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Title: Researching the decline in adolescent drinking: The need for a global and generational approach

Running title: Researching the decline in adolescent drinking

Authors:

Amy Pennay, PhD, Research Fellow, Centre for Alcohol Policy Research, La Trobe University, Melbourne, Australia.

John Holmes, PhD, Senior Research Fellow, School of Health and Related Research, University of Sheffield, UK.

Jukka Törrönen, PhD, Professor, Centre for Social Research on Alcohol and Drugs, Stockholm University, Sweden.

Michael Livingston, PhD, Senior Research Fellow, Centre for Alcohol Policy Research, La Trobe University, Melbourne, Australia and Department of Clinical Neurosciences, Karolinska Institutet, Stockholm, Sweden.

Ludwig Kraus, PhD, Professor, IFT Institut für Therapieforschung, Munich, Germany; and Centre for Social Research on Alcohol and Drugs, Stockholm University, Sweden.

Robin Room, PhD, Professor, Centre for Alcohol Policy Research, La Trobe University, Melbourne, Australia and Centre for Social Research on Alcohol and Drugs, Stockholm University, Sweden.

Corresponding author: Amy Pennay, Centre for Alcohol Policy Research, La Trobe University, 215 Franklin St, Melbourne, Victoria, 3000. Ph: 03 9479 8725. Email: a.pennay@latrobe.edu.au

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Abstract

Adolescent alcohol consumption has been in decline across many high income countries since the early to mid-2000s. This is a significant public health trend, with few documented examples from history where such a global downward shift in alcohol consumption has occurred primarily among the adolescent segment of the population. In this commentary we describe the nature and breadth of the trend; reflect on the environmental, social, and policy factors that have been proffered; and argue that to adequately understand and support the maintenance of these trends, three important methodological considerations are needed for future research. Firstly, longitudinal panel and qualitative studies are needed to complement and inform continuing cross-sectional research. Secondly, a collaborative cross-cultural approach is needed to contextualise the international scale of the trend, and thirdly, future research must be situated within a historical and generational perspective to understand declines in adolescent drinking in the context of a broader shift in adolescent behaviours.

Over the past fifteen years adolescent drinking has declined in more than 30 high income countries (1-3). In Australia, past week alcohol consumption among 12-15 year olds went down by more than half between 2002 and 2014 (3), while abstention rates more than doubled among 16-17 year olds between 2004 and 2013 (4). Between 2002 and 2010, prevalence of past week alcohol consumption among 11, 13 and 15 year olds declined in 25 of 28 European and North American countries participating in the Health Behaviour in School-Aged Children (HBSC) study (1). While the European School Survey Project on Alcohol and Other Drugs (ESPAD) also reported reductions among 15-16 year olds in lifetime use of alcohol in 20 of 28 countries between 2003 and 2015, reductions were noticeably observed in most Western European countries but only half of the Eastern European countries (2). Similarly, between 1997 and 2006, frequency of drunkenness decreased among HSBC participants aged 15 years from 13 of 16 Western European countries but increased in all of the nine participating Eastern European countries (5). Unfortunately, high quality repeated-measures surveys are less consistently undertaken in lower and middle income countries, making it difficult to assess how broadly these trends apply outside Western Europe and Anglophone countries.

This recent decline in adolescent drinking represents a significant public health development. While population levels of consumption are stable or slightly decreasing in most of the countries where adolescent drinking is decreasing, the decline in adolescent drinking is much starker than in other population age groups and is over and above population level changes as shown by cohort effects in age, period and cohort analyses in Australia, the UK and Sweden (6-8). Earlier and heavier adolescent drinking has been linked to developmental problems, as well as predicting subsequent problematic drinking and greater experience of alcohol related harms (9). Therefore, an understanding of the factors responsible for declines in adolescent drinking can suggest points of leverage for public health efforts to sustain or progress these trends further. Such information might also be tucked away for future use should youth drinking significantly rise, and could also provide important insights for researchers working across other types of adolescent behaviours.

