

Lessons for the future of alcohol surveys

Jürgen Rehm

Institute for Mental Health Policy Research & Campbell Family Mental Health Research Institute, Centre for Addiction and Mental Health (CAMH), Toronto, Canada;

Dalla Lana School of Public Health and Department of Psychiatry, University of Toronto (UofT), Canada; PAHO/WHO Collaborating Centre, CAMH, Toronto, Canada;

WHO Collaborating Centre in preparation, Agència de Salut Pública de Catalunya, Barcelona, Spain;

Technische Universität Dresden, Klinische Psychologie & Psychotherapie, Dresden, Germany;

Center for Interdisciplinary Addiction Research (ZIS), Department of Psychiatry and Psychotherapy, University Medical Center Hamburg-Eppendorf(UKE), Hamburg, Germany;

Department of International Health Projects, Institute for Leadership and Health Management, I.M. Sechenov First Moscow State Medical University, Moscow, Russian Federation;

Conflicts of interest

- Some of the results of the surveys are based on data from commercial data providers (such as Kantar).
- In one instance, the data of Kantar had been provided to a University to use via alcohol industry. I was not aware of this, and in general do not consider using data from industry as conflict of interest if I am not receiving any financial or other resources.

The end of the survey world is near...?

'Well, I guess I don't have much hope for surveys. [...] I just don't see anything that we have in our toolkit to overcome the massive social forces that are producing that behavior [high rates of non-response]. We're not smart enough to induce better response rates. So I think the future is really messy. It's piecing together a variety of data that are relevant to the phenomena we're interested in. I think [a] [...] world of much more sophisticated statistical modeling and blending data together is the future of surveys.'

(Robert Groves, former Director of the US Census Bureau, 2017)

The Future Of U.S. General Population Telephone Survey Research **REPORT FROM THE AAPOR TASK FORCE ON "THE FUTURE OF U.S. GENERAL POPULATION TELEPHONE SURVEY RESEARCH"**

Conclusion. There are many researchers who believe that the telephone as a viable and attractive mode for surveying the general public is dying or is already dead, particularly advocates of nonprobability online surveys.

Stedman RC, Connelly NA, Heberlein TA, Decker DJ, Allred SB.
The end of the (research) world as we know it? Understanding
and coping with declining response rates to mail surveys. J Soc
Nat Res 2019;32:1139–54.

What are the main arguments?

