

Commentary on Livingston *et al.*: Do reductions in adolescent drinking really maintain into adulthood?

While Livingston et al. [1] provide some support for a decline in adolescent drinking, we suggest caution in the interpretation. Like other high-income countries, the trends may also indicate a convergence among cohorts by adulthood, in which case no impact on long-term conditions can be expected.

In the last two decades, studies of high-income countries (i.e. northern European and Anglo countries) purported to identify considerable reductions in adolescent drinking [2, 3]. Livingston and colleagues [1] proposed to find a similar trend in Australia. The authors investigated whether younger compared to older cohorts kept their level of drinking when getting older (i.e. between the ages of 14 and 24 years). Using survey data and testing the interaction effects between age and cohort for past-year drinking, risky drinking and drinking volume, the authors conclude that there were reductions across cohorts and that these reductions did not differ by the socio-demographic status of the participants.

However, the gaps between cohorts narrowed substantially from the age of 18 years onwards, and in some instances the gaps are no longer present (e.g. see the overlapping confidence intervals between cohorts for past-year drinking at age 24 [1]). Thus, the overall trend appears weak, and we suggest some caution in its interpretation considering other trends observed in high-income countries. For instance, adolescents in Finland have delayed their drinking debut but caught up with previous generations in their rates of drinking and drunkenness by adulthood [4]. Moreover, a recent study investigating trends in adolescent drinking across 26 European countries found not only diverging trends between countries but also diverging trends at different consumption levels with less beneficial changes in heavy compared with light drinkers [5]. Thus, the crucial questions to be asked are: why are reductions in adolescence not fully maintained into adulthood and older age, and what are the implications from a public health perspective?

Evidence on the various factors contributing to the reduction in adolescent drinking comes from cross-sectional observational studies [6, 7]. A comparative trend analysis across countries with similar strict alcohol policies reported that the decline in adolescent heavy episodic

drinking in Finland, Norway and Sweden was associated with a decline in adolescent daily smoking, a decline in perceived access to alcohol and an increase in parental control [8]. While parental control and access control may be powerful during adolescence, they gradually lose their effect on drinking behaviour when adolescents transition into adulthood and become less dependent on their parents. As the preventive effect fades, other factors need to take their place to keep consumption levels low. Unfortunately, while prevention measures and their effects on drinking in adolescents have been studied intensively [9], there seems to be a lack of knowledge on effective alcohol prevention measures targeting adolescents during their transition to young and older adulthood.

The working hypothesis of Livingston and colleagues [1] is that alcohol-related harm would reduce if the observed reductions were maintained into adulthood and continued into older age. Research suggesting links between heavy drinking in adolescence and heavy drinking and increased risk of abuse and dependence in adulthood [10] imply that persistent reductions in alcohol use in all parts of the population will result in less alcohol harm, morbidity and mortality [11].

Even if we assume that the observed gaps in drinking level in more recent cohorts have not reached the level of previous generations by the age of 24 years, the trends may close soon after this age, and by closing the gap the potential of the reductions in younger age in terms of reduced risks of harm is lost. Lower drinking and risky drinking levels in adolescence certainly lower the likelihood of acute harm, such as accidents or becoming the perpetrator or victim of violence. Once, however, even after a period of 5–10 years, they reach the higher level of previous generations, no major impact upon chronic conditions, such as cancer, high blood pressure or dependence, is to be expected. This suggests that we may only expect short-term rather than long-term public health benefits.

KEYWORDS

Adolescents, alcohol, Australia, cohort, drinking, reduction

DECLARATION OF INTERESTS

None.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *Addiction* published by John Wiley & Sons Ltd on behalf of Society for the Study of Addiction.

AUTHOR CONTRIBUTIONS

Ludwig Kraus: writing - original draft (lead); writing - review and editing (equal). **Sally Olderbak:** writing - original draft (supporting); writing - review and editing (equal).