Researchers have hypothesised that declines in adolescent drinking may be influenced by a range of factors including demographic shifts, policy changes, changes in parenting styles, increased use of digital technology and changing social norms (10, 11). Some research has begun to explore these factors. For example, three studies have demonstrated that these trends are similar across gender, socioeconomic and geographic groups (12-14), suggesting the need for explanations beyond socio-demographic factors. Two international studies (both involving analysis of more than 35 countries) reported an association between less restrictive alcohol policies and increased frequency (but not quantity) of adolescent drinking (15, 16). One Dutch study reported an association between stricter

alcohol-specific parenting practices and reduced frequency of adolescent alcohol consumption (but again, not quantity) (17), and a US study has shown that adolescents were less likely to consume alcohol if they matured in birth cohorts with more restrictive social norms relating to alcohol (18).

These previous studies identify associations, which are important for highlighting areas for future research. To potentially identify causal relationships, analysis of long-term multi-cohort panel data is needed. Data sources such as these are well established in some high income countries (e.g., 19, 20); however, not often with the primary purpose of collecting information on alcohol use. While the development of alcohol-focused longitudinal multi-cohort studies across low, middle and high income countries would undoubtedly be useful, the financial barriers to such studies make their evolution unlikely. As such, existing multi-cohort panels should be explored where there are relevant items relating to alcohol use and other adolescent practices (e.g., 19, 20). Such sources of data have not been commonly used for research on this topic. However, even with longitudinal data of this nature, isolating or disentangling the influences on reduced adolescent drinking will be a complex exercise. In tobacco research it was noted that numerous availability and pricing policy changes occurred alongside increasing representations of tobacco as a harmful and distasteful drug in the media and public discourse more generally, making it difficult to isolate the effect of any single factor (21). This notion that policy, public opinion and social norms will be difficult to disentangle is reflected in the concept of 'long waves of alcohol consumption', which generally describes a process whereby increases in alcohol consumption are responded to through a tightening of alcohol policies and informal social controls, followed by an eventual decrease in consumption and then progressive relaxation of formal and informal controls accompanied by increased consumption again (22, 23). Such waves of consumption have been observed throughout history, but these trends are not often manifested in such a clear generational way. This suggests the need for research exploring factors beyond, but nevertheless being mindful of, historical cycles of consumption.

To ensure this field of research advances strategically and usefully, one important but largely neglected avenue for unpacking the many and overlapping factors influencing adolescent drinking (or not-drinking) practices is the need to complement the quantitative research underway with qualitative research, enabling deeper exploration of the social, political and economic contexts in which young people are drinking less. We know from a burgeoning qualitative literature that young adults often find it difficult to present themselves as a non-drinker without risking social exclusion (24-26), but this literature assumes that drinking is normative, which, for adolescents at least, seems not to be the case in recent years. Therefore, ethnographic or interview-based research with adolescents to gain insight into their perceptions of alcohol and experiences of being young is likely

to further stimulate ideas for future research and provide context for quantitative research findings. Longitudinal qualitative research that enables a deeper understanding of how perceptions and practices change over time within an individual (particularly alongside shifts in other social, cultural, economic and political developments), and also with age, could provide additional useful information.

In addition to complementing quantitative analyses with qualitative data, to contextualise the changes we are observing in youth drinking trends it is essential that we adopt a global lens, given the widespread nature of the changes. Country-level studies, while remaining important, are unable to account for the international scope of the trend. The idea that the social or cultural position of alcohol might be changing in a concerted way among adolescents of high income countries is a research question that begs for cross-cultural investigation. Cross-cultural analyses have long been used in alcohol research to explore the different cultural position and use patterns of alcohol in so-called 'wet' and 'dry' cultures (typologies that have become less commonly applied following a convergence in drinking patterns and rates of problems across high income countries in the past 20 years) (27, 28). Cross-cultural analyses have also illuminated important differences between societies in attitudes and norms related to intoxication and sanctions relating to drunken behaviour (29), and continue to identify important differences between cultures in relation to the meanings and processes of gender and intoxication, as well as boundaries between youth and adult drinking (30, 31).