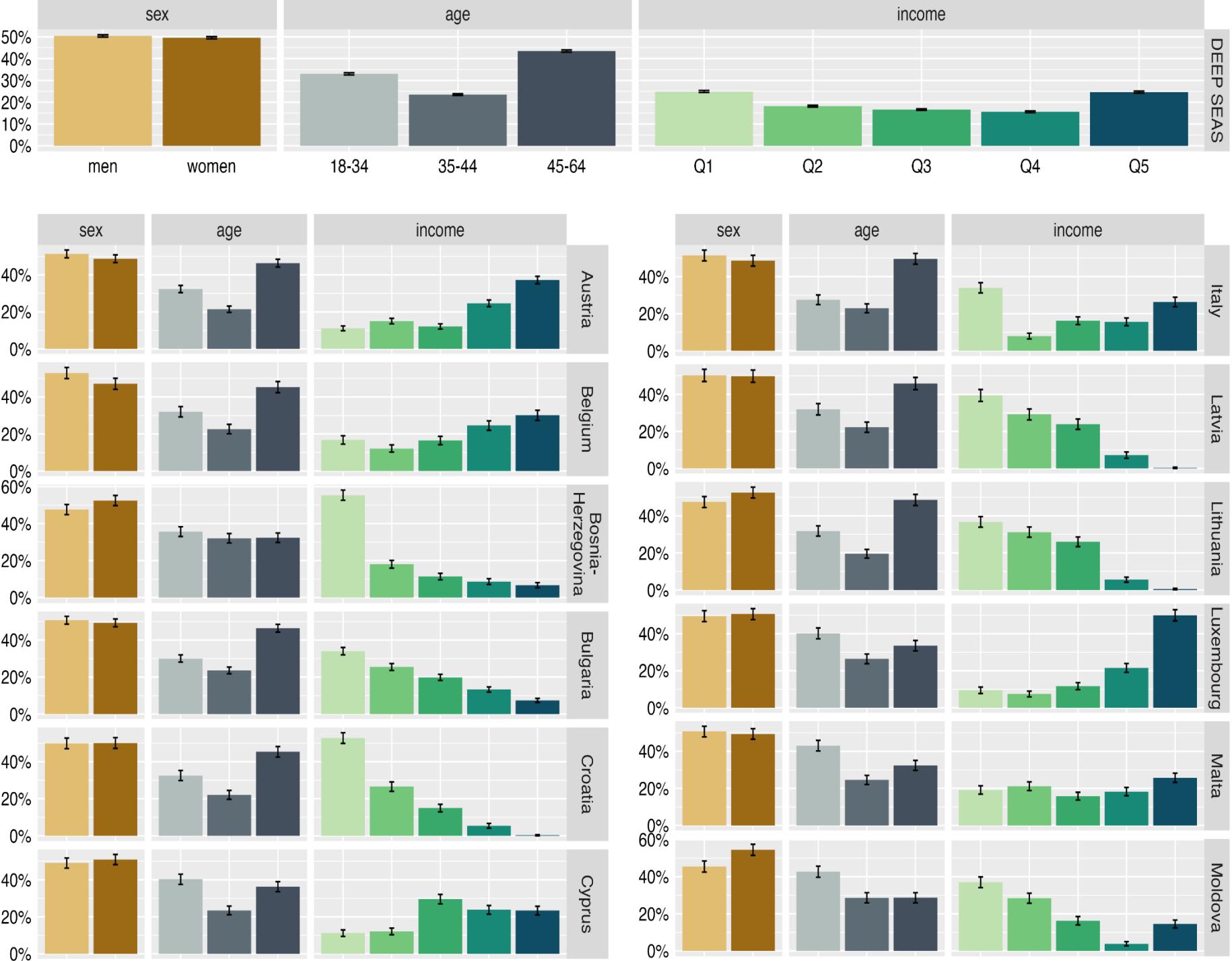
- Representativity is a statistical property which involves the following:
 1. Everybody in the population has a chance to get into the sample (albeit with different probabilities)
 2. Everybody who is sampled responds, or those who do not respond, do not do so for systematic reasons. In other words: that non-response is not systematic (i.e., missing at random).
- Consider alcohol surveys (classic):
 1. Important groups are not part of the sampling frame (heavy drinking populations such as homeless, institutionalized, military, etc.)
 2. High and increasing non-response rates, systematic drop outs (e.g., young men).
 3. Attempts to repair (over- and underweighting some groups) may do more damage than good.
 4. High “undercoverage” of the alcohol sold in practically any survey.

Lesson 1: There are no longer representative surveys

- But is representativeness a continuous or a dichotomous property?
In other words, can a survey be more or less representative?
- Look at DEEP SEAS as an example!

Is Malta more representative than Latvia? What if within the regions of Malta, there are similar extreme differences as between the countries sampled for DEEP SEAS?

Statistical theory vs. practical considerations



Lesson 2: With little tricks one may achieve better survey results

- If you go into quota, do not accept overall quota (i.e., for all countries of DEEP SEAS; overall quota for sex in a country).
- Ask for quota within reasonable units (i.e., for all regions within a country, there should be combined quota for sex, age, and SES).
- This will increase the price of panels but still nowhere near the prices of the old way of probability surveys.

Lesson 3: The end of the omnibus surveys

- If a can no longer have a survey, which is representative for a country, and thus for all characteristics within a country, I should concentrate on theoretically derived sampling, theoretical for what I want to achieve.
- Example: MUP in Scotland
 - Major aims of the policy:
 - To reduce overall drinking.
 - To reduce heavy drinking of the most vulnerable.

Consequences for sampling

- For question 1 (reduction of drinking), adult APC could be measured if we assume there are not a lot of cross-border activities.
- Or a large sample of households with a control group (like Northern England).

