperation. Several practice interviews also took place prior to commencing the main study.

LinA Panel Sample

The LinA panel consists of a pool of members recruited such that the panel is demographically representative of Australia (Social Research Centre, 2021). For panel recruitment, a sample frame was acquired from the Geocoded-National-Address-File and the push-to-web methodology was used (Department of Industry, Science and Resources, 2016). Push-to-web refers to recruitment of participants for online surveys using offline methods (e.g., SMS contact; IPSOS, 2019). Although most panel members who responded completed surveys online, some panel members were non-internet users who completed CATIs via telephone.

Invitations to complete the survey were sent to all online panel members via email and/or SMS, with the message containing a URL link to the survey. Offline members with a valid phone number were sent SMS invitations and were otherwise contacted via landline to complete a CATI survey. Online members were contacted up to six times to participate in the survey and offline members were contacted up to eight times. All LinA panel members receive a small incentive for joining the panel and further incentives for each survey they complete. The incentive for completing the AHTO survey was a voucher valued at \$15.

Ethics

The study was approved by the La Trobe University Human Research Ethics Committee (HEC20518) and was undertaken in accordance with the Privacy Act 1988, the Privacy (Market and Social Research) Code 2014, and the Research Society's Code of Professional Practice and ISO 20252 standards. Accordingly, informed consent was obtained prior to commencing interviews, thus including ensuring that the voluntary nature of participation was understood. Further, the privacy and confidentiality of participants were protected through ensuring data was deidentified and stored securely on a password-protected network.

Survey Weighting Procedure

Survey data is prone to bias caused by noncoverage, nonresponse and unequal sampling probabilities. To minimise the impact of these biases, researchers from the SRC created sampling weights which, when applied, compensate for gaps left by nonrespondents (Social Research Centre 2021; Social Research Centre 2022). Further, weights can be adjusted so that the sample characteristics more accurately reflect the target population, hence increasing the precision of population inferences. The process for creating weights for the current study sample contained three steps:

1. Create base weights for the RDD and LinA panel samples;
2. Adjust base weights to better match population benchmarks sourced from Australian Bureau of Statistics (ABS) 2016 Census and the ABS (2018) 2017-18 National Health Survey (See Table A2, [Appendix 3](#)); and
3. Combine samples and adjust base weights to ensure sample characteristics are commensurate with each other as well as with key population parameters.

Though applying weights can reduce biased population inferences, weights that have large differences between them can cause sizable variances in survey estimates. Therefore, limits were applied to the weights to improve their efficacy. The impact of setting bounds on the weights is assessed by comparing the weighting efficiency (Kish, 1992) of adjusted weights for different constraints. Bounded weights are generally preferred when their efficiency is close to that of the unbounded weights. As a result of restricting weights, no respondent had a weight less than 0.17 or more than 4.9 in the combined sample.

Note however, the appropriateness of using weights for future studies might vary by the complexity of the analyses (Friedman, 2013) and the use of a subsample.

Mobile RDD Sample

To account for noncoverage, base sampling weights were calculated according to the ratio of the population of mobile phones to the number of respondents (Australian Communications and Media Authority, 2020). Weights were then adjusted to match population benchmarks on key characteristics using generalised regression (GREG; Kalton

& Flores-Cervantes, 2003). The key characteristics used to adjust the weights were selected according to:

1. The characteristics adjusted for in the 2008 AHTO survey;
2. Which characteristics differed the most from the population in the 2021 AHTO survey; and
3. Which characteristics were most strongly associated with key 2021 AHTO survey outcomes.

Characteristics taken into account in the weighting included age group cross-classified with highest level of education, country of birth, gender, geographic location, telephone status (household has/does not have a phone) and total number of adult residents in the household (see Table A2, [Appendix 3](#)).

LinA Panel Sample

A more complex process was undertaken when creating base sampling weights for this sample to account for potential bias arising during multiple waves of panel member recruitment (Kaczmirek et al., 2019). Two separate weights were calculated and combined to form the base weights. One is the *enrollment weight*, which accounts for the initial chances of panel member selection and subsequent post-stratification to key demographic benchmarks. Secondly, *response propensity weights* were created using propensity scores (Rosenbaum and Rubin, 1983) based on a broad range of demographic characteristics. Propensity scores were calculated through a logistic regression model predicting the likelihood of panel members participating in the current survey, conditional on characteristics available for both respondents and non-respondents. Thus, applying response propensity weights limits the impact on representativeness caused by survey non-response, withdrawal, or retirement of members from the panel.

