



European
Commission

Health Equity Pilot Project (HEPP)

Analysis of youth alcohol trends in EU countries.

Case Study



HEPP CASE STUDY

Title of Project/Policy

Analysis of youth alcohol trends in EU countries.

Project/Policy Reference [If applicable]

Not applicable

Country

EU wide

Name of Organisation(s) Not applicable

Name(s) of individuals Not applicable

Type of case study

Analysis of data. This case study reports on the analysis of self-reported data on adolescent alcohol consumption drawn from a series of European wide school surveys. The case study differs from other case studies in this series in that it does not focus on a policy or intervention, but instead considers the policy implications from analysis of data on youth alcohol consumption.

Thematic/sector focus

Alcohol

Date(s)

2003 to 2011

Case study overview / About the project/policy (Who, What, When, Why and How and who is this case study aimed at?):

This case study aims to increase knowledge of youth alcohol trends across the European Union, seeking to explore whether similar trends occur across all socio-economic groups or whether they differ between groups. This information will help increase understanding of inequalities in alcohol consumption and harm among youths, including where best to target future EU work to address youth alcohol consumption.

There has been a general decline in alcohol consumption among young people across Europe over recent years (1). Using data from the Health Behaviour in School-aged Children (HBSC) survey, one study found that among adolescents, levels of self-reported weekly alcohol use declined between 2002 and 2010 for 18 out of 26 participating WHO European countries (15 out of 21 EU countries). Decreases in alcohol use were

seen in all geographical sub-regions studied (Northern Europe^a, Southern Europe^b, Western Europe^c, Anglo-Saxon countries^d) but were weakest in Eastern Europe^e(2). Declines were similar across males and females and for each age group studied (11, 13 and 15 years or age). A further study explored data from a second health behaviour survey conducted with adolescents across WHO European region countries (ESPAD: European Schools survey Project on Alcohol and Drugs [1,3]). This identified declining trends in past month alcohol use between 2003 and 2015 for the majority of countries with available data (25 out of 26 countries^f). Changes in binge drinking (drinking 5+ alcoholic drinks in one session) over the same period were more varied; whilst the majority of countries (15 out of 26) experienced a decline, seven countries reported an increase and four experienced relatively little change (1,3). Falling trends in alcohol use have been attributed to a variety of factors, including changes in policy around legislation, enforcement of age limits for purchasing alcohol, increases in the price of alcohol, the growing rate of young immigrants who are less likely to drink, changes in alcohol-related attitudes and social norms, more restrictive alcohol-related parenting, increases in the use of digital technology where opportunities for social interaction and alcohol use decrease, improved awareness of the harmful consequences of alcohol use for adolescents, the use of prevention approaches and social and cultural changes (1,2,4).

There is less research exploring how trends in youth alcohol consumption differ by socio-economic status. For at least some countries, current levels of alcohol use and patterns of use among adolescents appear to be related to socio-economic status. For instance, data collected from the Health Behaviour in School-aged Children study found relationships between family affluence and weekly alcohol consumption among those aged 15-16 years of age for a number of EU countries/regions^g (10/29 countries/regions for boys and 6/29 countries/regions for girls, where adolescents with greater family affluence reported greater levels of weekly drinking [5]). Additionally, for adults in EU countries, for whom there has been more research on socio-economic status conducted, there are socio-economic differences in levels of current drinking (6), heavy drinking (7,8) and alcohol-related mortality (9).

^a Denmark, Finland, Norway, Sweden

^b Greece, Italy, Portugal

^c Austria, Belgium, France, Germany, Netherlands, Switzerland

^d Ireland, UK

^e Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Russia, Slovenia, Ukraine, Macedonia

^f Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroes, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, Ukraine.

^g Some EU member countries were split into regions: Belgium (Flemish), Belgium (French), England, Scotland, Wales.

Relationships between alcohol consumption/patterns of use and socio-economic status suggest that there may be differences in the direction and strength of declines in youth alcohol consumption. This case study aims to explore this issue through a) examining current academic literature to identify what is already known about socio-economic differences in youth alcohol trends and b) analysing a European school survey (ESPAD; conducted every 4 years), to explore what the data tells us about trends in youth alcohol use across Europe in relation to socio-economic status.