FUNDING INFORMATION

Funding for L.K. and S.O. was provided by the German Federal Ministry of Health (Bundesministerium für Gesundheit), grant number IIA5-2511DSM220. L.K. was also supported by the Swedish Research Council for Health, Working Life and Welfare, grant numbers 2014-00167 and 2016-00313.

Ludwig Kraus^{1,2,3} 

Sally Olderbak^{1,4} 

¹Department of Epidemiology and Diagnostics, IFT Institut für
Therapieforschung, Munich, Germany

²Department of Public Health Sciences, Centre for Social Research on
Alcohol and Drugs, Stockholm University, Stockholm, Sweden

³Institute of Psychology, ELTE Eötvös Loránd University, Budapest,
Hungary

⁴Psychology Department, University of Arizona, Tucson, AZ, USA

Correspondence

Ludwig Kraus, Leopoldstraße 175, 80804 Munich, Germany.

Email: Kraus@ift.de

ORCID

Ludwig Kraus  <https://orcid.org/0000-0001-7282-0217>

Sally Olderbak  <https://orcid.org/0000-0001-6133-0458>

REFERENCES

- Livingston M, Callinan S, Vashishtha R, Yuen WS, Dietze P. Tracking the decline in Australian adolescent drinking into adulthood. *Addiction*. 2022;117:1273–81.
- Kraus L, Seitz NN, Piontek D, Molinaro S, Siciliano V, Guttormsson U, et al. 'Are the times A-Changin'? Trends in adolescent substance use in Europe. *Addiction*. 2018;113:1317–32.
- Vashishtha R, Pennay A, Dietze P, Marzan MB, Room R, Livingston M. Trends in adolescent drinking across 39 high-income countries: exploring the timing and magnitude of decline. *Eur J Public Health*. 2021;31:424–31.
- Lintonen T, Harkonen J, Raitasalo K, Harkanen T, Makela P. Decreasing adolescent drinking: is there evidence of a continuation into future adult cohorts? APC analysis of adolescent drinking in Finland, 1983–2013. *Scand J Public Health*. 2016;44:654–62.
- Loy JK, Seitz N-N, Bye EK, Raitasalo K, Soellner R, Törrönen J, et al. Trends in alcohol consumption among adolescents in Europe: do changes occur in concert? *Drug Alcohol Depend*. 2021;228:109020.
- Kraus L, Room R, Livingston M, Pennay A, Holmes J, Törrönen J. Long waves of consumption or a unique social generation? Exploring recent declines in youth drinking. *Addict Res Theory*. 2020;28:183–93.
- Room R, Greenfield TK, Holmes J, Kraus L, Livingston M, Pennay A, et al. Supranational changes in drinking patterns: factors in explanatory models of substantial and parallel social change. *Addict Res Theory*. 2020;28:467–73.
- Raitasalo K, Kraus L, Bye EK, Karlsson P, Tigerstedt C, Törrönen J, et al. Similar countries, similar factors? Studying the decline of heavy episodic drinking in adolescents in Finland, Norway and Sweden. *Addiction*. 2021;116:62–71.
- United Nations Office on Drugs and Crime World Health Organization (UNODC WHO). International Standards on Drug Prevention. Vienna, Austria: UNODC; 2018.
- McCambridge J, McAlaney J, Rowe R. Adult consequences of late adolescent alcohol consumption: A systematic review of cohort studies. *PLOS Med*. 2011;8:e1000413.
- Rehm J, Gmel GE Sr, Gmel G, Hasan OS, Imtiaz S, Popova S, et al. The relationship between different dimensions of alcohol use and the burden of disease—an update. *Addiction*. 2017;112:968–1001.

How to cite this article: Kraus L, Olderbak S. Commentary on Livingston *et al.*: Do reductions in adolescent drinking really maintain into adulthood? *Addiction*. 2022;117:1282–3. <https://doi.org/10.1111/add.15856>