The base weights were calculated as the ratio of the enrolment weight to the propensity class score, then adjusted using the GREG method to reflect the proportions of characteristics in the population. Population benchmarks were sourced from the ABS 2016 Census and the 2017-18 National Health Survey, and telephone access was obtained from the Australian Communications and Media Authority (2020). Characteristics subject to adjustment were age group cross-classified with the highest level of education, gender, geographic location, speaks a language other than English at home, and total number of adult residents in the household (see Table A2, [Appendix 3](#)).

Combined Sample

For the combined dataset the base weights were the separate adjusted weights from the LinA panel and mobile RDD samples described in the previous sections. The characteristics used for further adjusting these combined weights using GREG were those that were common across the two surveys, those that were most different from the population and those that showed notable differences between the two samples. These characteristics may be viewed in Table A2, [Appendix 3](#).

Missing Data

The GREG weighting method requires that there be no missing data, yet there were some missing data in items used for benchmarking. Therefore, missing data imputation was conducted on any missing values prior to applying data weights. A statistical model was applied to each item with missing values to impute the most likely value for a respondent, conditional upon multiple respondent characteristics and item responses. Demographic characteristics included in the imputation model were: age, country of birth, dwelling tenure, employment status, First Nations status, gender, general health, highest education, number of adults in the household, remoteness index, neighbourhood's socioeconomic status (SEIFA), state, and telephone access. Response items included in the imputation model pertained to: life satisfaction, specific health (EQ-5D), whether respondents know a heavy drinker, the Situational Drinking Norms statement battery, frequency of drinking at home, types of harm experienced from a stranger's drinking, and the extent of harm from a stranger's drinking. Given these variables were both categorical and continuous, MissForest multiple imputation was used, which is a non-parametric imputation method that deals well with mixed data with up to 30% missingness (Stekhoven and Buehlmann, 2012). However, we expect that the very low prevalence of missing values overall (a maximum of 2.80% for any item) will result in the imputation process having a negligible impact on weighted estimates made from the dataset.

Mode Analysis

Analyses were undertaken by the SRC to determine whether the different data collection modalities used for the RDD and the LinA panel sample caused any notable discrepancies on key survey outcomes despite weighting (Kristen et al., 2020).

Outcomes

Eight key outcomes related to respondents' own drinking, others' drinking and the impacts of others' drinking. These outcomes included (a) respondents' drinking frequency; (b) whether there were "fairly heavy drinkers or people who drank a lot sometimes" [a subjective assessment made by respondents about the level of drinking of others (Laslett et al., 2010; 2023)] in the respondent's life; (c) whether the respondent was affected by the drinking of a fairly heavy drinker they knew; (d) whether they had to care for the persons they were affected by; including whether they had to care for children or other dependents due to another's drinking; (f) whether they were affected by the drinking of a stranger; (g) whether the respondents' own drinking had affected others; and (h) whether the respondent's own drinking affected any children.

Covariates

The demographic characteristics controlled for in the analysis were age, gender, the number of adults in the household, country of birth, highest education, employment status, general health, dwelling tenure, location and SEIFA.

Analyses

Eight multivariable logistic regression models were conducted to probe the extent to which sample source was associated with each outcome. McFadden's R-squared was also calculated to determine the amount of variance contributed by sample source to each logistic regression model.

Results

Response Rates

Mobile RDD Sample

A total of 21,494 numbers were called, although no contact was achieved for around 13,000 of the records (~60% of selections). Of those who did "pick-up", 1,014 completed the survey. Most of the interviews were completed at first call attempt (42.4%), which then petered off to 24.8% at second call, 21.1% at third call and 11.7% at fourth call. The average length of interviews in this sample was 24.2 minutes.

When calculating the response rate several parameters were considered, including whether the number was eligible, whether the number was residential, and whether the interview was completed (Social Research Centre, 2021). The response rate was calculated at 5.5% using the parameters and formula defined in Table 1.