Methodology for the case study

This case study involved a brief literature search across the academic search engines Medline and Cinahl, exploring what we currently know about youth alcohol trends in the EU and their relationships with socio-economic inequalities. The second part of the case study involved analysis of data from the European School Survey Project on Alcohol and Other Drugs (ESPAD), a cross-national research project on substance use among 15 to 16-year-old students covering 27 EU countries (and additional WHO European region countries). The survey is carried out every four years. ESPAD data on demographic and alcohol variables were requested for years 2003, 2007 and 2011. Data from 2015 was not available to non-ESPAD researchers at the time of analysis. Consistent variables across the three years were identified and combined into one dataset to allow analysis of alcohol trends over time. The variables used were:

- Sex
- Year of survey (2003, 2007, 2011)
- Mother's education level (lower [primary, primary and lower secondary education], intermediate [upper secondary and post-secondary non-tertiary], higher [tertiary education])
- Percentage of students who reported drinking any alcohol in the past month
- Percentage of students who reported drinking 5 or more drinks in one session in the past month (also defined as binge drinking)
- Percentage of students who reported ever being drunk
- Percentage of students who reported drinking at age 12 or below.

Data were limited to EU countries and included only those countries / regions within countries that had all three years of data for all variables: Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Latvia, Malta, Netherlands, Belgium (Flanders), Romania, Slovakia, Slovenia, Sweden and the United Kingdom. Data were analysed in SPSS (Box 1) to identify trends in

alcohol variables over time and differences in trends by mother's education level for EU participants as a whole and for individual countries / regions within countries (i.e. Belgium [Flanders]) separately. This case study focuses on trends for EU countries / regions within countries overall.

A strength of this methodology is the use of ESPAD data, which uses a standardised questionnaire and methodology across years and countries, and includes large sample sizes for each country. However, the data are limited in that there are few demographic variables that can be used to control for confounding factors.

Box 1: Data analysis

Data were analysed using generalized linear models (binary logistic). Five models were run to explore trends in 1) past month alcohol use, 2) binge drinking (among all youths), 3) binge drinking (among drinkers only), 4) having ever been drunk and 5) having drunk alcohol at age 12 or less. For each model, the following variables were added as predictors: survey year, mother's education level, sex and country. Sex and country were added into the models to control for differences between countries and sexes. An interaction between mother's education level and year was also added into the model to explore whether trends differed by mother's education.

Results and key findings

1. Brief literature search

A brief literature search (from 1991 onwards) for articles exploring socio-economic differences in trends in youth alcohol use found six studies from five European countries: Scotland (10), England (11), Finland (12,13), the Netherlands (14) and Germany (15), as well as one review paper (1). The studies covered different timespans, measures of youth alcohol drinking and age groups (Table 1; Appendix). However, in general, there appeared to be a decline in youth alcohol consumption and risky patterns of use in each of the five countries from the early 2000s onwards (Table 1).

Table 1: Data timespan, overall reported trends for studies and percentages of adolescents engaging in each alcohol measure.

Alcohol measure / Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
England (11)																										
Risky drinking (Males)									36		42									29						
Risky drinking (Females)									31		38									23						
Finland (12)																										
Monthly drinking (Males)	U				U				U				48												28	
Monthly drinking (Females)	U				U				U				51												25	
Drunk 4+ times (Males)	U				U				U				33												19	
Drunk 4+ times (Females)	U				U				U				37												16	
Finland (13)																										
Frequent drinking (Males)											18										8					
Frequent drinking (Females)											12										6					
Frequent drunkenness (Males)											7										4					
Frequent drunkenness (Females)											4										2					
Germany (15)																										
Weekly alcohol use (Males)					25								37				23									
Weekly alcohol use (Females)					17								22				12									
Netherlands (14)																										
Lifetime alcohol use			65											84												43
Past month alcohol use			39											55												23
Lifetime drunkenness			30											44												21
Past month drunkenness			11								19															11
Early onset alcohol use (<14)														63												19
Early onset drunkenness (<14)														15												4
Past month binge drinking														36		38										16
+10 glasses in a weekend														5										1.5		2
Scotland (10)																										
Weekly alcohol use														27												7
Heavy alcohol use																			5							3

■ Baseline data point ■ Increase in alcohol use from previous data point ■ Decrease in alcohol use from previous data point. Figures presented are baseline percentages, (where relevant) peaks in percentages, and end point percentages. U unknown - data collected but exact percentages unable to be calculated for this report.