*Is this a
survey?*

From O'Donnell et al., 2019; BMJ

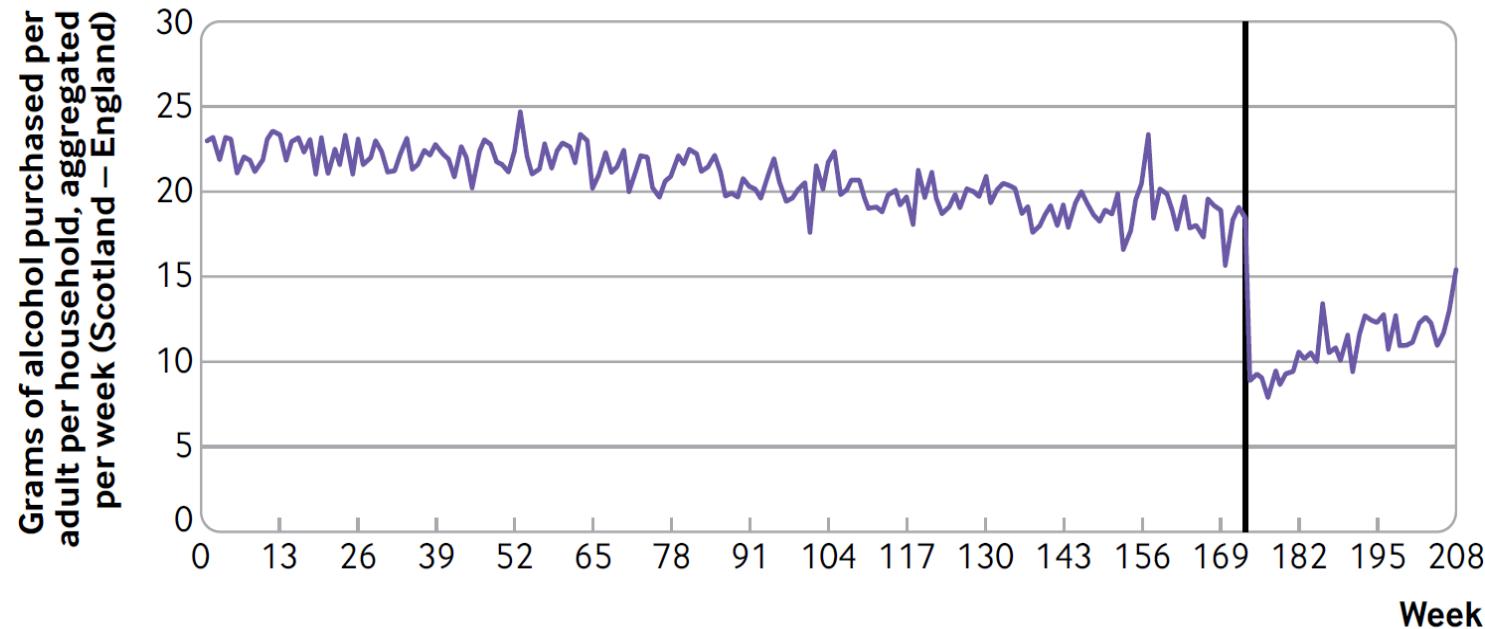


Fig 2 | Plot of grams of alcohol purchased per adult per household aggregated by week, difference Scotland minus England, by week (1=first week of 2015; 208=last week of 2018). Vertical line=introduction of minimum unit price, week 174

Consequences for sampling II

Results Primary interrupted time series analyses found that the introduction of MUP was associated with a drop in reported weekly total alcohol consumption of 5.94 g (95% CI 1.29 to 10.60), a drop in off-trade consumption of 3.27 g (95% CI –0.01 to 6.56) and a drop in on-trade consumption of 2.67 g (95% CI –1.48 to 6.82). Associated reductions were larger for women than for men and were greater among heavier drinkers than for lighter drinkers, except for the 5% of heaviest drinking men for whom an associated increase in consumption was found. Secondary before-and-after analyses found that reductions in consumption were greater among older respondents and those living in less deprived areas. The introduction of MUP was not associated with a reduction in consumption among younger men and men living in more deprived areas.

Strengths and limitations of this study

- ⇒ The study uses a large commercial dataset surveying the previous week's alcohol consumption of 106 490 adults in Scotland and England.
- ⇒ The study uses location-controlled interrupted time series analyses of the potential impact of the introduction of minimum unit pricing (MUP) in Scotland, with the alcohol consumption of residents of England (and, in sensitivity analysis, residents of Northern England) as control.
- ⇒ The study assesses how the potential impact of MUP might differ by sex, level of alcohol consumption, age, social grade and level of residential deprivation of respondents.
- ⇒ The sample of respondents is not a random sample but rather a quota sample and cannot claim full representativeness of all adult residents in Scotland and England.

Rehm et al., 2022

Are all quota samples useless?

Lesson 4: We need specific methodology for specific questions

- A survey testing hypotheses regarding overall increases/decreases needs different methodology and sampling than a survey testing hypotheses about impact on young heavy drinkers!
- Combine survey methodology with other methodology like scanning of supermarket buys
- Combine survey methodology with experimental methodology (many research questions are not about representative prevalence but about causality!)

Lesson 5: Use external validations!

- APC as example
 - You cannot compare the results of two surveys where one survey has 20% coverage and the second survey has 37% coverage
- => Modelling is key

Conclusions

- Despite the end of representativeness we will still need surveys in the future
- We will need to be better in light of optimising possibilities like quota sampling which will be the future.
- There will be the end of thoughtless omnibus alcohol surveys, which will be replaced by surveys with clearer, more focussed objectives, external validators, and modelling.