Table 1

Parameters and Formula for Response Rate Calculation of RDD Sample

Disposition Parameter	n / %
I = Complete Interviews	1,014
P = Partial interviews	0
R = Refusal and break off with eligible case	4,594
NC = Non-contact with eligible case	22
O = Other non-interview with eligible case	1,079
UH = Unknown if residential	13,713
UO = Unknown other	0
INNR = Ineligible: Not residential	696
INR = Ineligible: Residential but ineligible for survey	376
e1 = the % of known-residential cases estimated to have eligible R	94.7%
e2 = the % of unknown-if-residential cases that are estimated to be residential	91.1%
Response Rate	
$I / (I+P+R+NC+O+[e1*e2*UH]+[e1*UO])$	5.5%

LinA Panel Sample

Of the 2,003 panel members invited to take part in the survey, 1,574 (78%) completed it. Most invitees were online panel members ($n = 1,922$, 96.5%) whereas 81 (2.5%) were offline panel members. Offline panel members tended to have a lower completion rate (67.9% vs 79% for online) and tended to take longer to complete (29.8 minutes vs 15.9 minutes for online).

A cumulative response rate was also calculated which takes into consideration the recruitment process of members into the panel. Parameters considered when calculating the cumulative response rate include the rates of: (a) eligible individuals who agree to join the panel; (b) initially consenting individuals who complete the panel profile; and (c) active panel members during the time of the AHTO survey. A calculation of the above parameters together with the completion rate of 78.6%, resulted in a cumulative response rate of 6.1% (see Table 2).

Table 2

Response Rate Parameters for the Life in Australia Panel Sample

Parameter	%
Recruitment rate	11.1
Profile rate	93.9
Retention rate	74.2
Completion rate	78.6
Cumulative response rate	6.1

Mode Analysis

Results from these mode analyses found that sample source had a statistically significant association with responses on three outcomes (Table 3). Specifically, respondents who reported engaging in caring duties due to another's drinking were more likely to have completed an RDD survey, and this contributed 5% to the model variance. Respondents who perceived their drinking did not affect children in the household were also more likely to complete the RDD survey, though this contributed just 1% variance to the overall model. Finally, respondents who perceived their drinking affected others a little or a lot (versus not at all) were less likely to have completed RDD surveys, and this contributed 8% variance to the overall model. However, there were no significant associations between sample source and the remaining five key outcomes. Please see multiple Tables A3-A5 in [Appendix 4](#) for the full results of the regression analyses where sample source was a significant predictor, and Table A6 in [Appendix 5](#) to view the proportion difference between the different modalities on all key outcomes.

Discussion

The current paper describes the technical approach of the 2021 Alcohol Harm to Others survey, including changes in the methods between the 2008 and 2021 surveys. Compared to 2008, the 2021 survey is more comprehensive in the range of different harms and potential harm sources it measures. Further, the addition of questions regarding the dollar cost of various AHTO harms in the 2021 survey improves our ability to estimate the economic impact of AHTO. Finally, amending the wording and routing of questions has allowed the Australian AHTO survey to be commensurate with international iterations of the survey, which facilitates cross-country comparisons and shared learnings. These changes strengthen the AHTO survey's ability to produce results that inform positive policy change.

Various methods were utilised to improve the validity of survey results in the context of a shifting survey research landscape, wherein rates of non-response have exponentially increased over time, particularly for phone-based surveys (Kennedy & Hartig, 2019). The application of weights helped account for biases that arose through unequal sampling probability and non-response. Further, the introduction of panel-based sampling captured a broader sample than a mobile RDD sample alone, for example, by including persons without a mobile phone or access to the internet. However, the response rate to the 2021 survey was low, ranging from 5.5% (mobile RDD sample) to 6.1% (LinA panel). Given our low response rate, we are unlikely to be able to reproduce estimates for the Australian population with certainty. This result highlights the importance of triangulating survey results with national agency statistics such as AHTO recorded in police, hospitalisation, or ambulance data (Rehm et al., 2021).

Despite applying weights to the data, there were some mode effects present. Specifically, mode effects impacted outcomes relating to whether respondents cared for a heavy drinker, perceived their own drinking harmed others, or perceived their drinking harmed children. However, these outcomes did not appear in the main paper reporting findings from the 2021 AHTO survey, and hence were not used to calculate AHTO prevalence in the population (Laslett et al., 2023). Further, mode contributed only a small amount of variance (<1%) to the overall model testing how respondents' drinking affected children.