Three of the studies reported no differences in trends in youth drinking by SES group (different indicators of SES were used between studies; see Appendix): all groups showed the same declines. For instance, in England, levels of risky drinking overall and over time (1998-2009) were similar between students eligible for free school meals (deprived) and students that were not (non-deprived [11]). In Germany, levels of weekly alcohol use were lowest among those with low family affluence, but trends (1994-2006) were similar across socio-economic groups (15). Similar findings were reported in Scotland, where the odds of weekly and heavy alcohol use were both higher among those living in the most deprived areas, yet levels of use for each deprivation group followed the same declining pattern over time (2002-2013 for weekly alcohol use; 2008-2013 for heavy alcohol use [10]).

The remaining studies reported some slight differences in trends by SES group. For instance, among Finnish female adolescents (1990-2014), frequent drunkenness was more common among those with low perceived family wealth, and declines in frequent drunkenness occurred

much later (2010 onwards) for this group compared to those with high or middle perceived family wealth (2002 onwards). These findings suggested that heavier drinking students from less wealthy families should be a target population for public health interventions (12).

A further study among Finnish adolescents (2000-2011) reported that there was a decreasing trend in levels of frequent drinking and frequent drunkenness for those with high parental education, no parental unemployment and no depression. However, levels of frequent drinking and frequent drunkenness increased over the same time period for those with low parental education, parental unemployment and depression. Authors suggest that depression is increasing among low SES individuals, which may lead to increased use and misuse of alcohol. Investing in the recognition and treatment of depression among deprived students, and providing resources to help change unhealthy behaviours, would be useful public health strategies (13).

Finally, in the Netherlands (1992-2015), declines in alcohol use from 2003 onwards were stronger for those with high academic educational tracks (e.g. in higher academic education as opposed to vocational education or lower or mid academic education). This was found for lifetime/past month alcohol use, lifetime drunkenness, early onset (<14 years) of alcohol use/drunkenness, and drinking 10+ glasses of alcohol in a weekend. However, there were no differences in the pattern of decline for past month drunkenness and past month binge drinking by educational track (14).

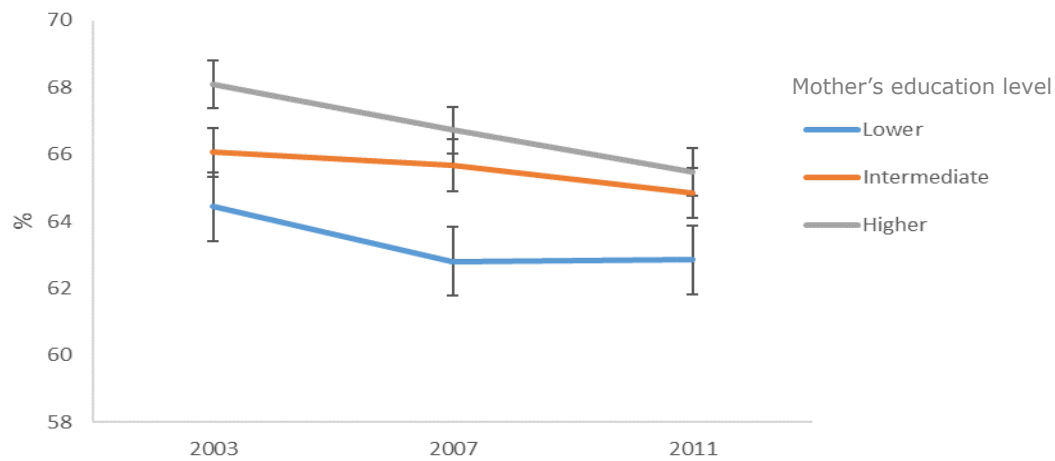
Taken together, these studies suggest that whilst declines in youth alcohol use have occurred in multiple countries since the early 2000s, relationships with SES vary by country. For some (England, Germany, Scotland), similar declines have been observed across all socio-economic groups. For others (Finland and the Netherlands), lower SES groups have experienced weaker declines in alcohol use, later declines in alcohol use or even increases in alcohol use.