A particularly useful approach to exploring the drivers of declining adolescent drinking would be to examine differences in social practices, norms, attitudes and expectations relating to drinking and drunkenness, between countries observing these trends as similar cases and those where youth drinking is increasing or remains stable as contrasting cases. For example, Kuntsche et al. (5) reported noticeable differences between the frequency of adolescent drunkenness in Eastern and Western European countries at a time when significant changes occurred in the development of the alcohol market but also changes in leisure and lifestyle patterns in Eastern Europe. Examining changes in the social and cultural position of alcohol between higher income countries with established alcohol markets, and lower or middle income countries with developing markets, is likely to illuminate important points of influence. Even between countries where declining drinking is evident, there may be important differences that can be identified between those with steeper and more shallow declines; for example, the decline in recent years is bigger in most Scandinavian countries than in Southern European countries (2), and it would be useful to examine the differences in social norms and cultural customs in Iceland, which has experienced a much greater drop in

adolescent alcohol consumption than Greece, for example. Where levels of declines are similar – for example, in Australia, the UK and Sweden – identifying which common factors are most consistently or importantly influencing adolescent drinking (or not drinking) will provide deeper understanding of the trends. Examining cross-cultural differences in social practices, norms, attitudes and expectations relating to drinking and drunkenness between countries in a quantitative manner will require the existence of comparable data, which has shown to be possible with some variables such as drinking motives and policy environments (e.g., 15, 32), but most national surveys use different measures or simply do not collect information on many of the variables of interest, making it difficult for example, to isolate the influence of time spent using digital technology on alcohol use. On the other hand, concerted cross-cultural efforts to develop survey instruments or qualitative interview schedules that can be delivered in different countries at the same time is likely to provide valuable comparable data for analyses (e.g., the multi-national GenACIS and IAC projects; 33, 34).

The final important methodological point we wish to raise is the need to situate declining drinking trends within a broader historical frame (35). That is, to appreciate that adolescents today are operating within particular socio-cultural conditions that have created the circumstances under which they have become a historically distinct generation in terms of their leisure pursuits and social practices. The idea that adolescents are forging generational patterns in response to unique life conditions and renegotiating their values and practices in new or different ways from previous generations is supported by findings that they are engaging in fewer risk behaviours more generally. For example, De Looze et al. (1) note that declines in drinking are consistent with declines in tobacco and cannabis use, sexual risk behaviours and fighting among adolescents. Twenge and Park (14) recently demonstrated that adolescents are engaging much less commonly in a range of adult activities such as dating, having sex, driving and working. With the exception of dating, which appears to have been decreasing since the early 1990s, most of these behaviours started decreasing noticeably around the early 2000s, consistent with the alcohol trends. It also appears from this study that while adolescents are spending more time socialising through digital forms of communication, many of the declines were underway before the widespread use of the Internet and smartphones (14), suggesting that this theory alone is not enough to explain these changes.

These studies highlight the need for more research that spans across adolescent behaviours. For example, research is needed to assess whether reduced alcohol consumption might be partly responsible for driving the decline in other behaviours, or whether the decline in other risk behaviours might be driving the decline in alcohol use, given the established relationship between alcohol and other drug use, sex and fighting (36-39). It also raises the broader question of whether

the declines across many so-called risk behaviours among adolescents are a consequence of larger structural, social, economic or cultural changes that are manifesting in a distinct historical era. Another important question is whether the decline in alcohol use is occurring in parallel with *increases* in other adolescent behaviours. For example, there is some evidence to suggest that mental health problems such as depression and anxiety are rising among adolescents in some countries (40, 41), particularly among females (42). As such, it is essential that future research on this topic is situated within a broader frame that appreciates the modern conditions in which adolescents are maturing.

In sum, to ensure we continue meaningfully progressing research on declining adolescent drinking trends we must invest in a complementary range of research designs. These include longitudinal panel and qualitative approaches, and it is our contention that we cannot unpack declining adolescent drinking trends without adopting a cross-cultural approach, and widening our lens beyond the alcohol field to explore changes in the way adolescents are 'doing' youth today. Robust cross-national research efforts in this space have the potential to meaningfully inform ongoing prevention and policy efforts to support the maintenance of these trends. As public health researchers we should seize the moment, because building on the momentum of these changes is an easier task than battling countertrends.

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