Considerations of the current paper's results may guide individuals intending to administer a population-level AHTO survey in their own country. Low response rates, evident in the AHTO 2021 survey, and survey research broadly (Kennedy & Hartig, 2019), pose one of the largest risks for introducing bias into the sample. Thus, for high-income countries (where response rates tend to be very low), unless surveys are funded to include face-to-face house drop and collect surveys, panel studies may be necessary to enable adequate sample sizes that attain representative findings. Further, panel surveys with a purposive sampling method may better include sub-groups that are typically underrepresented in RDD samples, such as rural respondents, heavier drinkers and young men. Mobile phone ownership continues to expand in low-to-middle income

countries, and hence so will the prevalence of RDD mobile surveys. However, nascent literature in this area suggests RDD samples are unlikely to produce representative data in LMIC countries (Gibson et al., 2017). Since traditional face-to-face surveys remain more able to produce adequate

response rates, without introducing unnecessary mode effects (Greenleaf et al, 2017), they should not be abandoned. However, new approaches could be added to sample less accessible sub-populations in LMICs.

Table 3

Results from Multivariable Logistic Regression Analyses on Different Key Outcomes with Survey Mode as a Predictor, Adjusting for Identified Variables in Each Analysis

Outcome	OR (CI 95%)	McFadden's R-Squared (%)
Fairly heavy known drinker whose drinking has negatively affected the respondent		
No one identified	1.15 (0.94 - 1.42)	1.06
One person identified	0.91 (0.72 - 1.16)	0.62
Two or more people identified	0.84 (0.61 - 1.16)	1.18
Fairly heavy known drinker identified by the respondent		
No one identified	0.87 (0.72 - 1.04)	1.79
One person identified	0.98 (0.81 - 1.18)	0.12
Two or more people identified	1.19 (1.42 - 0.06)	2.37
Respondent had to do something / do some caring because of fairly heavy drinker		
Respondent had to do something / do some caring	1.35 (1.09 - 1.66)**	5.45
Respondent had to do something / do some caring of children because of fairly heavy drinker		
Respondent has parental responsibility over a child who was affected by fairly heavy drinker	0.72 (0.49 - 1.05)	3.27
Respondent experienced harm from a stranger		
Experienced harm from a stranger	0.98 (0.81 - 1.17)	0.17
How often do you have five standard drinks or more?		
3 to 4 days a week	0.71 (0.40 - 1.27)	-
1 to 2 days a week	0.83 (0.58 - 1.17)	0.43
2 to three days a month	1.04 (0.73 - 1.47)	1.11
About one day a month	0.86 (0.63 - 1.19)	0.41
Less often	1.01 (0.81 - 1.26)	0.28
Not in the last 12 months	0.87 (0.67 - 1.11)	3.85
Never	1.09 (0.89 - 1.34)	0.22
Overall, in the last 12 months, how much would you say your drinking has negatively affected other people?		
A lot or a little	0.51 (0.35 - 0.73)***	8.39
Overall, in the last 12 months, how much would you say your drinking has negatively affected your children, or children in your household?		
Not at all	1.24 (1.00 - 1.54)*	0.97

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. CI = confidence interval; OR = odds ratio.

The 2021 Australian version of the AHTO survey benefitted from lessons learned when adapting the AHTO survey to an international context. Although the 2021 questionnaire includes substantial improvements to the 2008 survey, we recommend international researchers also refer to the versions used by the WHO-Thai Health AHTO project (Laslett et al., 2019) when constructing their own AHTO survey. Supplementing this, researchers should consider their own countries' unique drinking cultures, alcohol-related policy, typical size and strength of drinks, and most common ways of measuring alcohol consumption (Bloomfield et al., 2003). These recommendations may support researchers to create surveys suited to nuances around alcohol use in their respective countries.

The AHTO survey will continue to provide important snapshots of the varied harms resulting from others' drinking against the backdrop of shifting attitudes towards drinking in Australia. Overall, Australians are increasingly choosing to abstain from drinking, a trend particularly driven by young people's reduced drinking (Australian Institute of Health and Welfare [AIHW], 2020). Reasons for this include shifts in parental practice around drinking and decreased normalisation of drinking behaviour among younger cohorts (Caluzzi et al., 2022a, Vashishtha et al., 2020). Yet interestingly, overall risky drinking behaviour in Australia has remained stable (AIHW, 2020). The 2021 AHTO survey constitutes a vital reference point in creating comparable surveys that measure how AHTO shifts over time in response to these broader societal and cultural changes.

Conclusions

In summary, this methodological paper presents the differences between two large Australian AHTO surveys, highlights recent improvements, discusses the low response rate and finds that there were some but not major differences by mode effects.

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