2. Analysis of ESPAD data

Between 2003 and 2011, across EU participants as a whole, the percentage of young people who had drunk alcohol in the last month, had ever been drunk, and who had drunk alcohol at age 12 or less declined (Figures 1-3). There were no differences in trends by mother's level of education for drinking in the last month (Figure 1). However, for having ever been drunk and drunk alcohol at age 12 or less, declines were greater for those whose mothers had higher and intermediate education than for those whose mothers had lower education, widening the gap between groups (Figures 2 and 3). In contrast, the percentage

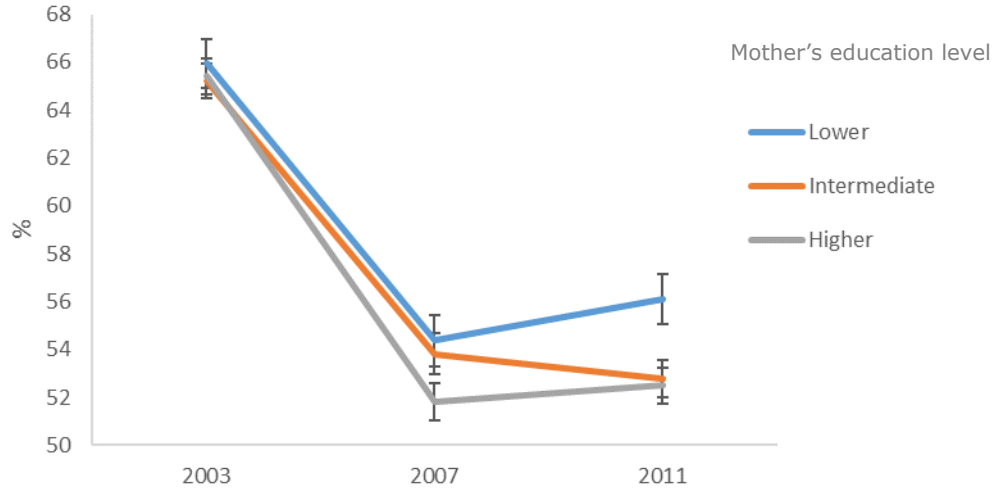
of young people who had drunk 5 or more alcoholic drinks in one session in the past month (engaged in binge drinking) increased from 2003 to 2011 across all young people (Figure 4) and for those that reported drinking in the last 12 months only (Figure 5). Here, increases over time were greatest for those whose mothers had lower education levels and smallest for those whose mothers had higher education levels, however this discrepancy was only significant across all young people, not those that reported drinking in the last 12 months only (Figures 4 and 5). Across all years, those whose mothers had lowest education levels engaged in higher levels of binge drinking than those whose mothers had intermediate or higher levels of education.

Figure 1: Percentage of 15 year olds who drank alcohol in the past month (2003-2011) by mother's education level



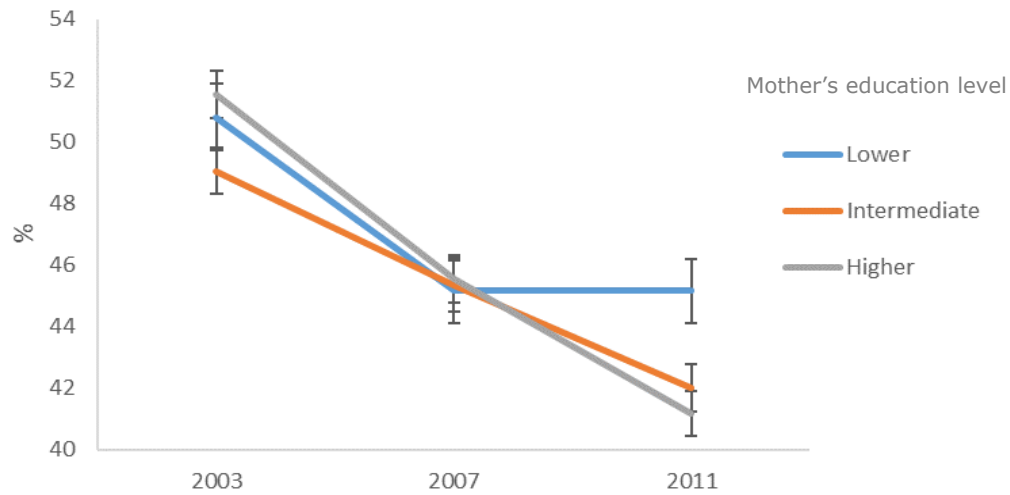
Binary logistic regression with the following variables: Year ($p < 0.001$), Mother's education ($p < 0.001$), Interaction between mother's education and year ($p = 0.201$), sex ($p < 0.001$) and country ($p < 0.001$). Sex and country were included as variables to control for any differences between sexes and countries.

Figure 2: Percentage of 15 year olds who had ever been drunk (2003-2011) by mother's education level



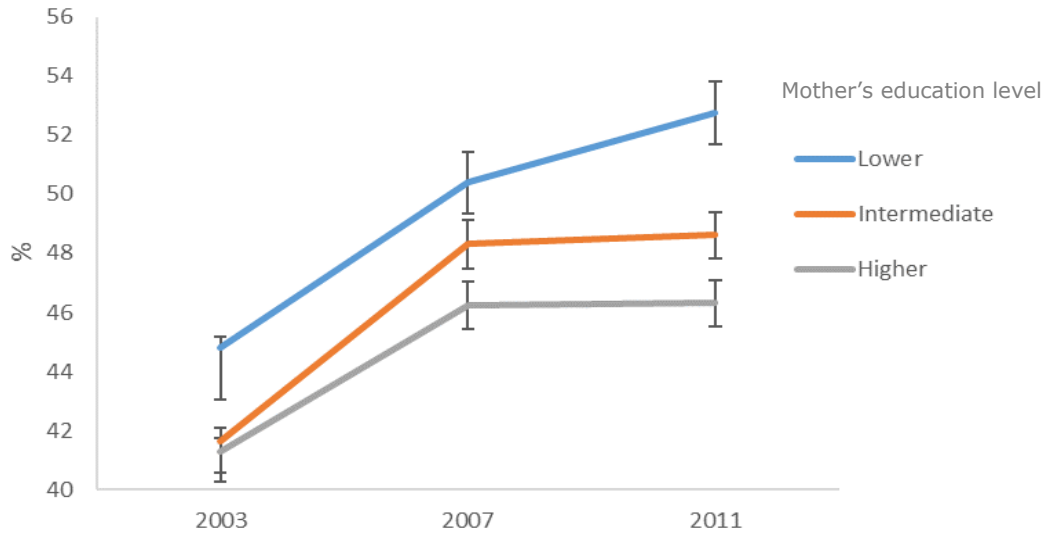
Binary logistic regression with the following variables: Year ($p < 0.001$), Mother's education ($p < 0.001$), Interaction between mother's education and year ($p = 0.001$), sex ($p < 0.001$) and country ($p < 0.001$). Sex and country were included as variables to control for any differences between sexes and countries.

Figure 3: Percentage of 15 year olds who had drunk alcohol at age 12 or less (2003-2011) by mother's education level



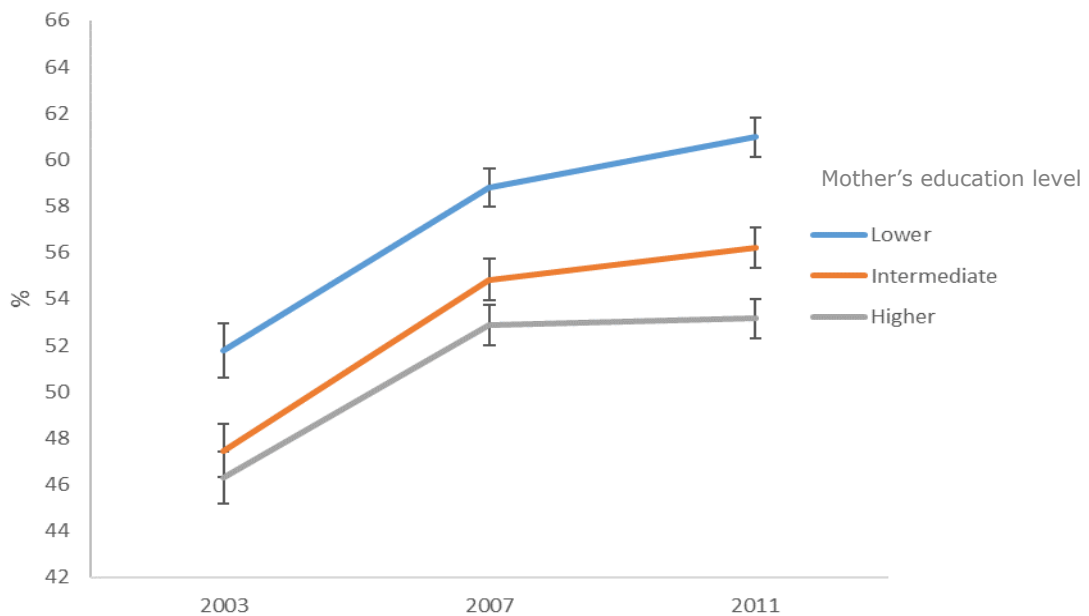
Binary logistic regression with the following variables: Year ($p < 0.001$), Mother's education ($p < 0.001$), Interaction between mother's education and year ($p < 0.001$), sex ($p < 0.001$) and country ($p < 0.001$). Sex and country were included as variables to control for any differences between sexes and countries.

Figure 4: Percentage of 15 year olds who had had 5 or more alcoholic drinks in one session in the last month (2003-2011), by mother's education level



Binary logistic regression with the following variables: Year ($p < 0.001$), Mother's education ($p = 0.005$), Interaction between mother's education and year ($p < 0.001$), sex ($p < 0.001$) and country ($p < 0.001$). Sex and country were included as variables to control for any differences between sexes and countries.

Figure 5: Percentage of 15 year olds who reported drinking in the last year who had 5 or more alcoholic drinks in one session in the last month (2003-2011), by mother's education level



Binary logistic regression with the following variables: Year ($p < 0.001$), Mother's education ($p = 0.014$), Interaction between mother's education and year ($p = 0.077$), sex ($p < 0.001$) and country ($p < 0.001$). Sex and country were included as variables to control for any differences between sexes and countries.

Results generally reflect the findings from the literature review that suggest that alcohol consumption has been declining across Europe since the early 2000s. Within the literature review, binge drinking was only explored in the Netherlands, where it largely declined from 2003 onwards (Table 1). This differed from the ESPAD analysis of EU participants as a whole, which suggested that levels of binge drinking had increased between 2003 and 2011. Across EU participants as a whole, those with mothers who had lower education levels experienced weaker decreases in ever being drunk and having drunk alcohol at age 12 or less, and stronger increases in binge drinking. However, there were no differences between SES groups for monthly use of alcohol.

Timeliness / Interest from Member State/Interest from other Member States

This case study can help identify European trends in youth alcohol consumption and target those who are showing the slowest reductions in harmful drinking patterns.

What makes this case study interesting/important?

There have been many studies exploring trends in youth alcohol consumption in individual EU countries and across EU countries. However, analyses of alcohol trends by measures of socio-economic status are lacking, particularly at an EU level. This case study explores trends in alcohol consumption across differing levels of mothers' education, used as a proxy for youths' socio-economic status.

Generalisability

The case study is of relevance to the member states included in the case study: Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Latvia, Malta, Netherlands, Belgium (Flanders), Romania, Slovakia, Slovenia, Sweden and the United Kingdom.

Sustainability

The ESPAD survey is conducted regularly every four years and the analysis could be repeated with the next wave of data to explore more recent trends in youth alcohol consumption.

Transferability to other countries

Analysis could be repeated with additional EU member states in the future if data on mother's education and alcohol consumption is available.

Next steps / Recommendations

This case study suggests that youths whose mothers had lower levels of education may have experienced weaker decreases in some measures

of alcohol use (levels of drunkenness and drinking alcohol at age 12 or less) and greater increases in binge drinking than those whose mothers had intermediate or higher levels of education, widening gaps between groups. Policy needs to ensure that youths from lower SES groups are targeted with alcohol interventions that address risky alcohol consumption and motivate behaviour change to prevent the gap between lower and higher SES groups from widening further. Although more research is needed on its effectiveness, targeting skills-based education programmes specifically within deprived communities may be one method of intervention worthy of future exploration (16).

Initial conclusion

Youth alcohol consumption has generally been declining across participating EU countries from the early 2000s, with the exception of binge drinking that has increased. This is an important finding, given that binge drinking in adolescence is associated with acute health issues such as road traffic accidents, violent behaviour, risky sexual activity and teenage pregnancy (17). Trends have occurred at differing rates across mother's education level groups (lower, intermediate and higher) for some alcohol measures, with gaps widening between the highest and lowest education level groups. Although it was not explored here, it seems likely therefore that the acute and longer term harms from heavy or early alcohol use (including risks of harmful or dependent drinking later in life [17]) will also be widening across these groups. Youths from lower SES groups should be a target for future alcohol interventions.

Sources of funding/sponsors for project

The European Commission/European Parliament.

References/ Studies/ Respondents

This case study has been drafted by Sara Wood (Public Health Wales) and Professor Mark Bellis (Public Health Wales / Bangor University).

Appendix: Details of studies included in the literature review

Measures of inequality are provided for each country. II = Income Inequality (Gini-coefficient, 2017 or latest available data) ranging from 0 (complete equality) to 1 (complete inequality). PR = Poverty Rate (2017 or latest available data), defined as the ratio of the number of people (in a given age group) whose income falls below the poverty line (half the median household income of the total population).

Country	Years	Survey used and age group	Measure of inequality	Findings
England II 0.35 (UK) PR 0.111 (UK) Hale et al, 2013 (11)	1998 to 2009	Smoking, drinking and Drug Use among Young People in England survey; 11-15 year olds	Eligibility for free school meals (based on parents' income). Deprived: eligible Non-deprived: not eligible	Risky drinking (either heavy regular drinking [at least one drink once a week on average] or binge drinking [defined as 7 or more units in the previous week]) increased between 1998 and 2001 and then declined thereafter. There were no differences in trends between deprived young people and non-deprived young people. However, there were slower declines in concurrent risky alcohol use and smoking among deprived young people.
Finland IE 0.26 PR 0.058 Lui et al, 2018 (12)	1990 to 2014	Health Behaviour in School-aged Children (HBSC); 15 year olds	Perceived family wealth as measured by the question "What do you think of the financial situation of your family?" and educational aspiration, measured by the question "What do you think you will do when you finish compulsory basic education?" Perceived family wealth: High (very well off / quite well off), Middle (average), Low (not very well off / not at all well off). Educational aspiration: High (enter general upper secondary education), Low (enter other education).	Alcohol use (used at least once a month) and frequent drunkenness (drunk 4 or more times in their lifetime) generally decreased. However, declining trends were slightly different for students in varying levels of perceived family wealth and for students with high or low educational aspirations on leaving school. Higher rates of monthly alcohol use and frequent drunkenness were found among those with lower educational aspirations and lower perceived wealth (than higher aspirations/perceived wealth groups) across the whole timeframe.
Finland IE 0.26 PR 0.058 Torikka et al, 2017 (13)	2000 to 2011	School Health Promotion Study; 14-16 year olds	Parental education and unemployment in the family. Parental education: low (basic only), medium (vocational school), high (college/academic). Unemployment: Yes (neither parent unemployed in past 12 months), No (one or both parents unemployed over the past 12 months).	There was a decreasing trend in levels of frequent drinking and frequent drunkenness for those with high parental education, no parental unemployment and no depression. However, levels of frequent drinking and frequent drunkenness increased over the same time period for those with low parental education, parental unemployment and depression.

Country	Years	Survey used and age group	Measure of social inequality	Findings
Germany IE 0.29 PR 0.101 Richter et al, 2013 (15)	1994 to 2006	Health Behaviour in School-aged Children (HBSC); 15 year olds	Family affluence (measured using the Family Affluence Scale) and educational track (based on which type of school students were referred to). Family affluence: High (composite score within highest tertile), Medium (middle tertile), Low (lowest tertile). Educational track: High (grammar school), Medium (intermediate school), Low (secondary general school), Mixed (accepts students of all abilities).	Weekly alcohol use increased between 1994 and 2002 but then declined to 2006. This trend was similar across all family affluence and educational track groups.
Netherlands IE 0.28 PR 0.083 De Looze et al, 2017 (14)	1992 to 2015	Dutch National School Survey on Substance Use (DNSSSU) and Health Behaviour in School-aged Children (HBSC); 12-16 year olds.	Educational track (based on which type of school students were referred to). Vocational, low academic, medium academic, high academic.	Youth alcohol use increased between 1992 and 2003 then decreased from 2003 onwards. Declines in alcohol use were stronger for those with high academic educational tracks compared to the other educational tracks. Declines in drunkenness and binge drinking in the past month occurred across all educational tracks from 2003/2005 onwards. However, there were no differences in strength of decline across educational tracks.
Scotland IE 0.35 (UK) PR 0.111 (UK) Petrou and Kupek, 2018 (10)	2002 to 2013	Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS); 13 and 15 year olds.	Deprivation (based on geographical location of student's home). Quintiles of deprivation ranging from least deprived to most deprived .	Regular alcohol use (drinking once a week or more) declined among Scottish adolescents from 27% to 7%. Declines were found for each of five deprivation classifications. Heavy alcohol use (drinking 21 units a week or more) was highest in 2008 and declined from that point onwards, again a pattern found in each deprivation classification.

References

1. Pape H, Rossow I, Brunborg GS. Adolescents drink less: how, who and why? A review of the recent research literature. *Drug and Alcohol Review*, 2018, 37, S1: S98-S114.
2. de Looze M, Raaijmakers Q, ter Bogt T, Bendtsen P, Farhat T, Ferreira M, Godeau E, Kuntsche E, Molcho M, Pförtner T, Simons-Morton B, Vieno A, Vollebergh W, Pickett W. Decreases in adolescent weekly alcohol use in Europe and North America: evidence from 28 countries from 2002 to 2010. *European Journal of Public Health*, 2015, 25 (2): 69-72.
3. Kraus L, Guttormsson I, Leifman H et al. ESPAD report 2015. Results from the European school survey project on alcohol and other drugs. Luxembourg: EMCDDA, 2016.
4. Simons-Morton BG, Farhat T, ter Bogt TFM et al. Gender specific trends in alcohol use: cross-cultural comparisons from 1998 to 2006 in 24 countries and regions. *International Journal of Public Health*, 2009, 54: 199-208.
5. Inchley J, Currie D, Young T et al. Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Copenhagen: World Health Organization, 2016.
6. Grittner U, Kuntsche S, Gmel G and Bloomfield K. Alcohol consumption and social inequality at the individual and country levels – results from an international study. *European Journal of Public Health*, 2012, 23(2): 332-339.
7. Bloomfield K, Grittner U, Kramer S and Gmel G. Social inequalities in alcohol consumption and alcohol-related problems in the study countries of the EU concerted action 'Gender, culture and alcohol problems: a multi-national study'. *Alcohol and Alcoholism*, 2006, 41(1):i26-i36.
8. Helasoja V, Lahelma E, Prättälä R, Petkeviciene J, Pudule I and Tekkel M. The sociodemographic patterning of drinking and binge drinking in Estonia, Latvia, Lithuania and Finland, 1994-2002. *BMC Public Health*, 2007, 7:241-248.

9. Mackenbach JP, Kulhánova I, Bopp M et al. Inequalities in alcohol-related mortality in 17 European countries: a retrospective analysis of mortality registers. *PLoS Medicine*, 2015, 12(12):e1001909. Doi:10/1371/journal.pmed.1001909.
10. Petrou S and Kupek E. Epidemiological trends and risk factors for tobacco, alcohol and drug use among adolescents in Scotland, 2002-13. *Journal of Public Health*, doi: 10.1093/pubmed/fdy006
11. Hale D, Viner R. Trends in the prevalence of multiple substance use in adolescents in England, 1998–2009. *Journal of Public Health* 2013;35:367–374.
12. Liu Y, Lintonen T, Tynjala J, Villberg J, Valimaa R, Ojala K and Kannas L. Socioeconomic differences in the use of alcohol and drunkenness in adolescents: trends in the Health Behaviour in School-aged Children study in Finland 1990-2014. *Scandinavian Journal of Public Health*, 2018, 46:102-111.
13. Torikka A, Kaltiala-Heino R, Luukkaala T, Rimpela A. Trends in alcohol use among adolescents from 2000 to 2011: The role of socioeconomic status and depression. *Alcohol and Alcoholism*, 2017, 52(1), 95-103.
14. de Looze ME, van Dorsselaer SAFM, Monshouwer K and Vollebergh WAM. Trends in adolescent alcohol use in the Netherlands, 1992-2015: differences across sociodemographic groups and links with strict parental rule setting. *International Journal of Drug Policy*, 2017, 50:90-101.
15. Richter M, Kuntsche E, de Looze M and Pförtner TK. Trends in socioeconomic inequalities in adolescent alcohol use in Germany between 1994 and 2006. *International Journal of Public Health*, 2013, 58:777-784.
16. Wood S and Bellis M. Socio-economic inequalities in alcohol consumption and harm: evidence for effective interventions and policy across EU countries. Health Equity Pilot Project (HEPP) 2015-C4c032-SI2.724119. European Union, 2017.
17. Stolle M, Sack PM, Thomasius R. Binge drinking in childhood and adolescence: epidemiology, consequences and interventions. *Deutsches Arzteblatt International*, 2009. 106:323-8.

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